

ABSTRACT

MENEFEE, WILLIAM CHADWICK. The Impact of Retro Stadiums on Major League Baseball Franchises. (Under the direction of Dr. Judy Peel).

The purpose of this study was to examine the effects of “retro” stadiums on professional baseball franchises. Retro stadiums, baseball-exclusive facilities modeled on classic architectural designs of the past, were built at an increasing rate beginning in 1992 with Baltimore’s Camden Yards. This study analyzed changes in franchises’ attendance, winning percentage, revenue and team value in the seasons following a team’s relocation to a retro stadium. Retro stadiums were found to positively increase attendance, revenue and team value for franchises at a higher rate than teams that did not build retro stadiums. An analysis of these variables and a discussion of the results for all individual franchises that constructed retro stadiums during the 1992-2004 period are presented in this study.

**THE IMPACT OF RETRO STADIUMS ON MAJOR
LEAGUE BASEBALL FRANCHISES**

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Chapter One—Introduction and Statement of the Problem

In 1992, the Baltimore Orioles revolutionized professional baseball with the opening of Oriole Park at Camden Yards. In the previous three decades, the majority of Major League Baseball (MLB) franchises had played in multipurpose facilities with minimal player amenities, few luxury boxes, and poor playing surfaces. However, Camden Yards was constructed as a throwback to the fan-friendly stadiums that baseball franchises used in the early 20th century. The urban location, grass field, closeness of fans, additional luxury boxes and state-of-the-art locker rooms proved to be popular with fans, players and baseball executives. After the success of Camden Yards, other Major League Baseball franchises emulated the Orioles' new stadium model with the goals of attracting new fans, generating additional revenue and recruiting coveted free agents. In fact, the Cleveland Indians turned around their franchise from a perennial also-ran to become one of the most successful teams of the decade after the opening of their new stadium Jacobs Field in 1994. The construction trend continued to grow stronger during the 1990s, to the point where 15 of the 30 MLB franchises since 1992 have built new stadiums, with the New York Yankees, Washington Nationals, St. Louis Cardinals, and Florida Marlins currently developing their own new stadiums as well.

In contrast to the “cookie cutter” multipurpose stadiums that cities constructed prior to Camden Yards, new stadiums have introduced technological innovations and unique features to attract new fans and potential corporate clients. For instance, the Seattle Mariners' new ballpark, Safeco Field, was built with a retractable roof in order to combat rainy local weather. The San Francisco Giants utilized a location on the San Francisco Bay to create McCovey Cove as a new feature for fans to enjoy Giants' games. In addition to fan-oriented

innovations, the new MLB stadiums have also been created to help teams increase profits derived from luxury boxes and stadium naming rights. For example, Coca-Cola signed a contract with the Houston Astros to name their new stadium “Minute Maid Park” for the sum of \$168 million, an enormous increase over the nonexistent naming rights of the Astros’ previous stadium, the Houston Astrodome (Munsey & Suppes, n.d.).

Although new stadiums have provided MLB franchises with a financial boost, the construction trend has also affected teams without new stadiums. Franchises like the Oakland Athletics and Minnesota Twins have continued to play in older multipurpose facilities (Noll & Zimbalist, 1997). Therefore, these franchises have lacked the lucrative luxury boxes and other amenities that new stadiums supply. Because they cannot generate revenue to compete with these newer facilities, franchises like the Athletics and Twins have been unable to spend the same amount of money on player salaries as teams with new stadiums (Noll & Zimbalist, 1997). In one case, the Montreal Expos played in archaic Olympic Stadium with low fan support and minimal revenue from luxury boxes and other stadium sources (Justice, 1999). The Expos’ team performance declined throughout the late 1990s, and their fan base and media revenue also dropped dramatically. In order to survive, the Expos moved to Washington, D.C., in part because the city guaranteed the construction of a new stadium for the franchise.

Because the retro stadium trend only began with Camden Yards’ opening in 1992, the majority of the research has focused on short-term results for these stadiums. However, this study looked beyond this short-term period to determine if franchises were able to sustain any initial positive effects. Data was collected for MLB seasons from 1991 through 2004. If the effects began to diminish, the study determined if there were different “honeymoon”

periods for different franchises, and if there was a factor that caused these variations. Variables included: attendance, win-loss records, revenues, and appraised value for franchises. In most cases, retro stadiums replaced multi-purpose facilities that housed baseball franchises, football franchises and other tenants as well. MLB owners have coveted retro stadiums because they believed that new facilities would increase attendance, thereby increasing revenue. The owners' perceived need for new stadiums to replace these multi-purpose facilities indicates that baseball stadiums have a definite lifecycle. A better understanding of the effects of the more-recent retro stadium trend may indicate if retro stadiums are following a similar pattern that multi-purpose stadiums followed after their construction in the 1960's.

Statement of Problem

While these new MLB stadiums have proven to initially increase attendance, there are significant questions that research in this field does not address. First, are franchises able to sustain the increased attendance from new stadium construction or does the increase diminish after the novelty wears off on local fans, which researchers define as the "honeymoon" effect? Second, does the opening of a retro stadium impact winning percentage, revenue or team value for a franchise? Are MLB franchises able to sustain positive gains in these variables? Third, are the effects different for different franchises? What factors might explain why certain MLB franchises appeared to derive greater benefits from retro stadiums than others? The answers to these questions will provide a guide for sports executives and owners looking to attract new fans and increase revenue through the construction of a new stadium.

Sports executives and owners could incorporate these results when weighing the costs and benefits of constructing a new facility.

Definition of Terms

Personal Seat License (PSL): A license that provides fans with the rights to purchase season tickets for a specific team. The license does not include actual tickets, but merely permits the fans the right to purchase tickets. The PSL was developed by the Dallas Cowboys during the 1960's, and the length of the contract varies from franchise to franchise.

Luxury Suites: Premium seating that traditionally includes a collection of seats and other amenities, separated from the general seating section. Luxury suites are typically the most expensive seating option in a stadium and are primarily marketed to and purchased by corporate clients.

Retro Stadium: Stadiums that were constructed to model "classic" baseball stadiums of the pre-1950's era. These stadiums typically feature an urban location, closer seats, smaller capacity, and other architectural elements from baseball stadiums of the early 20th century. Baltimore's Camden Yards is regarded as the first retro stadium, and stadiums in Atlanta, Cleveland, Denver, Detroit, Seattle, Pittsburgh, Milwaukee, Phoenix, Houston, San Francisco, Philadelphia, Cincinnati, San Diego, and Arlington all have elements that classify these facilities as retro stadiums.

Multi-purpose Stadium: General category of stadiums that were constructed for use by more than one major professional sports tenant. These stadiums were primarily constructed

during the 1950's-1970's, and included generic architectural designs, artificial turf playing surfaces, and suburban locations.

Media Contracts: Revenue that is collected through the sale of broadcast rights for television, radio, and Internet broadcast of all home and away games. Media contracts typically include a national broadcasting contract that is shared equally by all Major League Baseball franchises, and local contracts that are not shared by MLB teams.

Premium Seating Fees: Additional fees charged by MLB franchises for premium seating, including club seats and luxury suites. Although ticket sales revenue is shared by MLB franchises, premium seating fees are not shared by MLB teams.

Stadium Naming Rights: The right to officially name or re-name a stadium. The ownership of these rights varies from team to team, but revenue from the sale of naming rights is typically shared by the home city and the MLB franchise.

Royalty: A type of sales tax, which is applied to all merchandise that a licensed vendor sells inside an MLB stadium. The use of this type of tax provides vendors with the assumption that the franchise will present the best possible team on the field because the franchise's revenue depends directly on the quantity of licensed merchandise that a vendor sells.

Player Development Contracts: Two or four year agreements between MLB franchises and minor league teams. These agreements, which are renewed in even years, create minor league affiliates for MLB franchises.

Chapter Two—A Review of the Literature

Before studying the retro stadium construction trend, it is necessary to gain an understanding of the unique nature of baseball stadiums. It is also important to look at prior studies on baseball stadiums. Researchers have primarily focused their research on the short-term effects and economic impact studies of stadiums over the past 20 years. In particular, researchers have been most interested in the effects of stadiums on market development and job creation in these teams' local communities. In addition to economic studies, it is also important to understand the history and background of baseball stadiums. History includes the development of stadiums in the beginning of the 20th century, the rise in popularity of multi-purpose facilities in the 1950's-1970's, and finally, the development of retro stadiums in the 1990's. The retro stadium trend includes new stadiums that have introduced design innovations and features to appeal directly to fans. Stadium revenues are also a primary source of income for baseball franchises; therefore, it is necessary to look at the variety of types of revenue that franchises derive from their stadiums. Finally, owners and politicians have both advocated the construction of sports stadiums because they presume there are benefits from new stadiums on the local constituents in their home communities. Researchers provided studies on these presumed benefits during the 1990's, and case studies looked at effects of new stadiums in specific cities. After reviewing the history of stadium construction and looking in detail at these topics, it will then be possible to begin a discussion of this study on retro baseball stadiums.

1: Stadiums as Organizational Change Agents

Professional sports stadium construction operates under the concept of organizational change management. New stadiums provide a change for the franchise, which is intended to increase fan support, provide additional revenue, and attract top players. In some cases, baseball executives may seek a change because they have lost fans or an older stadium's technology may have become obsolete. However, in other cases, executives with successful franchises may seek new stadiums in order to prevent failure in the future. Researchers have suggested that corporations and products have a life cycle with definite stages (Gupta & Chin, 1994). In the same manner, this study is based on the theory that sports stadiums also have a life cycle with distinguishable stages. Because sports stadium technology changes rapidly, new stadiums may become obsolete without requisite improvements. If a franchise fails to adequately design the stadium for the long-term, fans may become bored with the facility, thereby pushing the stadium rapidly into a decline stage. Because these baseball stadiums are located in unique markets with unique players and fans, and have different architectural designs, this study hypothesizes that these stadiums endure different life cycles as well. If all new stadiums are initially successful during the "honeymoon" period, the key will be determining which franchises are able to sustain financial success for a longer period of time and prevent the downfall of a stadium in its life cycle.

2: Recent Construction Trends

The current stadium revolution began with the opening of Toronto's SkyDome in 1989. After the introduction of luxury suites in professional sports during the 1960's and the Miami Dolphins' introduction of club seats to professional sports with Joe Robbie Stadium in

1987, the Toronto Blue Jays became the first MLB franchise to build a stadium with modern amenities that have since become commonplace in baseball (Washington, 1998). Since the franchise's inception in 1977, the Blue Jays had played in Exhibition Stadium, an outdoor multi-purpose facility that suffered from a poor playing surface and unpredictable Canadian weather (Brehl, 1989). When SkyDome opened in 1989, it introduced a number of new stadium features to baseball: a retractable roof, a hotel located in the outfield, and bars and restaurants, including a McDonald's (Brehl, 1989). SkyDome also offered these amenities and traditional concessions at increased prices, which would also soon become a trend in the MLB (Brehl, 1989). Before SkyDome's opening, the Hubert H. Humphrey Metrodome in Minneapolis was the last new MLB stadium to open (in 1982) (Quirk, 1997). The Metrodome cost \$102 million, while SkyDome's construction was prohibitively more expensive at nearly \$600 million (Munsey & Suppes, n.d.). In fact, SkyDome was plagued by unforeseen construction problems that forced the final cost to increase substantially between the stadium's approval in 1985 and opening in 1989 (Brehl, 1989). There are 30 current MLB franchises and 18 of these franchises have opened new stadiums since the Blue Jays began playing in SkyDome (Munsey & Suppes, n.d.). These 18 stadiums have cost an average of \$288 million during this period (Munsey & Suppes, n.d.). Of these 18 facilities, only the Chicago White Sox, Cleveland Indians, and Texas Rangers maintained construction costs under \$200 million (Munsey & Suppes, n.d.). In addition, the range of costs for these stadiums has been surprisingly high, considering the similarities that the facilities share. For example, the Florida SunCoast Dome (now called Tropicana Field) cost only \$85 million when it was constructed in 1990, while Seattle's Safeco Field was built for \$517 million in 1999 (Munsey & Suppes, n.d.).

Beginning with Baltimore's Camden Yards, the most significant trend for MLB stadiums has been the emergence of "retro" stadiums. Daniel Rosensweig (2005) studied the effects of this phenomenon in the book *Retro Ball Parks*. Stadiums in Baltimore, Cleveland, Denver, Atlanta, Detroit, Seattle, Pittsburgh, Houston, Milwaukee, Phoenix, San Francisco, Philadelphia, Cincinnati, San Diego, and Arlington (Texas) all were based on the same model of a retro stadium (Rosensweig, 2005). In addition, stadiums that are currently being planned or constructed in New York, Washington, D.C., St. Louis, and Miami are also based on this retro stadium design. These stadiums were designed to be an antithesis of the multi-purpose stadiums that franchises had erected beginning in the 1950's. These ballparks were inspired by classic early 20th century stadiums like New York's Ebbets Field and Boston's Fenway Park (Rosensweig, 2005). The Baltimore Orioles became the first franchise to utilize a retro stadium when they moved out of multi-purpose Memorial Stadium and into Camden Yards in 1992. Camden Yards had a smaller capacity than Memorial Stadium in order to provide a sense of intimacy for fans. The foul territories were kept at a minimum in order to bring fans closer to the action on the field (Hamilton & Kahn, 1997; Rosensweig, 2005). Also, the stadium incorporated analog clocks, brick foundation, and wrought iron fences to enhance the appearance of Camden Yards as a "retro" stadium. Camden Yards also moved the Orioles directly into the downtown Baltimore area. Architects HOK deliberately placed the stadium by the abandoned Baltimore & Ohio train warehouse, so that the warehouse could be incorporated into the facility (Rosensweig, 2005). This design element was also meant to recall the features of classic stadiums like Ebbets Field and Fenway Park. When Fenway Park was constructed, architects were forced to leave left field shorter than typical baseball stadiums because the existence of a road made it impossible to expand the stadium. This

shortcoming prompted the creation of the Green Monster, the large left field wall in Fenway Park, which has become one of the most prominent symbols of Major League Baseball (Rosensweig, 2005).

The development of retro stadiums also marked another significant milestone as baseball returned back to its urban roots. The multi-purpose stadiums of the 1950's, 1960's, and 1970's had been primarily constructed in suburban neighborhoods (Rosensweig, 2005). Franchises moved to escape city neighborhoods because owners feared increasing crime in inner cities would keep wealthy fans away from games. In fact, franchises actually relocated to completely new areas in order to move from an urban location to a suburban location. The Boston Braves moved to Milwaukee, the Dodgers moved from Brooklyn to Los Angeles, the Athletics moved from Philadelphia to Kansas City, the Giants moved from New York to San Francisco, and the Browns moved from St. Louis to Baltimore (Rosensweig, 2005). Rosensweig (2005) stated that these multi-purpose stadiums were built to reject the timeless quality of the sport and embrace a new model for baseball. The stadiums were typically home to a professional baseball franchise, professional football franchise, other professional and college teams, other sporting events, and non-sporting events as well. The stadiums were all similar architectural structures that were "supersized" to increase attendance. These stadiums were constructed during a time of American mass production, in which products were produced in large quantities with minimal variety (Rosensweig, 2005). Stadiums incorporated similar design features, utilized artificial turf playing surfaces, and even sold the same concessions and merchandise at stadiums.

Baseball was still the most popular sport in the United States during the 1950's, and owners failed to predict the dramatic decrease in attendance that would occur during that

decade (Rosensweig, 2005). Franchises during the 1950's also derived a majority of income from tickets, which owners believed necessitated a need for larger stadiums. In fact, attendance at stadiums like County Stadium in Milwaukee and Candlestick Park in San Francisco was high during the first few seasons of play, but the crowds eventually diminished (Rosensweig, 2005). This caused ticket prices to drop, so fans could purchase tickets at deeply discounted prices while franchises lost revenue. In addition, while the suburban homes of these stadiums were originally designed to move events away from dangerous locations, urban problems eventually began to develop outside of these stadiums too. The overall negative effect forced franchises like the Cleveland Indians and San Francisco Giants to contemplate relocation unless they were unable to construct a new stadium.

The retro stadiums were developed to combat the decline in attendance and popularity of baseball. In addition to relocating franchises to urban areas and bringing fans closer to the action, these stadiums also introduced additional features to entice fans. Secondary diversions included food courts, speed-pitch machines, souvenir shops, and signature features for individual stadiums (Rosensweig, 2005). The Texas Rangers created a Hall of Fame modeled after the monuments in Yankee Stadium, the Arizona Diamondbacks placed a swimming pool in the stands for fans, the Cleveland Indians created a booth for fans to record an inning of play-by-play commentary, and the San Diego Padres developed a park beyond the outfield fences for fans (ESPN.com; Balint, 2002). Former Pittsburgh Pirates' catcher Manny Sanguillen signs autographs while fans wait for barbecue sandwiches at his restaurant at Pittsburgh's PNC Park. The Colorado Rockies offer discounted tickets for fans to sit in a special area in the outfield called the "Rockpile". Detroit's Comerica Park featured

statues of tigers, and a merry-go-round and ferris wheel outside the facility. Seattle's Safeco Field offered clam chowder, salmon sandwiches, sushi, and wok-fried noodles. Atlanta's Turner Field featured statues of Braves legends Hank Aaron, Phil Niekro, Warren Spahn, Eddie Matthews, and Dale Murphy. The Cincinnati Reds' new Great American Ballpark was built on the Ohio River and included riverboat smokestacks that shoot fireworks when a Reds player hits a homerun. Milwaukee's Miller Field was designed with extra spacious parking lots to encourage large tailgate parties before Brewers games. Houston's Minute Maid Park included a unique sloped hill in the outfield. In fact, Rosensweig (2005) stated that the economic value of these "secondary" activities is a crucial source of income for franchises in new stadiums. The franchises have attempted to create a sense of individuality with the location, design, and selections offered at these stadiums as well. The waterfront location of San Francisco's SBC Park has created McCovey Cove, a popular place for kayakers and other fans to convene with the hope of catching a homerun hit over the stadium's right field wall. Camden Yards offers authentic Maryland crabcakes, as well as a barbecue stand personally overseen by Orioles legend Boog Powell (Hamilton & Kahn, 1997; Rosensweig, 2005). The individuality and local nuances of these new stadiums has created an antithesis to the generic, "cookie-cutter", multipurpose facilities that were in vogue from the 1950's to 1970's.

3: Economic Impact

The majority of research on stadium construction has focused on economic impact studies of stadiums on surrounding local communities. In these studies, professional sports teams have been modeled as "profit-maximizing firms with a single output: wins" (Quinn et

al., 2003). In general, researchers have determined that stadium construction had a positive effect on employment, but that the positive effect was negated by the substantial costs associated with stadium construction (Noll & Zimbalist, 1997). Also, consumer total spending did not increase after the opening of a new stadium. Instead, spending was merely realigned away from other sources to sporting events (Baade & Sanderson, 1997c). Furthermore, the methodology of economic impact studies has been highly flawed because these studies overlooked substitution effects, which exaggerated the true impact of the stadiums (Quinn et al., 2003). During the most recent construction trend, there has been a movement to separate baseball and football facilities in order to create a more enjoyable sports environment for fans. Cities such as Cincinnati, Philadelphia, Houston, Seattle, Baltimore, Cleveland, Atlanta, and Pittsburgh have all moved away from shared football/baseball stadiums to separate National Football League (NFL) and MLB facilities during the past 15 years (Munsey & Suppes, n.d.). However, researchers have found that the creation of two different facilities instead of one shared stadium has actually hurt local economies because of the substantial costs of construction (Noll & Zimbalist, 1997a).

Stadium Funding & the Impact on Local Communities

Noll and Zimbalist (1997a) found that stadiums were unlikely to pay for themselves with private funding. Noll and Zimbalist (1997a) also concluded that a dual-purpose basketball and hockey facility may be the only facility that would be able to produce revenue that would exceed annualized costs because the costs are shared by two franchises, and ticket revenues are not shared in the NHL and NBA. However, Noll and Zimbalist also determined that established teams were unlikely to be able to cover the costs of their new stadiums because player salaries will increase at a rate proportional to the revenue that they generate.

For example, the increased revenue generated by Camden Yards was mainly used on new players (Noll & Zimbalist, 1997a). For this reason, stadiums have been financed at an increasing rate by taxpayers during the past two decades.

However, Noll and Zimbalist (1997a) found that there are other reasons why cities subsidize stadium construction. Citizens may prefer to have a better team in their hometown, and therefore believe the benefits of extra expenditures on new players offset the costs of the stadium through taxes. However, Noll and Zimbalist (1997a) speculated that this effect is likely to be temporary because other teams will also build new stadiums and improve their teams as well. Also, because professional sports leagues are monopolies, the franchises have significant power over local governments (Noll & Zimbalist, 1997b). Therefore, taxpayers and local governments may fear losing their franchise unless a new facility is constructed.

Taxpayers have often been deceived by economic impact data that overestimated the influence of these new stadiums (Blair & Swindell, 1997). In these cases, the data was overestimated in order to influence taxpayers to vote in favor of building a new stadium. Noll and Zimbalist (1997a) compiled the most thorough study on the effects of stadium construction in their research on public financing of professional sports facilities. They concluded that stadiums did have a positive effect on the local economy, but that effect was often negated by the enormous public costs of stadium construction. However, despite this apparent negative effect, sports owners have repeatedly pressured city governments into financing the majority of these stadiums through tax increases and other public spending ventures, in part because city leaders feared losing the cities' sports teams to another city that was willing to build a new facility. Noll and Zimbalist concluded that stadiums overall did not have a positive effect on the local economy (except in the cases of Baltimore and

Cleveland). Additional research, however, has shown that stadiums have positively impacted individual franchises through increased attendance and on-field performance during the short-term period after a new stadium has opened.

Benefits for Local Communities

While the economic research has indicated that stadium costs frequently outweighed the benefits of new jobs and economic development that they created, cities have nevertheless continued to build facilities during this recent period. One of the main reasons for this is that sports teams provide benefits to citizens and fans that are not easily measured in this economic research (Quinn et al., 2003). These public consumption benefits include the satisfaction that fans get from living in a major league city, reading stories about their team in the local newspaper, or simply talking about their local team with other fans (Zimmerman, 1997). These non-market values have been estimated with environmental contingent valuation models, but the results have been inconclusive (Quinn et al., 2003). In addition to public consumption benefits, sports teams may be lucrative for cities in other ways. For instance, corporations may be more likely to establish their headquarters in cities that have major league teams because sports advertising and luxury seats provide viable opportunities to market their corporation (Zimmerman, 1997). In addition, despite the economic evidence, city leaders believe that stadium construction promotes urban development, including residential and commercial expansion in the surrounding community, and additional employment opportunities during construction and operation of the stadium (Baade & Sanderson, 1997b). Because of these benefits that sports teams and sports stadiums create, cities have often been willing to negotiate favorable terms for a new stadium with home teams in order to prevent relocation (Noll & Zimbalist, 1997b). Franchises have also

advocated that new stadiums will produce more successful teams on the field, so taxpayers must contribute if they want the local team to improve (Quinn et al., 2003).

Quinn et al. (2003) studied the effect of a new stadium on a team's winning percentage during the construction boom of the 1990's. Their research found that Major League Baseball was the only sport where construction of a new stadium produced statistically significant increases in winning percentage after the opening of a new venue. In one test, teams were evaluated over the seven years before the stadium opened and the seven years after the stadium opened (n=20). The effect was an increase of .0386 percentage points for winning percentage in teams during this 14-year period (Quinn et al., 2003). In another test, the teams were evaluated from three years before a new stadium's opening until three years after a new stadium's opening. In this test, the average winning percentage increased by .0296 percentage points (Quinn et al., 2003). In comparison to the National Football League, National Basketball Association, and National Hockey League, MLB was the only sport in which new stadiums were found to produce a statistically significant increase in winning percentage. The researchers also hypothesized that MLB was the only sport to enjoy a positive effect because the sport's revenues are distributed differently than the other three major sports. For example, team owners are able to retain a larger portion of the increased profits from a new stadium because there is minimal revenue sharing in professional baseball. In addition, the length of the MLB season produces a larger schedule than teams in the other sports, thereby creating a more lucrative local media package for baseball franchises (Depken, 2000). Because local media contracts are not shared in baseball, if a new stadium increases local media revenue, franchises are able to keep this additional income for themselves. There is also no salary cap, so owners are free to spend any additional profits on

players that they believe will improve the team's performance. These factors, which are unique to Major League Baseball, create a system which Quinn et al. (2003) found to increase winning percentage after the opening of a new stadium.

The Fear Factor and Its Impact on Stadium Construction

During the 1990's, stadium construction expanded rapidly across baseball. Not only was construction rampant in the major leagues; cities and franchises constructed minor league and spring training stadiums at an equally high rate (Baade & Sanderson, 1997c; Zipp, 1997). One reason for the surge in construction was the effect of Toronto's SkyDome opening in 1989. After the opening of SkyDome, baseball franchises determined that luxury boxes and other amenities could dramatically increase revenues. The wave of construction was also instigated by the building of the Florida SunCoast Dome (Fort, 1997). The SunCoast Dome was constructed as a major league caliber stadium in St. Petersburg, even though there was no Major League Baseball franchise in Florida at that time. After the construction of the SunCoast Dome and before Major League Baseball's announcement of an expansion team for St. Petersburg, other MLB franchises were able to use the threat of relocation to St. Petersburg as leverage with their home cities in hope of attaining a new facility. In fact, the San Francisco Giants repeatedly threatened to relocate to St. Petersburg during the 1980's and 1990's unless San Francisco capitulated and agreed to replace Candlestick Park (Agostini, Quigley, and Smolensky, 1997). However, the expansion of MLB into Miami, Denver, St. Petersburg, and Phoenix combined with the relocation of the Montreal Expos to Washington, D.C. has reduced the current number of viable relocation destinations to only Las Vegas, Sacramento, and Portland, Oregon (Howard & Crompton, 2004).

The other main reason why cities have been forced to fund the majority of stadiums is the monopolistic nature of American professional sports (Noll & Zimbalist, 1997b). In professional baseball, there is only one major professional league. The league controls the number of franchises that are allowed to participate in competition. Therefore, cities that fail to build stadiums risk losing their franchises without being able to replace the club in the future. In this way, Major League Baseball is like a cartel in that they have the power to limit the number of franchises and prevent the city from attaining another team (Baade & Sanderson, 1997b). Another reason that cities and franchises seek new stadiums is the financial payoff that results from MLB All-Star games. Major League Baseball has announced the locations of these lucrative events through the 2007 season, and each game from 2000 through 2007 was awarded to stadiums that were built during this most recent construction boom (Munsey & Suppes, n.d.). In fact, 13 of the 17 All-Star games since 1991 have been played in stadiums that were built in this construction period. The economic impact of an All-Star game has been estimated at \$60-\$70 million for a local community during All-Star week (Walker, 2000).

Stadium construction was equally prevalent at MLB spring training locations during the 1990's (Zipp, 1997). Seventeen of the 30 professional clubs constructed new spring training stadiums during the decade. The high rate of construction and relocation was caused by cities offering attractive financial incentives to MLB franchises. For instance, Fort Myers, Florida, spent \$25 million to lure the Boston Red Sox to their new City of Palms Park (Zipp, 1997). This trend began in 1985 when the Houston Astros moved their spring training location from Cocoa Beach, Florida, to Kissimmee (Zipp, 1997). In the late 1990's, Hillsborough County spent \$17 million on the New York Yankees' new spring facility and

allowed the Yankees to keep all revenue generated by the Stadium in order to entice the Yankees to move from Fort Lauderdale to Tampa (Zipp, 1997). Local community leaders were willing to spend large amounts of money because they believed that these facilities enhanced residential development in the surrounding area and brought additional money into the local community (Zipp, 1997). In fact, Van Horn Associates estimated for the Florida Department of Commerce that nonresidents attending spring training generated \$285 million in new business activity annually in the state of Florida (Zipp, 1997).

Finally, stadiums in minor league baseball were also constructed at an increasing rate during the 1990's. The main impetus for the construction at the minor league level was Attachment 58 of the 1990 Professional Baseball Agreement (Baade & Sanderson, 1997c). Under this agreement, local communities may lose their minor league teams if they fail to make adequate improvements or build new facilities according to Major League Baseball guidelines. Minor league cities that fail to capitulate to MLB's demands risk losing their MLB affiliations or losing their franchise to another city that is willing to build a new stadium (Baade & Sanderson, 1997c). Cities and franchises also risk losing their player development contracts, which are a primary source of funding for minor league franchises.

Effects on MLB Franchises

Craig Depken (2000) specifically studied the financial impact of new baseball stadiums on franchise performance. Depken found that new stadiums positively impacted a franchise's attendance, team value, gate revenues, and winning percentage. New stadiums resulted in both an increase in capacity utilization and demand for tickets. The increase in ticket demand allowed owners to raise ticket prices (by an average of \$3.86), thereby boosting revenues. In fact, Depken found that relocation to new stadiums produced an

average of \$22 million additional income for franchises in comparison to their previous stadium. While there was no change in local media revenues, team payroll increased by approximately \$17.5 million, and there was a small increase in winning percentage. New stadiums had a positive correlation with an increase in prices of concession items as well. However, Depken's study only focused on the short-term effects of stadium construction. His research also concluded in 2000, while the majority of these franchises may have still been enjoying the "honeymoon" effect of their new stadiums.

A limitation of Depken's research and other stadium construction studies is that the research was either cross-sectional or limited to only a few seasons. These studies primarily looked at the initial effects of stadium construction on the variables attendance and revenue, and the research was gathered in the late 1990's, when the stadium construction boom was still in its infancy. Therefore, franchises that built stadiums after these studies may have had produced different results. Furthermore, franchises that constructed stadiums during Noll and Zimbalist's research may have been enjoying a "honeymoon" effect, which Bruce Hamilton and Peter Kahn (1997) defined as teams enjoying an immediate increase in attendance that fades after the novelty of the stadium wears off on fans. Because of this effect, future research may show that the overall results have changed dramatically after a team's initial seasons in a new facility. There is no consensus on the duration of a honeymoon effect: Quirk and Fort (1997) suggested the effect lasts for five seasons, Kahane and Schmanske (1997) believed the effect was only three seasons, while Coffin (1996) determined that the effect lasts for 4 seasons (Depken, 2000). Also, the economic research has mainly focused on the *external* effects of construction on local communities, and failed to look at internal variables like luxury box revenue, naming rights income, or local media contracts. However,

this study focused instead on the *internal* effects of construction on the actual baseball franchises.

Howard and Crompton (2004) also identified a prominent honeymoon effect in their study of new facilities in the NFL, NBA, NHL and MLB from 1995 through 2001. Nineteen of the thirty franchises experienced a decline in the second season in their new facility during this period. In fact, the Tampa Bay Devil Rays experienced a 60% drop in attendance during their second season at Tropicana Field in 1999. However, Howard and Crompton determined that overall attendance increased by 22.2% during the first season, and nine out of ten franchises sustained this increase over the study's duration.

Finally, McEvoy, Nagel, DeSchraver, and Brown (2005) studied the relationship between stadium age and attendance for MLB franchises from 1962-2001. McEvoy et al. determined that there was an obvious honeymoon effect because the effect on attendance was greatest during the first season and then declined for the next 48 seasons. However, McEvoy et al. did not utilize a comparison stadium group in their study to compare the effects of new stadiums with older stadiums, and their study measured attendance over a number of different eras. For example, televised sports were still in their infancy at the beginning of McEvoy et al's study, and only one expansion season had occurred in Major League Baseball by 1962. In addition, MLB franchises derive a significant portion of their income from sources other than attendance. McEvoy et al's study did not look at media revenue, concessions, parking, naming rights, or other stadium-related income. Like the other MLB stadium studies, their study also was completed during the novelty period of the retro stadium construction trend.

Success Stories

Hamilton and Kahn's (1997) study of Baltimore's Camden Yards found that Camden Yards generated sufficient revenue to cover maintenance costs and capital associated with the stadium. Average attendance at Camden Yards increased from 29,458 fans in the four years at Baltimore's Memorial Stadium prior to the stadium's opening to 45,034 fans in the five years after the opening of Camden Yards (Hamilton & Kahn, 1997). The attendance of fans from outside of the state of Maryland also increased from 10% in Memorial Stadium to 31% in Camden Yards in 1992 (Hamilton & Kahn, 1997). The Orioles' gate receipts increased from \$19.0 million to \$30.6 million from 1991 to 1992 (Hamilton & Kahn, 1997). In addition, because the Orioles lease Camden Yards from the city of Baltimore, they paid \$6 million in rent annually to the city government. Despite an increase from \$3.6 million annual rent in their final seasons at Memorial Stadium, the Orioles' net revenue increased by \$23 million per year after the move to Camden Yards (Hamilton & Kahn, 1997).

Hamilton and Kahn (1997) noted that the Orioles may have initially enjoyed a "honeymoon" effect in their first few seasons in Camden Yards. The authors suggest that attendance is higher for the first three years after a stadium's opening, and then begins to fall until it achieves a steady state after eight seasons (Hamilton & Kahn, 1997). Hamilton and Kahn concluded that the Orioles did not suffer a fading honeymoon, but their research also concluded in 1996, only 4 years after Camden Yards' opening. It is also important to note that the Orioles were likely sustaining this high attendance because of Cal Ripken's presence on the team during his quest to break Lou Gehrig's consecutive games played streak (Hamilton & Kahn, 1997).

Researchers have found that another successful stadium was Cleveland's Jacobs Field. The construction of Jacobs Field was a part of Cleveland's effort to revitalize their downtown area. In addition to the construction of the Cavaliers' Gund Arena, the Rock 'n' Roll Hall of Fame & Museum, the Cleveland Browns' new stadium, and the Great Lakes Science Center, Jacobs Field was also constructed in downtown Cleveland (Austrian & Rosentraub, 1997). One of the primary motivations for the construction of Jacobs Field was to keep the Indians from moving out of Cleveland. At that time, Major League Baseball had advocated that the Indians move out of the city if they were unable to facilitate the construction of a new stadium exclusively built for baseball (Austrian & Rosentraub, 1997). After finally receiving clearance to build the facility, Jacobs Field opened in 1995. The stadium resulted in increased job growth and recreational spending in the downtown Cleveland area. However, Austrian and Rosentraub (1997) noted that this increase may have been deceptive because of the presumed honeymoon effect that occurs in the first few seasons after relocation into a new stadium. Because their study concluded during this initial period, the researchers were unable to determine whether the Indians sustained these results over a longer period of time.

4: Stadium-related Elements & their Income for Baseball Franchises

MLB franchises have sought new stadiums primarily to increase their revenue. Howard and Crompton (2004) identified sixteen different elements that these retro stadiums incorporated in order to generate additional income for MLB teams. These elements included: luxury suites, preferred or club seating, stadium-exclusive clubs or restaurants, novelty shops, a team hall of fame, concession stands, auxiliary developments

(microbreweries, hotels, theaters), automated teller machines, wide concourses for signage, additional restrooms, exclusive signage (the Coca-Cola bottle in leftfield at San Francisco's SBC Park), a scoreboard with replay capability, large number of comfortable seats, adequate on-site parking, corporate naming rights, and administrative offices. A detailed review of the most profitable elements (ticket revenue, concessions, naming rights, and luxury seating) follows.

Ticket Revenue

The percentage of distribution of revenue for baseball stadiums varies from team to team because of differences in agreements between individual franchises and their home cities. However, all franchises obtain revenue from similar sources through their facilities. First of all, franchises derive a portion of their income from ticket sales (Noll & Zimbalist, 1997a). Ticket sales may include general admission or season tickets, but also include club seats and luxury suites. In Major League Baseball, franchises must share the revenue that they generate through ticket sales, but ticket license revenues and premium seating fees are not shared by the teams (Noll & Zimbalist, 1997a). Because franchises are able to retain all revenues from these specially categorized seats, baseball franchises have an incentive to use personal seat licenses (PSL's) and premium seats in their stadiums. These Personal Seat Licenses provide fans with the option to purchase the rights to buy season tickets for a specific seat in the stadium. The license itself does not include tickets, but simply provides the fan with the opportunity to purchase tickets. The Dallas Cowboys were the first franchise to utilize PSL's to finance a stadium when they sold 40-year licenses during the construction of Texas Stadium in 1968 (Noll & Zimbalist, 1997a). The licenses also vary by price and length for each franchise. For example, the San Francisco Giants' seat licenses are valid for

the lifetime of the stadium, while the licenses for the National Football League's Oakland Raiders last for 10 years (Noll & Zimbalist, 1997a). Fans purchase PSL's in order to ensure that they will be able to retain their season tickets, and also ensure that they will keep the same seats for additional seasons. The host cities also have an incentive to use PSL's to finance a stadium's construction because a clause in the Tax Reform Act of 1986 allows cities to reduce their tax payments if PSL's are used to finance a sports facility (Noll & Zimbalist, 1997a).

Concessions

Franchises also receive income from concessions and marketing arrangements in their stadiums. Concessions may include the rights to set up a small stand, receive exclusive beer or soft drink pouring rights, develop an entire restaurant inside the stadium, or gain the rights to all major food service areas inside the stadium (Noll & Zimbalist, 1997a). Licensees may purchase the right to sell other merchandise, which could include team sports apparel, video games, cellular phones, or other products. In all cases, the demand for food and other merchandise is influenced directly by the number of consumers that enter a stadium. Noll and Zimbalist believe that an optimal agreement between a sports franchise and a merchandiser includes an up-front payment with royalties. The combination of royalties and up-front fees encourages commercial licensees to maximize their sales, but also encourages franchises to develop a successful team on the field. If the team is unsuccessful, there will likely be fewer fans in attendance, which decreases sales for the commercial licensees. Royalties are a type of sales tax, which is applied to merchandise that a licensee sells inside the stadium. With up-front fees, a licensee generally receives all sales of products inside the stadium. This

combination of royalties and up-front fees is mutually beneficial to both the licensees and franchises, and encourages both entities to maximize their profits.

Naming Rights

Another trend that has created a new source of income for MLB franchises during the past 20 years is stadium naming rights. The NFL's Buffalo Bills became the first professional franchise to sell naming rights for a stadium in 1972 when they sold the rights to their new facility for 25 years to Rich Products for \$1.5 million (<http://www.namingrightsonline.com>). In 1986, Pilot Air Freight became the first sponsor to buy the rights for a baseball stadium by sponsoring Buffalo's AAA minor league franchise. In 1990, Coors became the first sponsor to purchase the rights to an MLB stadium when they paid \$15 million for the rights to an un-built facility that would become home to the expansion Colorado Rockies (<http://www.namingrightsonline.com>). Other franchises witnessed the lucrative possibilities of selling the naming rights to their stadiums, and both old and new stadiums were re-named, generating substantial profits for MLB franchises. The distribution of these profits varies for each franchise, depending on the terms of the stadium lease between the host city and the team itself. In the time since the Colorado Rockies became the first MLB franchise to sell naming rights for a stadium, 17 of the 30 MLB franchises have also sold their stadiums' naming rights (Munsey & Suppes, n.d.). However, the duration and prices of these contracts have varied significantly. For example, the Coors contract with the Colorado Rockies lasts for the duration of the stadium's use by the Rockies (www.namingrightsonline.com). Other naming rights contracts have ranged from as few as 10 to as many as 30 seasons. The price of stadium naming rights has also increased dramatically since Coors began their partnership with the Rockies. Recent contracts included the Houston Astros' 28-year, \$168 million

agreement with Coca-Cola (Minute Maid), the San Diego Padres' 22-year, \$60 million deal with Petco, and the Philadelphia Phillies' 25-year, \$95 million contract with Citizens Bank (<http://www.namingrightsonline.com>). The average revenue for these current MLB stadiums (2005) is over \$53 million in additional income over the duration of their contracts. The advent of stadium naming rights has led to other marketing innovations as well. For instance, franchises have sold naming rights to other portions of the stadium, including premium seat levels and general seating sections. The NFL's Cleveland Browns decided not to sell the naming rights to their new facility when it opened in 1999. Instead, the Browns sold the naming rights to the four entrances for their new stadium to National City Corporation, Steris Corporation, CoreComm, Inc., and the Cleveland Clinic Foundation (Munsey & Suppes, n.d.). This is an important option because it allows franchises to maintain a stadium's original name while also generating income through other types of naming rights. One of the key elements of stadium naming rights is the marketability for sponsors in naming a new stadium instead of an existing facility. New stadiums have greater naming rights value because there are no previously existing ties to a stadium (Sandomir, 2004). For instance, San Francisco's Candlestick Park was re-named 3Com Park in 1995 after 35 seasons as Candlestick Park (Munsey & Suppes, n.d.). Fans or corporate clients may have had a connection with the name Candlestick Park and found it difficult to begin calling a stadium by another name. For this reason, MLB's most historic ballparks, including Boston's Fenway Park, New York's Yankee Stadium, and Chicago's Wrigley Field have not yet sold their naming rights. However, it is likely if these franchises were to build new stadiums, the naming rights would eclipse the contracts generated by any other existing facilities because of the popularity of the Red Sox, Cubs, and Yankees (Sandomir, 2004).

Luxury Seating

During the past 15 years, owners have pursued the construction of new stadiums for a variety of reasons, but the growing importance of luxury seating has been a primary motivating factor. The addition of luxury suites in new stadiums has created a financial competitive advantage for franchises that have constructed new facilities. Franchises like the Oakland Athletics, Florida Marlins, and Minnesota Twins, who are still playing in older stadiums and sharing their facilities with an NFL team, are unable to generate the same luxury suite revenue that franchises in new stadiums generate (Carpenter, 1999; Noll & Zimbalist, 1997a). Luxury seating originated at sporting events in ancient Rome, but luxury suites first began to appear in American sports during the 1960's (Hiestand, 1999). The Houston Astrodome was constructed with skyboxes that included bedrooms and kitchens in addition to premium seats (Hiestand, 1999; Carpenter, 1999). The Los Angeles Forum was also constructed with luxury seats for fans at Los Angeles Lakers' games during the 1960's (Hiestand, 1999). However, despite the success of these two facilities, relatively few stadiums featured luxury seating options until the 1980's. In fact, facilities like Dallas' Reunion Arena were specifically designed without luxury seating because owners believed premium seats would negatively impact casual fans (Hiestand, 1999). During the late 1980's, franchises in the NBA and NFL began to realize the economic potential of luxury seating in their new facilities. Miami's Joe Robbie Stadium was designed with increased attention to luxury suites, and the Detroit Pistons built the Palace at Auburn Hills with more than 180 luxury suites (Howard & Crompton, 2004). The construction of these two facilities signaled the growing importance and necessity of luxury seating in order to remain financially competitive in their respective sports.

However, the construction of SkyDome in Toronto and Comiskey Park II in Chicago signified the increasing importance of luxury seating in professional baseball stadiums. SkyDome was constructed with amenities that were novel features for facilities in the sports industry, including a lavish hotel in the middle of the stadium. Comiskey Park II was built specifically to maximize profits from luxury seating by increasing the number of luxury boxes in comparison to Chicago's original Comiskey Park (Brehl, 1989; Isidore, 2003). Even though SkyDome and Comiskey Park II were the last stadiums constructed before the retro stadium trend arrived in baseball, luxury seating has become an integral part of each one of these new retro stadiums as well. Because Major League Baseball plays more games than any other American sport, luxury suites provide more usage for customers than other professional sports.

The construction of Comiskey Park II is important to this study because Comiskey Park II was the last of the older generation of stadiums to be constructed before the emergence of the retro stadium trend. Isidore (2003) noted that the White Sox suffered a significant decrease in attendance only a few seasons after the stadium opened in 1991. In fact, the White Sox have been outdrawn in overall attendance by the Cubs every season since 1993, even though the Cubs' Wrigley Field is 12% smaller than Comiskey Park II (Isidore, 2003). Furthermore, the White Sox' 102 luxury suites only generated \$10 million in rent during the 2003 season (Isidore, 2003). The Blue Jays have suffered similar problems in SkyDome during this period as well. For example, SkyDome was purchased by Toronto Blue Jays' management in 2004 for \$25 million, compared to the facility's cost of \$600 million when it was constructed in 1989 (Downing, 2004). While it appears that the initial positive impact of these two stadiums diminished for the Blue Jays and White Sox in a relatively

short period of time, this study will determine if franchises that built “retro” stadiums enjoyed more lasting positive effects. Bauder (2003) noted that substantial revenue from luxury suites, premium seats, and naming rights is not as certain as it was 10 years ago. Bauder presumes that a “copycat” effect has caused the competitive advantage of new stadiums to decrease each time another stadium is constructed. This presumption and the differences between retro stadiums and the older multipurpose facilities will be the basis for the research in this project.

5: Determining the Value of a Franchise

One portion of this study was an analysis of the effects of new stadiums on individual franchises. The appraised franchise value is an effective measurement of the overall success of a baseball franchise because it takes into account the overall revenues that a team has generated and the potential revenue that a team could generate (Ozanian, 1997). The appraised values determined by Michael Ozanian were calculated by applying a multiple to a team’s average revenues for the past three seasons (Ozanian, 1997). These revenues include venue revenues such as suites, concessions, parking, and advertising. The value also includes revenue from local media contracts, merchandising, and general ticket sales. The revenue from personal seat licenses and expansion entry fees are excluded because these are special, one-time-only occurrences. The final value symbolizes the theoretical price that a team would attain in a transaction, assuming the franchise is a profitable, stand-alone business (Ozanian, 1997). Ozanian (1996) also noted that the professional franchises that make the best investment for a would-be owner are franchises that achieve a good balance from the

revenues generated from gate receipts, broadcasting rights fees, luxury seating, and concessions.

6: Summary

Changes in the business of Major League Baseball over the past twenty years have prompted owners to seek new stadiums for their teams with the hope that a new facility will generate additional revenue by increasing attendance and creating or improving financial opportunities. Owners have managed to secure favorable terms on stadium leases and utilize public funding because they have stressed the importance of professional franchises to their local communities and often threatened city leaders with relocation. The end of the 1980's in professional baseball was characterized by rampant player free agency, a dramatic rise in player salaries, an increase in sales of MLB merchandise, the growth of local media contracts, and the introduction of luxury seating. These factors created an increasingly competitive marketplace where franchises looked for new ways to capitalize financially and remain competitive both on the field and in the market. Baltimore's Camden Yards opened in 1992 and the Orioles instantly increased their attendance. Camden Yards was the first in a new wave of "retro" stadiums that were designed specifically for baseball. These stadiums combined the aesthetic qualities that fans admired from early 20th century baseball facilities with modern amenities and additional business opportunities. Retro stadiums provided franchises with enhanced luxury seating, improved playing surfaces and facilities, more parking spaces, and additional revenue opportunities. Since 1992, fifteen of the thirty MLB franchises have constructed and opened retro stadiums, hoping to duplicate the early success that the Orioles achieved. Researchers have shown that these franchises were able to increase

attendance in the immediate seasons following their relocation. However, this study will look to determine if franchises were able to sustain these increases in attendance. Furthermore, this study will also look to determine both the short-term and extended impact of retro stadiums on a team's winning percentage, revenue, and appraised value.

Chapter Three—Methods

This study was designed to analyze the effects of stadium construction on individual MLB franchises. In addition to looking at the initial effect of a new stadium on an MLB franchise, the study also incorporated a longitudinal approach to determine if franchises were able to sustain any positive results. Therefore, it was important to develop an analysis that would allow for a comparison of those franchises that built new stadiums versus MLB franchises that did not build new stadiums. The franchises were compared between 1991 and 2004 on the variables: game attendance, winning percentage, revenue, and appraised franchise value.

1: Subjects or Data Source

The sample selected for this study includes all MLB franchises that constructed “retro” stadiums since 1991. For comparison purposes, a sample of franchises that did not build new stadiums during this period was also included. The franchises that constructed new stadiums are listed below in chronological order in Table 1, and the franchises that did not open new stadiums during this period are listed in Table 2.

Table 1: Retro Stadium Franchises (1991-2004)

Franchise	Stadium Name	First Year	Capacity
Baltimore Orioles	Oriole Park at Camden Yards	1992	48,876
Cleveland Indians	Jacobs Field	1994	43,405
Texas Rangers	Amerquest Field	1994	49,115
Colorado Rockies	Coors Field	1995	50,445
Atlanta Braves	Turner Field	1997	50,096
Seattle Mariners	Safeco Field	1999	47,116
Detroit Tigers	Comerica Park	2000	40,120
Houston Astros	Minute Maid Park	2000	40,950
San Francisco Giants	SBC Park	2000	41,503

Milwaukee Brewers	Miller Park	2001	42,400
Pittsburgh Pirates	PNC Park	2001	38,496
Cincinnati Reds	Great American Ballpark	2003	42,271
Philadelphia Phillies	Citizens Bank Park	2004	43,826
San Diego Padres	Petco Park	2004	42,445

Table 2: Non-Retro Stadium Franchises (1991-2004)

Franchise	Stadium Name	First Year	Capacity
Arizona Diamondbacks	Bank One Ballpark	1998 ¹	49,033
Boston Red Sox	Fenway Park	1912	35,095
Chicago Cubs	Wrigley Field	1916	39,345
Chicago White Sox	U.S. Cellular Field	1991	40,615
Florida Marlins	Dolphins Stadium	1993 ²	36,331
Kansas City Royals	Kauffman Stadium	1973	40,793
Los Angeles Angels	Angel Stadium	1966	45,037
Los Angeles Dodgers	Dodger Stadium	1962	56,000
Minnesota Twins	HHH Metrodome	1982	56,144
New York Mets	Shea Stadium	1964	57,396
New York Yankees	Yankee Stadium	1923	57,546
Oakland Athletics	McAfee Coliseum	1968 ³	48,219
St. Louis Cardinals	Busch Stadium ⁴	1966	50,345
Tampa Bay Devil Rays	Tropicana Field	1998 ⁵	41,315
Toronto Blue Jays	Rogers Centre	1989	50,516
Washington Nationals ⁶	RFK Stadium	2005 ⁷	45,250

Notes:

Stadium names and capacity represent data for 2005 MLB season

- 1: Bank One Ballpark opened in 1998 and fits the qualifications of a retro stadium, but the stadium was the original home of the expansion Arizona Diamondbacks in 1998. Therefore, the Arizona Diamondbacks were included in the non-retro stadium group.
- 2: Florida Marlins began playing at Dolphins Stadium in 1993, but the actual facility completed construction in 1987.
- 3: Oakland Athletics began playing in McAfee Coliseum in 1968, but the actual facility completed construction in 1966.
- 4: Busch Stadium refers to the facility that the St. Louis Cardinals played in from 1966 to 2005. The Cardinals also played in “Busch Stadium” prior to 1966, and will open another new “Busch Stadium” in 2006, but data in this study refers to 1966-2005 Busch Stadium.
- 5: Tampa Bay Devil Rays began playing in Tropicana Field in 1998, but the actual facility completed construction in 1990.
- 6: The Washington Nationals were known as the Montreal Expos from 1992-2004. During this period, they played in Olympic Stadium, which was constructed in 1977 and had a capacity of 46,500.
- 7: Washington Nationals began playing in RFK Stadium in 2005, but the actual facility finished construction in 1961.

2: Instrumentation

In order to determine the perceived success of each stadium, it was necessary to attain the data for the four variables: attendance, winning percentage, revenue, and appraised value. Values for annual attendance and winning percentage are furnished by Major League Baseball, and these statistics were recorded from the comprehensive Baseball Reference website (<http://www.baseball-reference.com>). Winning percentage was selected over the alternative criterion “wins” because strike-shortened seasons in 1994 and 1995 would have dramatically altered the results of this study. Average attendance was selected instead of overall attendance for the same reason. The values for revenue and appraised value were taken from Michael Ozanian’s articles in *Financial World* and *Forbes*, published annually since 1991. Ozanian’s assessment of MLB franchise values is based on the expected price an MLB franchise would sell for on the open market. His assessments are used by MLB analysts as the standard for judging and ranking the overall values for MLB franchises. Ozanian’s rankings originally appeared annually in *Financial World* from 1991 through 1997, and then moved from *Financial World* to *Forbes* each year from 1998 through 2005. The revenue figures reflect the sum of a franchise’s revenues received from the gates (tickets), media and stadium during the MLB season. It is important to note that the 1994 figures represent Ozanian’s estimate of revenues for the entire 1994 season. The 1994 season was shortened by a players’ strike, so Ozanian’s estimated values were used in this study instead of the actual values to prevent wide discrepancies in the data analysis.

3: Data Collection Procedures

Data collection involved recording the statistics for average attendance, winning percentage, revenue, and appraised value for each season from 1991 until 2004. First of all, the franchises were divided into two samples: 1) Franchises that began playing in retro stadiums during or after 1992; and 2) Franchises that did not play in retro stadiums during or after 1992. This provided a sample of 14 franchises in the “retro stadium” group (subsequently referred to as the retro group) and 16 franchises in the “non-retro stadium” group (subsequently referred to as the non-retro group), which can be seen in the previous section. The data was divided into two sections: 1) a comparison of franchises that constructed retro stadiums versus franchises that continued to play in their older stadiums; and 2) a comparison of franchises that constructed retro stadiums against each other. In order to perform these comparisons, it was necessary to separate the data for each season beginning in 1991. For the analysis of each of the four variables, an average was attained for the retro group and the non-retro group. However, the nature of this data created sample sizes that changed every season. For instance, 1992 included only one retro franchise (the Baltimore Orioles) and 25 non-retro franchises. In each subsequent year, the sample sizes were altered by the opening of new stadiums or the introduction of new MLB franchises through expansion (in 1993 and 1998). For this reason, the retro and non-retro samples changed annually from 1991 until 2004. For example, the Seattle Mariners opened Safeco Field in 1999. Therefore, the Seattle Mariners were included in the non-retro group from 1991 until 1998, but were included in the retro group from 1999 through 2004. Table 3 indicates the seasons that each MLB franchise was included in the retro group or non-retro group.

Table 3: Retro & Non-Retro Group Inclusion for MLB Franchises (1991-2004)

Franchise	Non-Retro Group	Retro Group
Arizona Diamondbacks	1998-2004	
Atlanta Braves	1991-1996	1997-2004
Baltimore Orioles	1991	1992-2004
Boston Red Sox	1991-2004	
Chicago Cubs	1991-2004	
Chicago White Sox	1991-2004	
Cincinnati Reds	1991-2002	2003-2004
Cleveland Indians	1991-1993	1994-2004
Colorado Rockies	1993-1994	1995-2004
Detroit Tigers	1991-1999	2000-2004
Florida Marlins	1993-2004	
Houston Astros	1991-1999	2000-2004
Kansas City Royals	1991-2004	
Los Angeles Angels	1991-2004	
Los Angeles Dodgers	1991-2004	
Milwaukee Brewers	1991-2000	2001-2004
Minnesota Twins	1991-2004	
New York Mets	1991-2004	
New York Yankees	1991-2004	
Oakland Athletics	1991-2004	
Philadelphia Phillies	1991-2003	2004
Pittsburgh Pirates	1991-2000	2001-2004
San Diego Padres	1991-2003	2004
San Francisco Giants	1991-1999	2000-2004
Seattle Mariners	1991-1998	1999-2004
St. Louis Cardinals	1991-2004	
Tampa Bay Devil Rays	1998-2004	
Texas Rangers	1991-1993	1994-2004
Toronto Blue Jays	1991-2004	
Washington Nationals	1991-2004	

Because the franchises entered the retro groups at different times, it was also necessary to compute the year-to-year averages for each of the variables as well. For example, the Baltimore Orioles' first five seasons consisted of a comparison of the 1992-1996 seasons, while the Seattle Mariners' first five seasons consisted of a comparison of the 1999-2003 seasons. Therefore, the non-retro comparison groups also varied annually for each

retro franchise. For example, the non-retro comparison groups for the Baltimore Orioles consisted of the franchises that did not open new stadiums for each individual season from 1992 until 2004. The franchises in the comparison groups changed each season as more teams built retro stadiums and expansion teams entered the league.

It is also important to note the special case of the Colorado Rockies. The Colorado Rockies began playing in the retro-modeled Coors Field in 1995, after playing two seasons in multipurpose Mile High Stadium in 1993 and 1994. The Rockies were an expansion franchise in 1993, so their attendance figures were likely much higher than normal because of the novelty of being a new baseball franchise in Colorado. Mile High Stadium also had a larger capacity than Coors Field, so the data would have been affected by this aberration. Therefore, the retro stadium results for average attendance did not include the Colorado Rockies. In addition, the other three expansion franchises were not included in the attendance analysis because they were likely enjoying a novelty effect during their first few seasons, irregardless of the type of stadium that they played their home games in.

4: Proposed Data Analysis Procedures

After collecting the data for attendance, winning percentage, annual revenue, and appraised franchise value for individual franchises during each season from 1991-2004, the data was analyzed at the macro and micro level. Statistics were calculated for mean attendance, winning percentage, annual revenue, and appraised value for all retro stadiums as a whole and individual franchises as well. The data was then charted to analyze trends associated with retro stadium construction and the assumed “honeymoon” effect during a stadium’s novelty period. Each retro stadium franchise was compared against the non-retro

stadium franchises for each season from 1991 through 2004 in which the selected franchise played in a retro stadium. Therefore, the comparison groups were unique for each retro stadium franchise. Once the data was compiled and analyzed for each individual franchise, it was possible to analyze the overall trends for all retro stadiums.

Chapter Four—Data, Analysis & Results

The purpose of this study was to analyze the effects of “retro” stadium construction on MLB franchises beginning in 1992. First of all, the study analyzed the initial effect of construction on the variables attendance, winning percentage, revenue and value. The study then analyzed the effects for each successive season after the first in order to determine if any positive gains were sustained by the individual franchises. In order to gain a more thorough understanding of the effects of new stadiums, the data was analyzed for all sampled franchises together and individually. In all cases, the results for the franchises that constructed retro stadiums were compared against the results of franchises that did not construct retro stadiums or had not constructed a retro stadium at the beginning of that specific MLB season. In the following section, the results will be presented as the compiled analysis of all fourteen franchises that constructed retro stadiums beginning in 1992. The final section will then provide results for each individual franchise (excluding the Cincinnati Reds, Philadelphia Phillies and San Diego Padres because they had completed too few seasons at the time of the study to properly analyze trends in the four variables).

1: Attendance

Attendance was recorded for each MLB season from 1991 through 2004. Average attendance was used as the measurement because a players’ strike shortened the 1994 and 1995 MLB seasons, which would have affected the attendance results in this study. The Colorado Rockies’ results were excluded because the franchise was still likely enjoying the positive effects of being an expansion franchise when they moved into Coors Field in 1995.

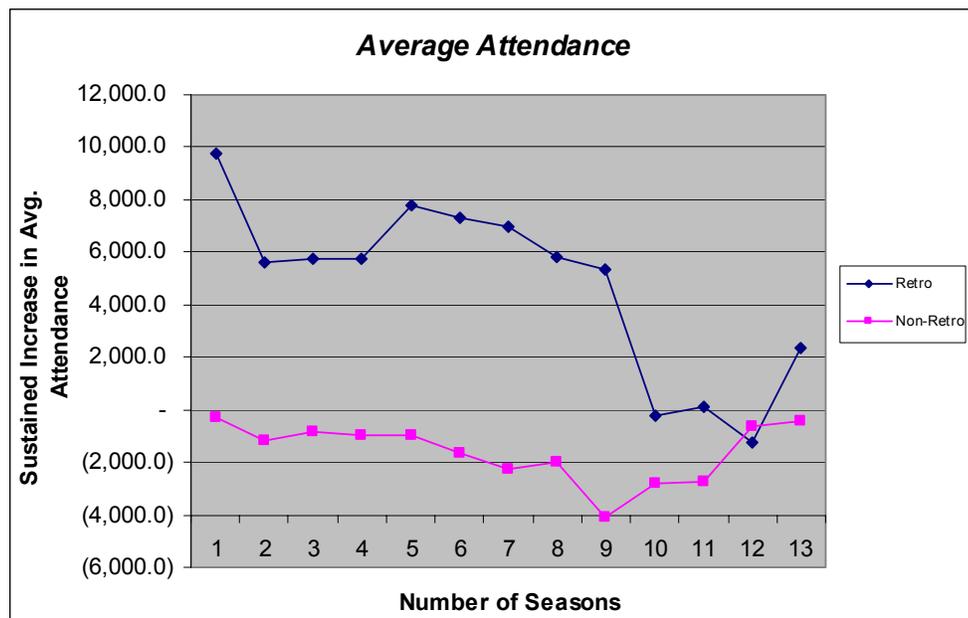
The Rockies moved from the larger-capacity Mile High Stadium, so their attendance decreased dramatically, negating the possibility of any useful analysis from their attendance.

During the first season of play in a retro stadium, average attendance increased by 9,724.8 fans per game (n=14 franchises). However, during the second season of play in a retro stadium, the sustained increase in average attendance (SIAA) decreased to an average of 5,627.8 more fans per game than the previous stadium (n=12). The SIAA value reflects the gain or loss in average attendance for that specific season relative to the average attendance for a franchise in their old stadium. Average attendance in retro stadiums remained relatively stable between seasons two and seasons ten, with SIAA figures ranging between 5,313.3 and 7,803.3 fans per game during these seasons (see Chart 1). However, in season ten, the SIAA decreased to -230.7 fans per game (n=4). Therefore, average attendance for the four franchises that had completed ten seasons in their retro stadium by the end of the 2004 season actually decreased to a level below the average attendance in their old stadiums during season ten. In comparison, the SIAA for MLB franchises without retro stadiums ranged from a minimum of -2,813.9 fans per game to a maximum of -463.4 fans per game during this period. Overall, the SIAA for MLB franchises that constructed retro stadiums remained higher than the SIAA for MLB franchises that did not construct retro stadiums each season until the twelfth season of the period. In fact, the difference in means between the retro stadium group and the non-retro group ranged from a low of 2,583.2 fans per game to a high of 10,016.3 fans per game during the first nine seasons of the research period.

Overall, each of the thirteen retro stadium franchises increased their average attendance during the first season in a retro stadium. Nine of the eleven franchises that completed at least two full seasons in new retro stadiums maintained a positive SIAA value

during the second season. Seven of the ten franchises that completed at least four full seasons in a retro stadium maintained a positive SIAA value during their third season and fourth season in the new facility. During the fifth season, six of the eight franchises maintained a positive SIAA. During seasons six, seven and eight, only the Atlanta Braves reported a negative SIAA among retro-stadium franchises. It is important to note that the Orioles and Indians (two of the first three franchises to open retro stadiums) were the only teams whose attendance did not decline during their second season in a retro stadium. By the fourth season of the research period, the Indians and Mariners were the only teams whose average attendance had not declined from the level attained during their first season in a retro stadium.

Chart 1



2: Winning Percentage

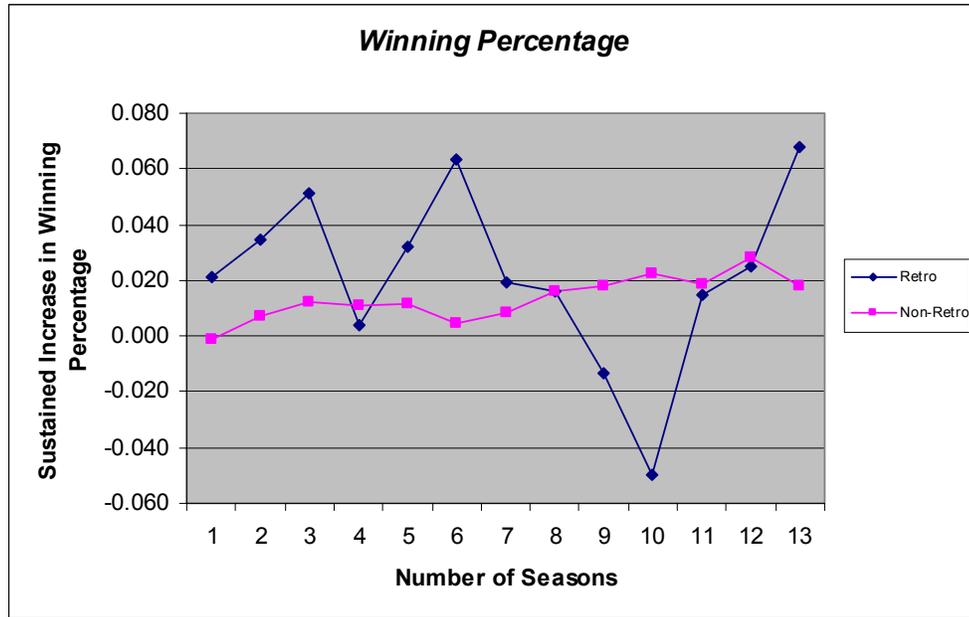
In order to determine if retro stadiums had an impact on a team's on-field performance, winning percentage was selected as the determinant of a team's success.

Similar to the analysis of average attendance, the data was analyzed to determine if franchises were able to sustain positive changes in winning percentage. Therefore, the study analyzed franchises' sustained increases in winning percentage (SIWP), which measured the increase in winning percentage of each season individually against the winning percentage in the season before a franchise relocated to their retro stadium (see Chart 2). Overall, franchises which played in retro stadiums increased their SIWP by 0.021 during their first season in a new stadium (n=14). These franchises maintained a positive SIWP until their ninth season in a new stadium, in which the SIWP decreased to -0.013 percentage points (n=4). In comparison, franchises that continued to play in older stadiums maintained an SIWP between -0.001 and 0.028 during the research period (1991-2004). Franchises in retro stadiums increased their SIWP during the first three seasons, but during the fourth season SIWP decreased to a level below their non-retro stadium comparison group. After this decline, SIWP for retro-stadium franchises increased again until season seven, in which SIWP declined during the seventh, eighth, ninth and tenth seasons in a new stadium.

During the first season in a retro stadium, eight of the fourteen franchises increased their winning percentage from their final season in their old stadium. In season two, seven of the twelve franchises which had completed at least two full seasons in their new stadium produced a positive SIWP. This number increased to eight out of eleven franchises during the third full season in a retro stadium. However, in season four, the number of franchises with a positive SIWP dropped to six out of eleven teams. Six of the nine franchises with at least five years of play in a retro stadium recorded a positive SIWP during season five. During season six, the Seattle Mariners were the only one of the six retro-stadium franchises to record a

negative SIWP. Three of the five franchises maintained a positive SIWP during season seven, and two of the five franchises maintained a positive SIWP during season eight.

Chart 2



3: Revenue

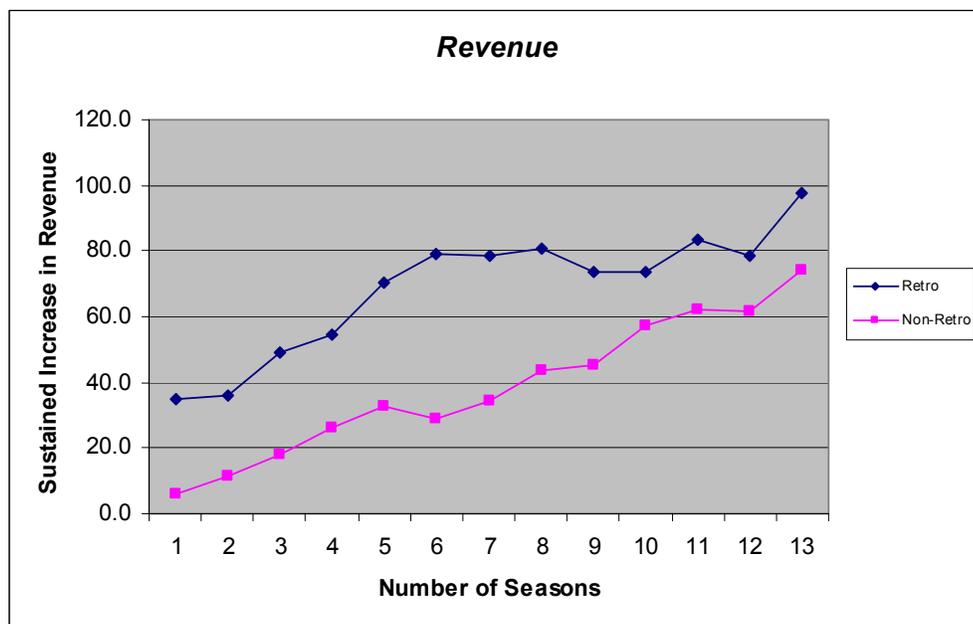
The data for revenue was collected from Michael Ozanian’s annual MLB reports in *Financial World* and *Forbes* from 1992 through 2005. The total revenue includes all income that MLB franchises derived from game seating, local media contracts, and other sales (i.e. concessions, parking, and licensed merchandise) during each individual season. These figures were then analyzed to determine if retro stadiums increased a franchise’s revenue for either a short or sustained period of time, which was termed the sustained increase in revenue (SIR). The SIR value was determined by the franchise revenues during that specific season relative to their final season in an old stadium. During the first season in a retro stadium, franchises increased their revenue by a mean of \$34.6 million (see Chart 3). By comparison,

the mean annual increase for franchises in non-retro stadiums during the first season was \$5.9 million. During each successive season, franchises in retro stadiums maintained this mean SIR value at a constant rate in comparison to franchises in non-retro stadiums. In fact, during the first ten seasons, the difference in means for the SIR fluctuated between a minimum of \$16.2 million in season ten and a maximum of \$49.8 million during season six.

Each of the fourteen franchises increased their revenue during the first season in a retro stadium, ranging from the highest, San Francisco Giants' increase of \$66.9 million, to the lowest, Colorado Rockies' increase of \$5.6 million. While each franchise maintained a positive SIR for every successive season of the research period, there were interesting aberrations. For example, six of the twelve franchises reported a decrease in revenues for their second season in a retro stadium compared to their first season, and during the third season, revenue for four of the eleven franchises had decreased from their first season in the new stadium. Two of the eleven franchises still had lower revenue for their fourth season in a retro stadium compared to their first season, but during season five each of the nine retro-stadium franchises had increased their revenue from their inaugural season in a new stadium. In addition to a positive SIR, for each successive season of the research period, all franchises reported revenue that was greater than their first season in their retro stadium as well. After five seasons in a retro stadium, the mean SIR was \$70.3 million, ranging from the lowest, Texas Rangers' SIR of \$47.8 million, to the highest, Cleveland Indians' SIR of \$100.9 million. The Cleveland Indians attained the highest single-season SIR value of the research period with an increase of \$102.9 million during their sixth season at Jacobs Field before falling to \$90.2 during the last year of the research period. Revenue for both retro and non-retro stadium franchises increased steadily during the thirteen seasons. The difference in

means between the two groups increased from \$28.7 million in season one to a peak of \$49.8 million in season six before falling, but the difference in means was still \$21.3 million in season eleven. Although the difference in means between retro and non-retro stadium franchises decreased toward the end of the research period, retro stadium franchises were able to maintain a steady advantage in sustained increases in revenue throughout the thirteen seasons of the study.

Chart 3



4: Team Value

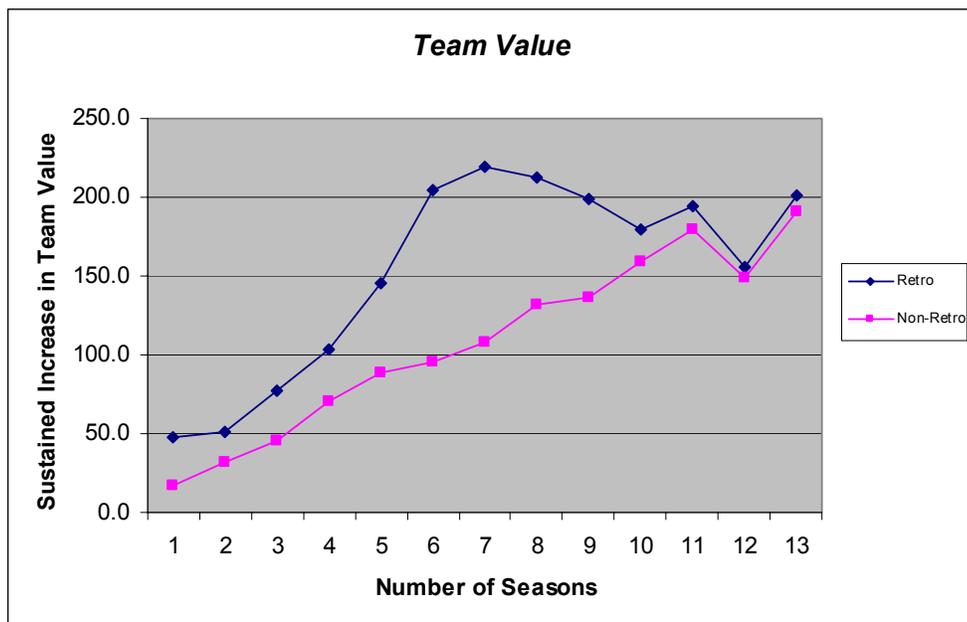
Team value data was also collected from Ozanian’s annual MLB financial reports in *Financial World* and *Forbes* from 1992 through 2005. Team value is based on past and potential revenue and market strength, which Ozanian factored into a financial value that represents the estimated price each MLB franchise would sell for on the open market. These values were then analyzed in order to see if team values increased for franchises after the opening of a retro stadium. The change in team value over the course of time was

documented by the sustained increase in value (SIV), which measured the increase in a franchise's value relative to the season before a franchise relocated to a retro stadium (see Chart 4). Overall, team value increased by \$47.8 million for franchises after their first season in a retro stadium. By comparison, franchises playing in non-retro stadiums increased their value by \$16.7 million after this first season. Franchises in retro stadiums continued to maintain a greater SIV than franchises in non-retro stadiums for each successive season. The difference in means between the two groups increased during seasons three through seven and then decreased to a level near non-retro stadium franchises from seasons eight through ten. During the first ten seasons, the difference in means between the retro stadium SIV and non-retro SIV ranged from a minimum of \$20.0 million during season ten to a maximum of \$111.4 million during season seven. In addition, SIV increased for retro-stadium franchises to a maximum of \$219.6 million during season seven, but then declined during seasons eight through ten. By comparison, non-retro stadium franchises increased their SIV during each successive season in seasons 1-10.

Thirteen of the fourteen franchises increased their value during the first season in their new stadium. Five of the twelve franchises that had completed at least two seasons in a retro stadium decreased in value between season one and season two. During seasons three and four the Milwaukee Brewers were the only team that produced a negative SIV. The Brewers actually reported a negative SIV for each of the final three seasons of the research period, including a \$35 million SIV during their third season at Miller Park, the lowest single-season decrease in value of the entire research period. The SIV for the Brewers, Pirates, Astros and Tigers all decreased between season two and season three. However, ten of the eleven franchises which had completed at least four seasons in a retro stadium

maintained a positive SIV during season four. By the fifth season, all nine retro stadium franchises had sustained a positive SIV, and all retro stadium franchises maintained this positive SIV for each successive season of the research period. Among retro-stadium franchises, the Cleveland Indians increased their value by the largest margin, \$219 million, between the beginning and end of the research period. The Indians also recorded the highest single-season SIV of the research period, \$272 million during their seventh season in Jacobs Field. Thirteen of the fourteen franchises had increased their value after the opening of their new stadium by the conclusion of the research period. However, only four of the twelve franchises that had completed at least two seasons in a retro stadium finished the research period with a higher SIV than their comparison non-retro stadium group.

Chart 4



5: Individual Franchises

Atlanta Braves

The Atlanta Braves exhibited a sharp increase in average attendance during their first season at Turner Field, but that initial increase was followed by a steady decrease over the course of their final seven seasons (see Chart 5-A). In fact, the Braves' attendance declined each successive season after their first in Turner Field, even falling below their attendance before relocation for the final four seasons. This decline in attendance occurred despite the Braves' continued on-field success during this period in which their SIWP was negative only twice in eight seasons (see Chart 5-B). However, the Braves increased their revenue and produced an SIR of \$82.9 million in the final year of the research period. On the other hand, as Chart 5-C indicates, the difference in means for SIR between the Braves and the non-retro group narrowed from \$32 million in season one to only \$13.3 million in season eight. In a similar manner, the Braves increased their value by \$100 million during their first season in Turner Field, and their SIV was \$183 million in the final year of the research period (see Chart 5-D). However, the non-retro stadium comparison group increased their value by an average of \$184 million during this same period.

Chart 5-A

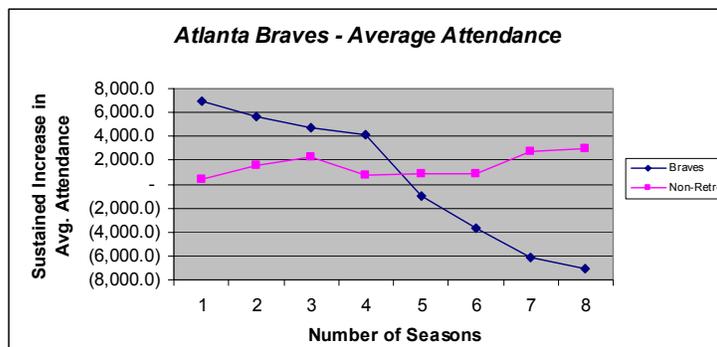


Chart 5-B

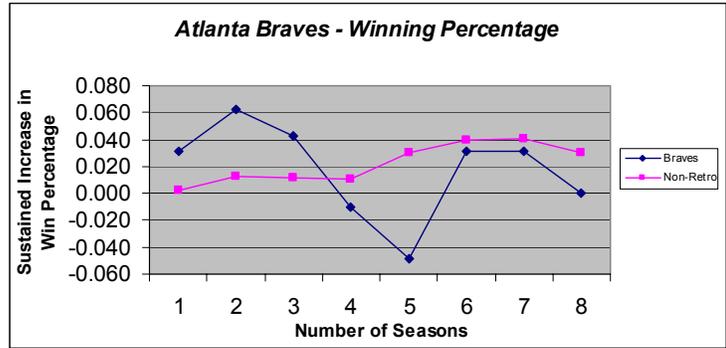


Chart 5-C

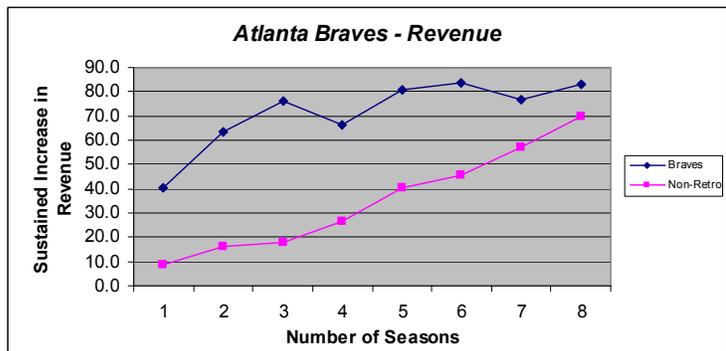
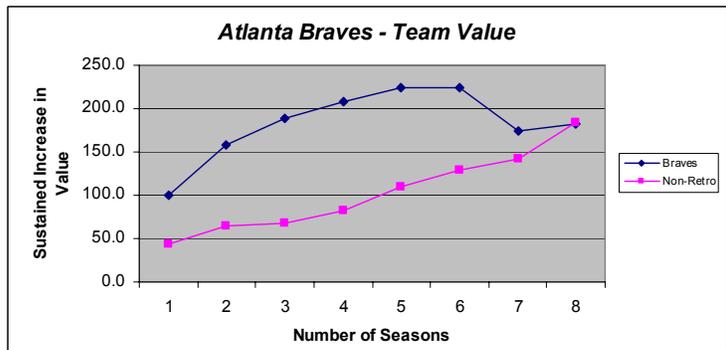


Chart 5-D



Baltimore Orioles

The Orioles were the first franchise to build a retro stadium and that resulted in increased average attendance, winning percentage and revenues during the first season. However, the Orioles were the only sampled franchise to decrease in value after their first season in a retro stadium. The Orioles achieved a positive SIV during season three and

maintained this increase for the duration of the research period (see Chart 6-D). The Orioles' SIV reached a high of \$211 million during their seventh season before declining to \$201 million in the final season of the research period. During the seventh season, the difference in means for SIV between the Orioles and the non-retro stadium group was \$139.3 million, but the difference in means declined to \$10 million during the final season. In addition, the difference in means declined to \$10 million during the final season. In addition, the Orioles' revenue was higher than the non-retro group for each season of the research period, but the difference in means for SIR declined from \$71 million in season six to \$23.5 million in the final season (see Chart 6-C). Finally, the SIAA for the Orioles was greater than 10,000 fans per game for each of their first eight seasons in Camden Yards, but fell to a negative level in season 12 before increasing slightly during the final year of the research period (see Chart 6-A). Nevertheless, the Orioles' SIAA was greater than the non-retro group in all but one season during the research period.

Chart 6-A

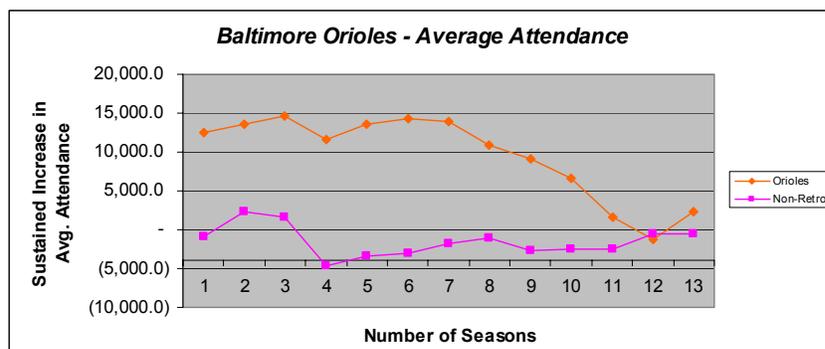


Chart 6-B

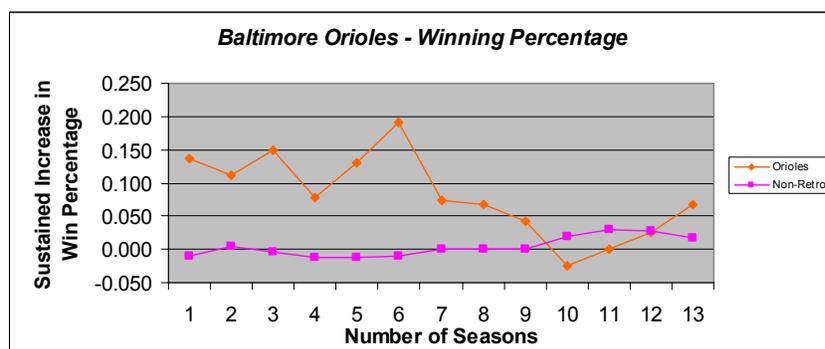


Chart 6-C

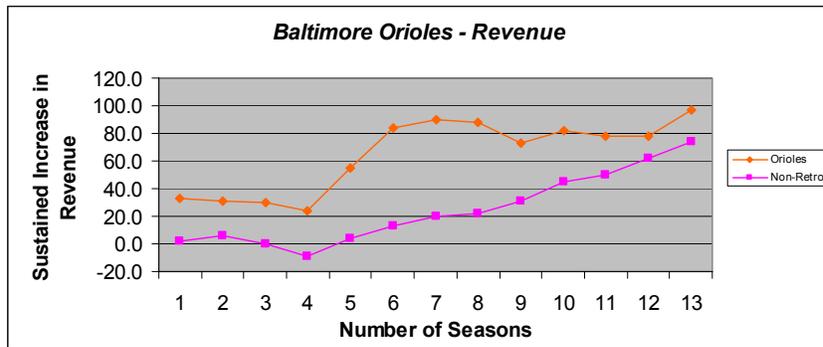
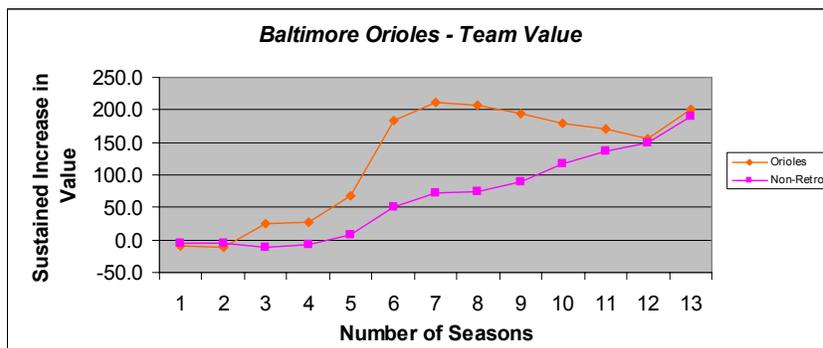


Chart 6-D



Cincinnati Reds

The Reds had only completed two seasons in their new facility at the time of this study, so it was too early to determine the overall impact of their new stadium. However, the Reds had maintained positive increases in attendance, revenue and team value during these first two seasons. Average attendance declined during their second season, but the Reds' SIAA remained higher than the non-retro stadium group in each season.

Cleveland Indians

Cleveland experienced increases in average attendance, winning percentage, revenue and team value during its first season in Jacobs Field. The Indians maintained their SIAA at a

level over 12,000 fans per game during its first eight seasons in their retro stadium, achieving a high SIAA of 15,933 fan per game in their sixth season (see Chart 7-A). In fact, the difference in means for SIAA between the Indians and the non-retro stadium group was 20,828.2 fans per game during season seven. However, the Indians' SIAA decreased by 10,950 fans per game between their ninth and tenth seasons in a retro stadium. Their SIAA remained negative for the final two years of the research period, falling below the mean for the non-retro stadium group in both seasons. The Indians' winning percentage increased by 0.115 during their inaugural season at Jacobs Field and remained positive for every season except the ninth and tenth years (see Chart 7-B). The Indians' revenue increased by \$16.9 million during the first season and their SIR peaked at \$102.9 million during season six. After season six, the Indians' SIR fluctuated between \$78.2 million and \$101.2 million through the duration of the research period. However, the difference in means between the Indians' SIR and the non-retro group's SIR decreased from a high of \$86.6 million in season six to a low of \$22.1 million in the final season (see Chart 7-C). The Indians' team value displayed a similar pattern as their SIV increased from \$3.0 million in season one to a high of \$272 million in season seven. After this peak, the Indians' SIV decreased to \$192 million before increasing to \$219 million in the final year of the research period. While the Indians' SIV was greater than the non-retro stadium group's SIV for each year of the research period, the difference in means between the Indians and the non-retro group increased from \$3.8 million in season one to a high of \$178.5 million in season six before falling to \$17 million in the final season (see Chart 7-D).

Chart 7-A

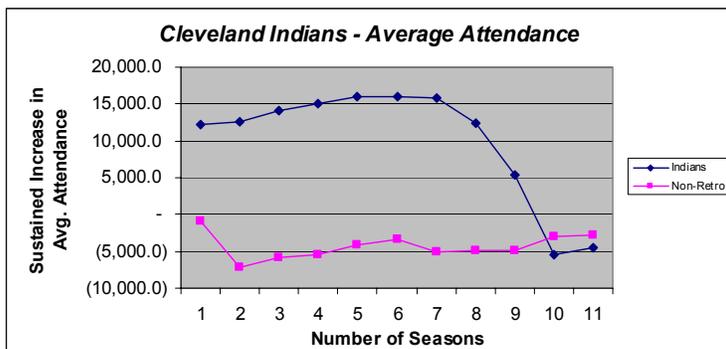


Chart 7-B

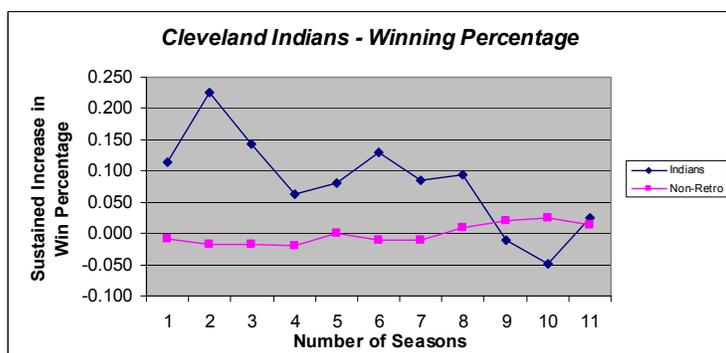


Chart 7-C

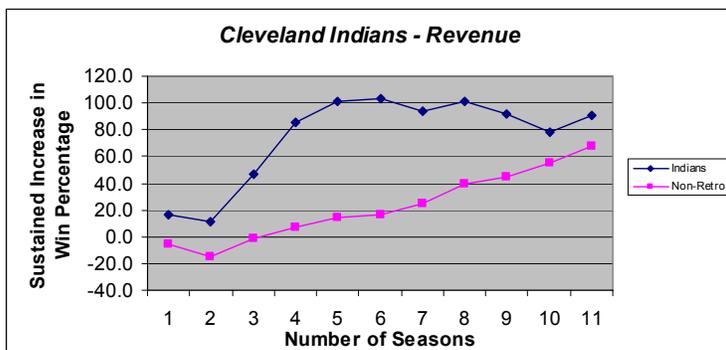
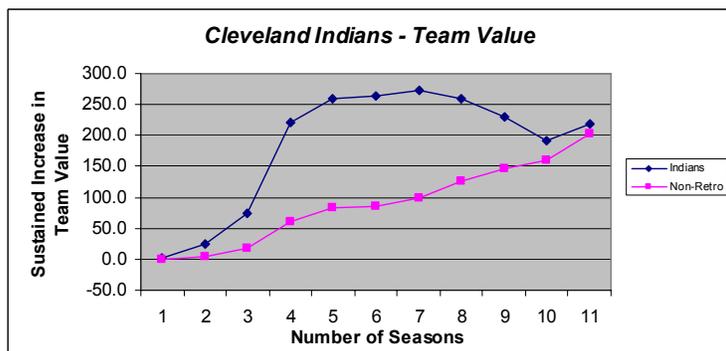


Chart 7-D



Colorado Rockies

The Rockies' average attendance at Coors Field was not used in this study because of the novelty effect that the Rockies were likely still enjoying when they relocated from Mile High Stadium in 1994. Coors Field had a much smaller capacity than multi-purpose Mile High Stadium, so the Rockies' average attendance declined even though they routinely sold out their new stadium for their first season. The Rockies' SIWP was negative for three of the ten seasons in Coors Field, positive for six of the seasons, and zero for one season (see Chart 8-A). The Rockies' SIR was \$5.6 million during their inaugural season in Coors Field, \$30.9 million in their second season, and \$51.9 million in their third season. During this third season, the difference in means for SIR between the Rockies and the non-retro stadium group was \$39.8 million, but the Rockies' SIR only increased to \$67.3 million in the final season of the research period, which was \$6.3 million below the non-retro group for the same season (see Chart 8-B). The change in team value followed a similar pattern as the Rockies' SIV was \$16 million in season one and peaked at \$230 million in season seven. The difference in mean for SIV between the Rockies and the non-retro group increased to a high of \$124.2 million in their third season in a retro stadium, but dropped to \$30 million below the non-retro group in the final season of the research period (see Chart 8-C).

Chart 8-A

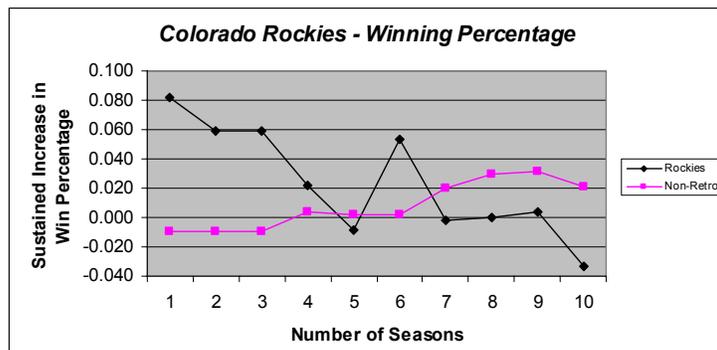


Chart 8-B

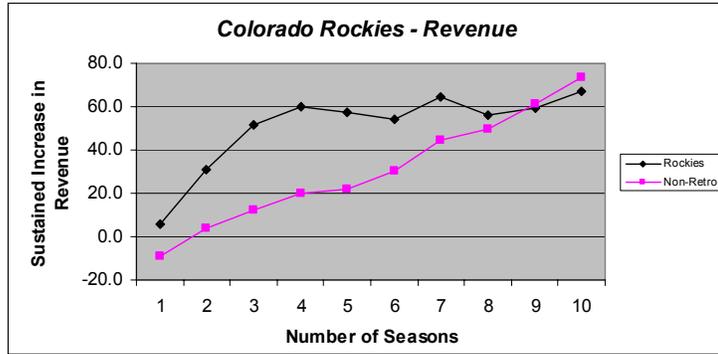
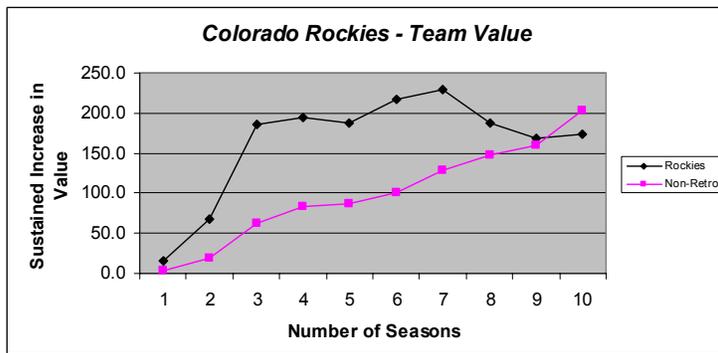


Chart 8-C



Detroit Tigers

The Detroit Tigers produced increases in average attendance, winning percentage, revenue, and team value during their first season at Comerica Park. Average attendance increased by 5,089 fans per game during their first season in a retro stadium, but SIAA declined by 6,387 fans per game between their first and second seasons in a retro stadium. The Tigers' SIAA declined to a low of -8,126 fans per game in their fourth season before increasing to -1,351 fans per game in the final year of the research period (see Chart 9-A). The Tigers' winning percentage increased during their first season, but their SIWP was negative for the next three seasons before increasing to 0.019 in season five (see Chart 9-B). Their SIR was \$49.3 million in the first season, but declined to a low of \$36.5 million in season three before increasing to \$54.5 million in the final season. For each season the

Tigers' SIR was greater than the non-retro group, but the difference in means between the two groups decreased from \$40.7 million in the first season to \$2.7 million in the fifth season (see Chart 9-C). The Tigers' SIV decreased sharply from \$90 million in their first season at Comerica Park to \$39 million in the final year. The Tigers' SIV was \$75.5 million greater than the non-retro group during this first season, but fell to \$78 million less than the non-retro group in the fifth season (see Chart 9-D).

Chart 9-A

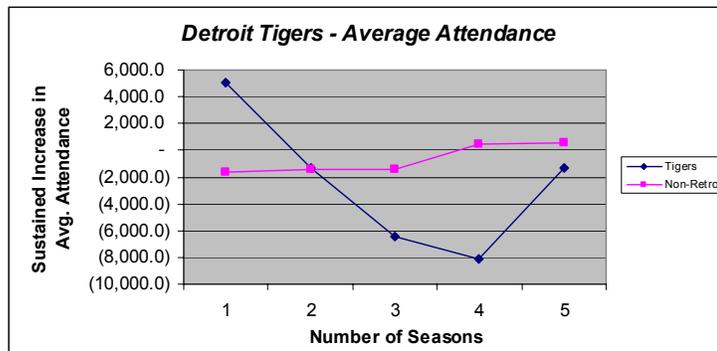


Chart 9-B

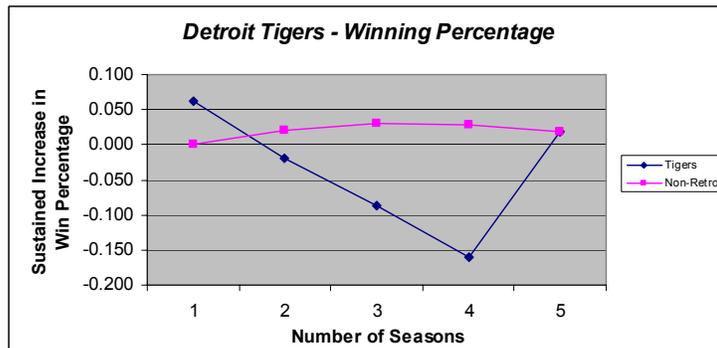


Chart 9-C

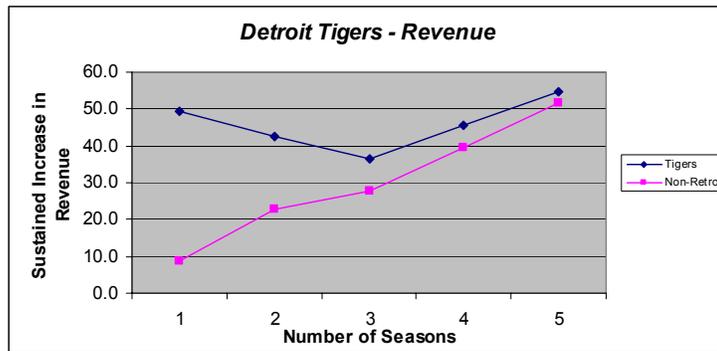
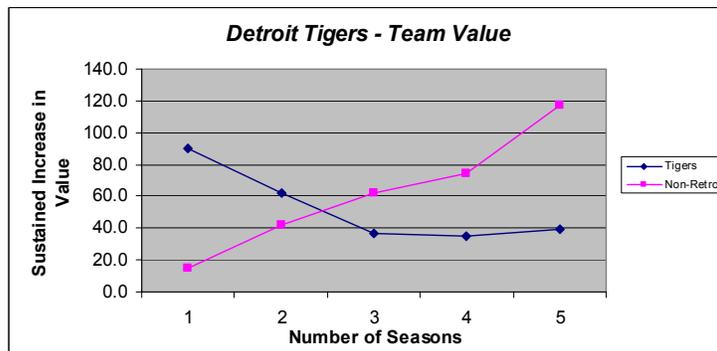


Chart 9-D



Houston Astros

The Astros recorded increases in average attendance, revenue, and team value during their first season in a retro stadium. However, the Astros' SIAA declined each of the next three seasons while falling to a low of -3,108 fans per game in their fourth season at Minute Maid Park (see Chart 10-A). Between season four and season five, the Astros increased their average attendance by 7,822 fans per game to increase their SIAA to 4,714. Furthermore, the Astros' SIWP was negative for each of their first five seasons in their new stadium (see Chart 10-B). The Astros' revenue increased by \$28.9 million during the first season but their SIR fell to a level below the non-retro group during seasons three and four before rising to \$61.7 million in the final year of the research period (see Chart 10-C). The Astros' team value also increased in their first two seasons and declined in the third and fourth seasons before

increasing again in the final season. However, the Astros' SIV was \$23.5 million higher than the non-retro group in season one but \$40 million less than the non-retro group in the final season (see Chart 10-D). It is important to note that the Astros' average attendance, revenue and team value were likely boosted during season five by the return of hometown hero Roger Clemens to the team.

Chart 10-A

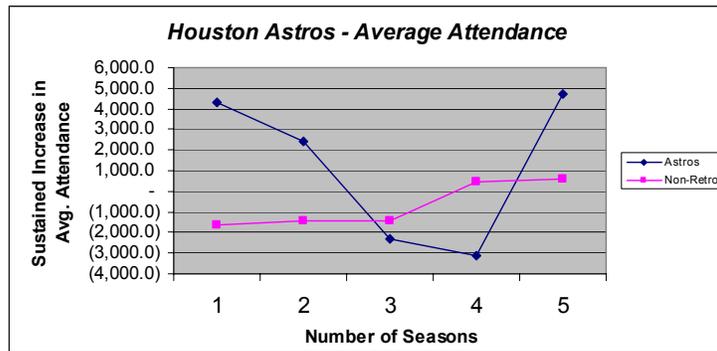


Chart 10-B

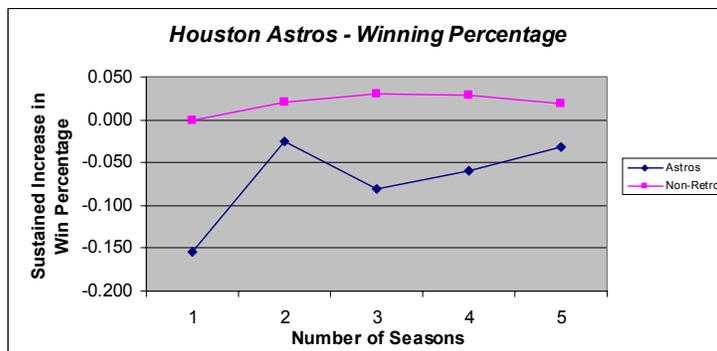


Chart 10-C

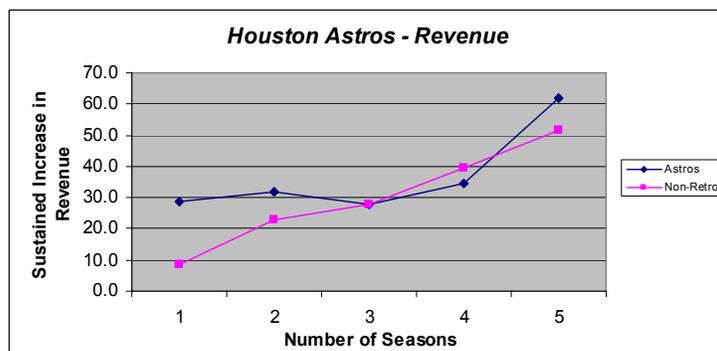
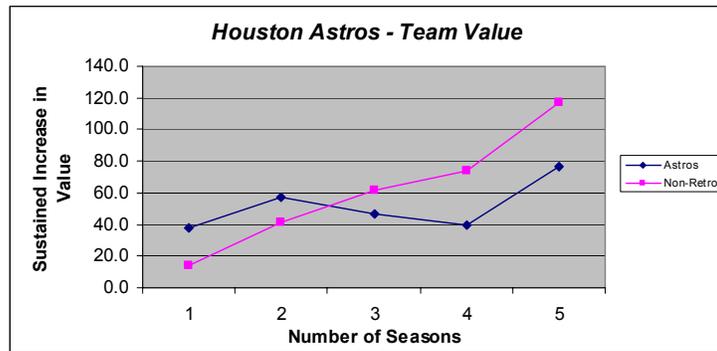


Chart 10-D



Milwaukee Brewers

The Brewers' average attendance increased by 15,277 fans per game during their first year in Miller Park, which was also the second largest increase for any individual season during the research period. Although the Brewers' SIAA was positive for each season of the research period, their SIAA was never greater than 6,034 fans per game (season four) during successive years (see Chart 11-A). The Brewers' winning percentage decreased during their first season at Miller Park and their SIWP remained negative for each season in the research period (see Chart 11-B). The team's revenue increased by \$38.4 million during their first season, but the Brewers' SIR only increased to \$42.4 million in the final season, which also dropped their SIR below the mean for the non-retro stadium group (see Chart 11-C). Finally, the Brewers' team value increased by \$29 million in their first season at Miller Park. However, their SIV was negative for each of the remaining seasons in the research period, including a low of \$-35 million in season three (see Chart 11-D). The SIV of \$-35 million was the lowest single-season decrease in value for any franchise during the research period, and the Brewers' final SIV was \$-1 million. Therefore, the Brewers were the only franchise in the study to have built a retro stadium and decreased in value at the time of the study's completion.

Chart 11-A

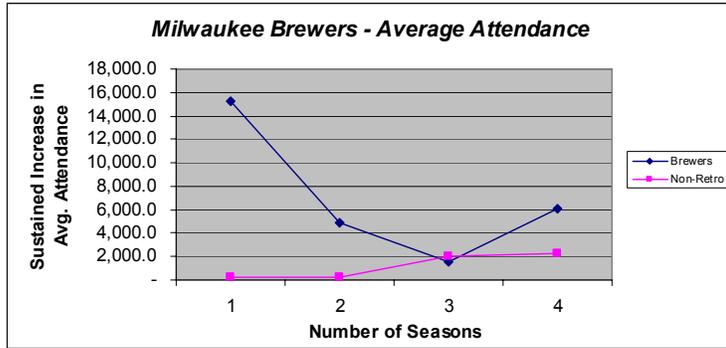


Chart 11-B

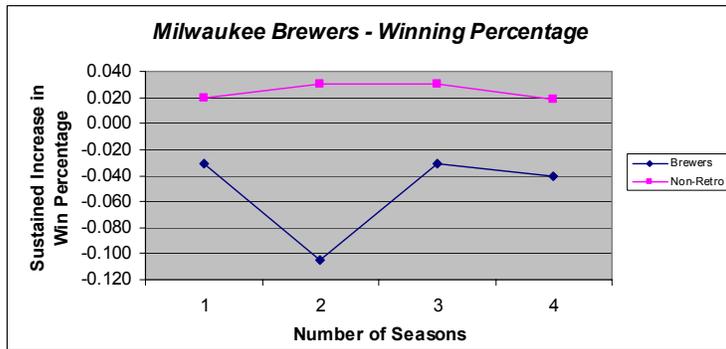


Chart 11-C

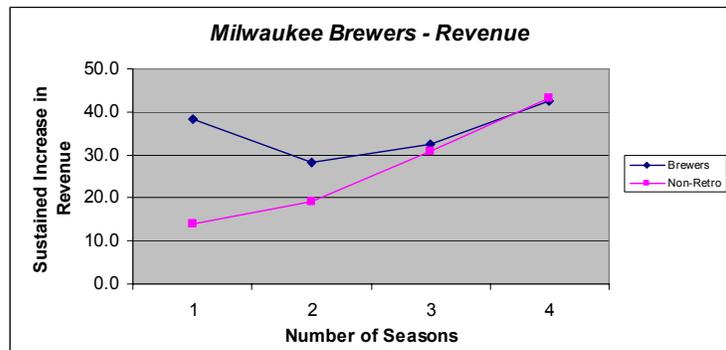
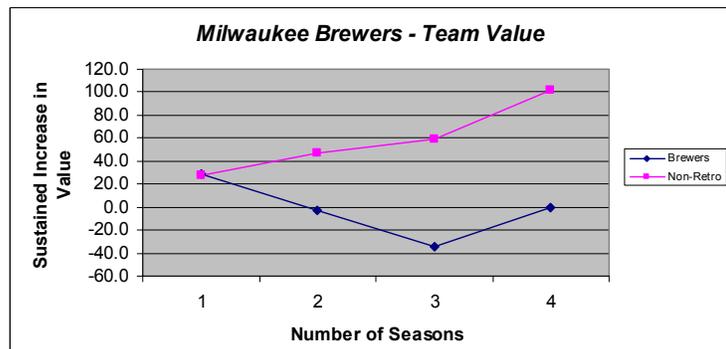


Chart 11-D



Philadelphia Phillies

The Phillies were one of two franchises that had completed only one season in a retro stadium at the time of the study's completion. However, the Phillies increased their average attendance, revenue and team value during their first season in a retro stadium. All three values were also higher than the averages for the non-retro group during that season as well. The Phillies maintained the same winning percentage in their first season at Citizens Bank Park that they had achieved in their final season at Veterans Stadium. The Phillies also achieved the highest first-year increase in team value (\$111 million) for any franchise in the study.

Pittsburgh Pirates

Pittsburgh increased their average attendance by 8,839 fans per game during their first season in PNC Park, but the Pirates' average attendance declined in each of the final three seasons of the research period (see Chart 12-A). In fact, the Pirates' SIAA was only positive for their first two seasons in a retro stadium. The Pirates' winning percentage decreased during season one, but their SIWP was positive for the remaining three seasons (see Chart 12-B). The Pirates' revenue increased during their first season and their SIR remained positive for each successive year of the research period, but the Pirates' SIR dropped below the non-retro group's SIR in season four (see Chart 12-C). Pittsburgh's team value also increased after their move to PNC Park, but the Pirates' SIV declined from \$31 million in season one to \$7 million in season four. Furthermore, the difference in means for SIV between the Pirates and the non-retro stadium group was \$3.8 million in the first season, but \$95 million less than the non-retro group's SIV in the final season (see Chart 12-D).

Chart 12-A

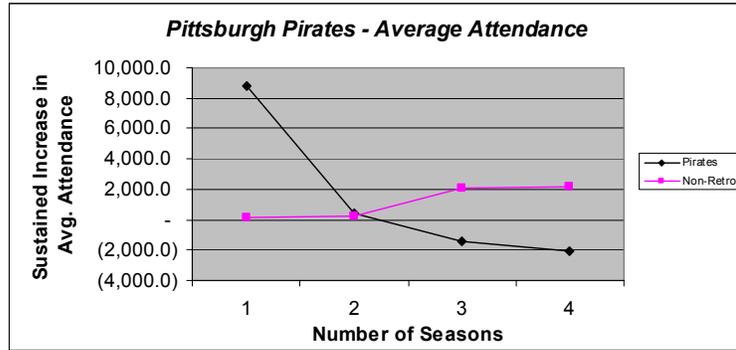


Chart 12-B

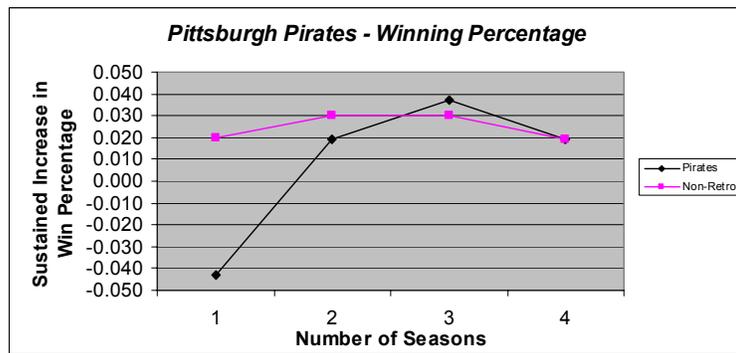


Chart 12-C

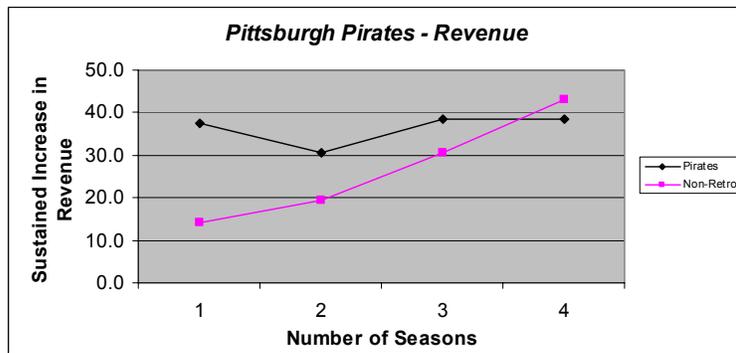
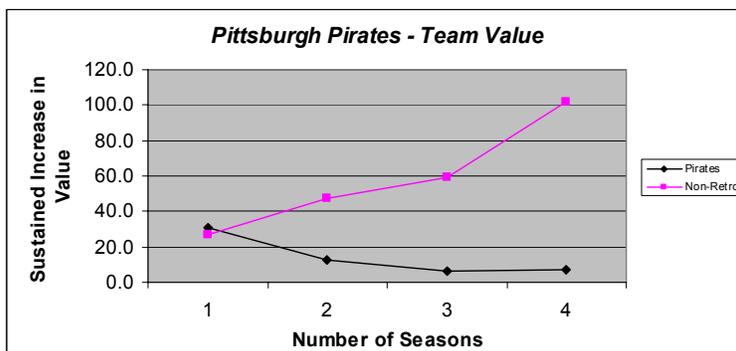


Chart 12-D



San Diego Padres

The Padres were the second of two MLB franchises that had completed only one season in a retro stadium at the time of the study's completion. The Padres did record increases in average attendance, winning percentage, revenue and team value during their first season at Petco Park. Their values for each of these variables were also higher than the non-retro stadium group's averages for that season as well.

San Francisco Giants

Average attendance, winning percentage, revenue and team value all increased for the San Francisco Giants during their first season at SBC Park. In fact, the Giants achieved the highest first-season increases in average attendance and revenue among all franchises during the research period. The Giants' average attendance increased by 15,314 fans per game during season one and the Giants' SIAA never dropped below 14,504 fans per game for any season in the research period (see Chart 13-A). The Giants also maintained a positive SIWP for each season of the research period as well (see Chart 13-B). San Francisco's revenue increased by \$66.9 million during season one and their SIR increased to \$87.1 million during season five (see Chart 13-C). The Giants' team value increased by \$96 million in their first season at SBC Park and the Giants completed their final season with an SIV of \$144 million (see Chart 13-D). However, the difference in means for SIV between the Giants and the non-retro stadium group decreased from a high of \$83 million in season three to a low of \$27 million in season five. The Giants were the only franchise to record positive values for all

four variables in each season of the research period, and also have every single-season value greater than the non-retro stadium group's average each year.

Chart 13-A

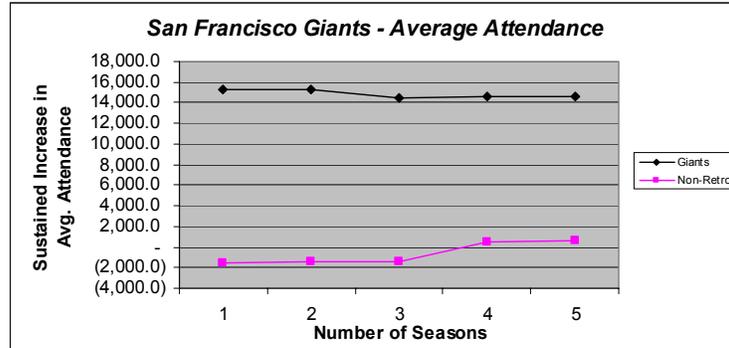


Chart 13-B

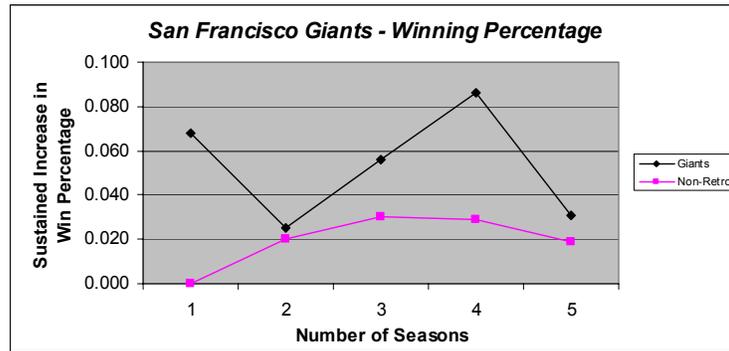


Chart 13-C

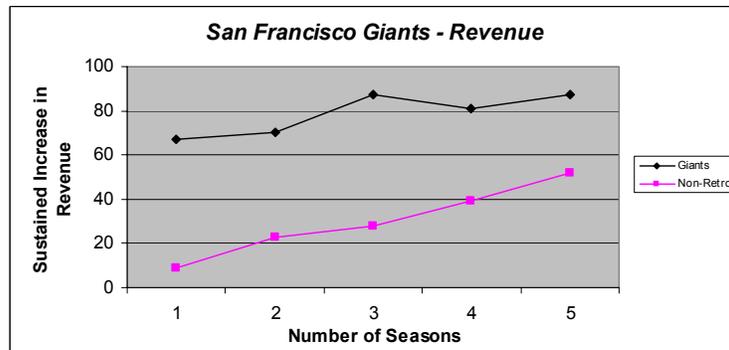
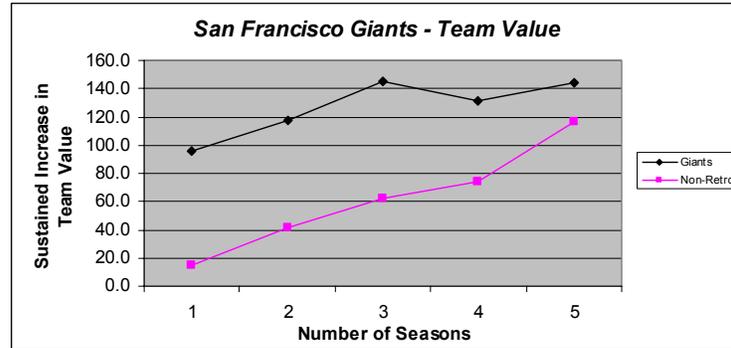


Chart 13-D



Seattle Mariners

The Mariners increased their average attendance, winning percentage, revenue and team value during their first season at Safeco Field. It is interesting to note that the Mariners achieved higher SIAA values during seasons three through six than they achieved in their first two seasons (see Chart 14-A). However, SIAA values were all positive and higher than the non-retro group's average in each season. The Mariners' SIWP was positive for each season except for season six, which was the only single-season negative value that the Mariners recorded among all four variables in the research period (see Chart 14-B). The Mariners' revenue increased by \$30.3 million during their first season and SIR increased each successive season to a high of \$91.7 million in season six. The difference in means for SIR between the Mariners and the non-retro stadium group also increased from \$28.6 million in the first season to \$38.2 million in season six (see Chart 14-C). Finally, the Mariners' value increased by \$54 million in their first season and their SIV increased every additional season to peak at \$179 million in season six (see Chart 14-D). The difference in means for SIV between the Mariners and the non-retro stadium group also increased from \$51.2 million in season one to a high of \$92.5 in season three before falling to \$60 million in season six.

The difference in means for SIV of \$60 million was the largest gap between a retro-stadium franchise and the non-retro stadium group for the final season of the research period.

Chart 14-A

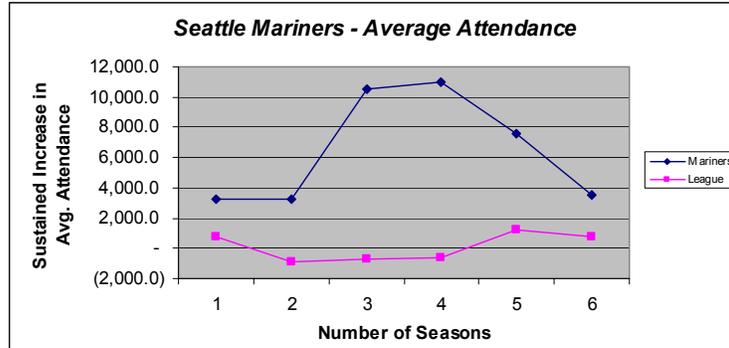


Chart 14-B

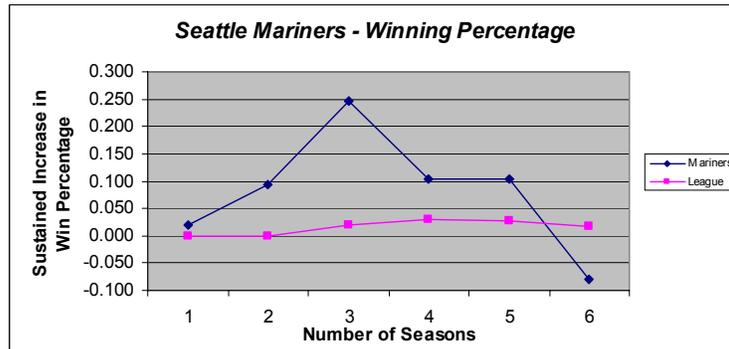


Chart 14-C

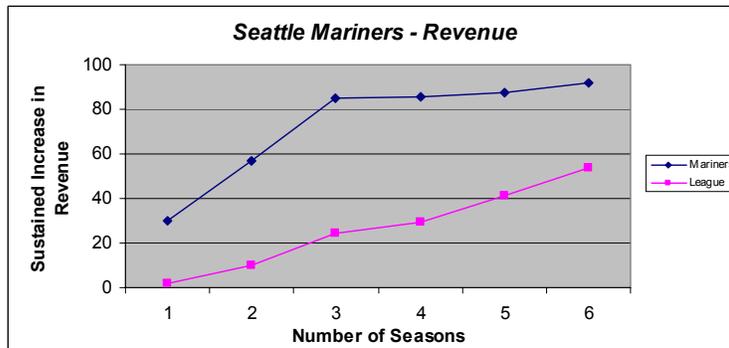
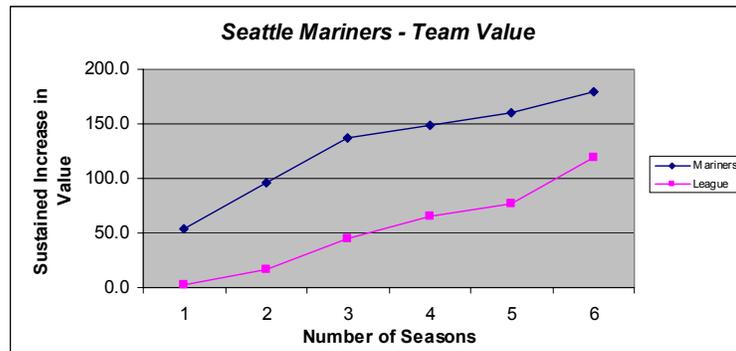


Chart 14-D



Texas Rangers

The Rangers' average attendance increased by 12,022 fans per game in their first season in a retro stadium, but declined by 12,151 fans per game between season one and season two. However, the Rangers' SIAA remained positive for the following seven seasons and was negative for only two of their eleven seasons in Ameritrust Field (see Chart 15-A). However, the Rangers' SIWP was negative for the first two seasons and was only positive for four of their eleven seasons (see Chart 15-B). The Rangers only recorded consecutive positive SIWP seasons once during the research period (seasons five and six). Texas increased their revenue by \$9.7 million during season one and increased their SIR value to a high of \$81.7 million in season eleven (see Chart 15-C). In each of the eleven seasons, the Rangers' SIR value was greater than the non-retro stadium group's SIR average. The Rangers' team value increased by \$25 million in their first season at Ameritrust Field and continued to increase until their SIV peaked at \$224 million in season eight before falling to \$194 million in the final year of the research period (see Chart 15-D). The difference in means for SIV between the Rangers and the non-retro stadium group rose from \$25.8 million in their first season to a high of \$110.1 million in season seven, but fell to \$8 million below the non-retro group's SIV average during the final year of the research period.

Chart 15-A

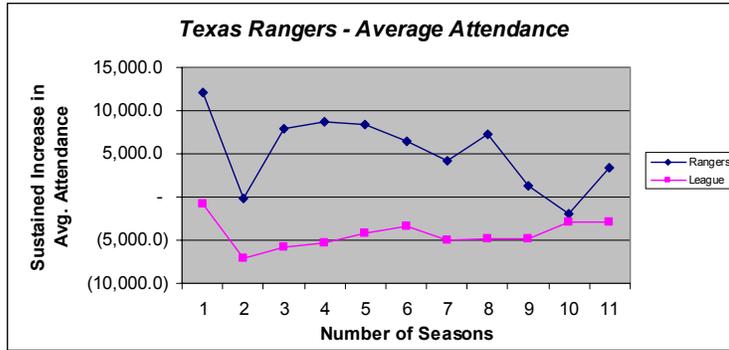


Chart 15-B

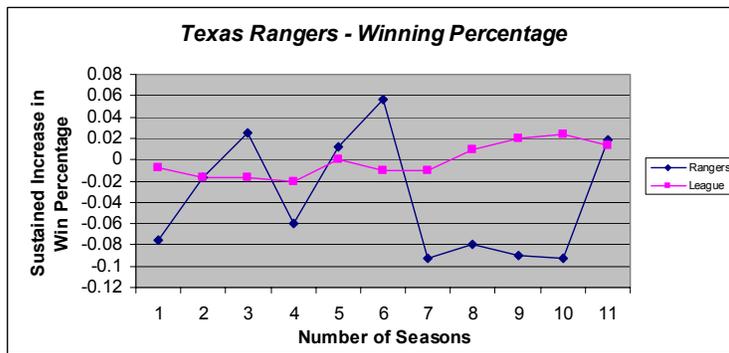


Chart 15-C

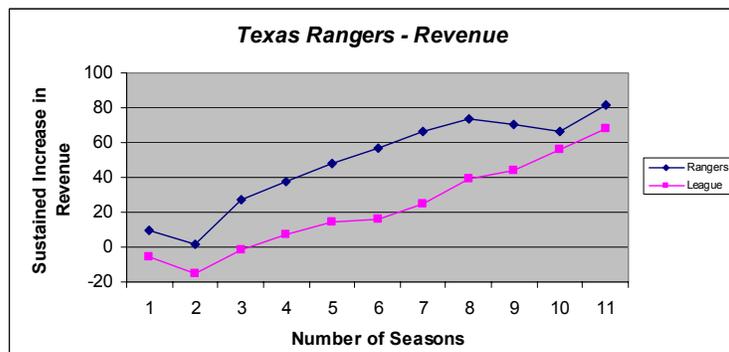
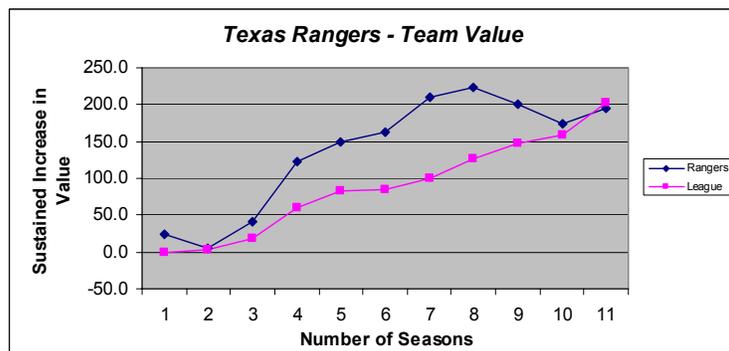


Chart 15-D



Chapter Five—Discussion

The review of literature showed that prior research into Major League Baseball stadiums has primarily focused on the effects of new stadiums on attendance. In addition to attendance, this study also incorporated the effects of new stadiums on winning percentage, revenue and team value for MLB franchises. Data for these variables was collected for MLB seasons between 1991 and 2004 because this period was defined by the emergence of the retro stadium trend in baseball. Baltimore's Oriole Park at Camden Yards was the first MLB stadium that incorporated modern amenities and classic architectural features designed to maximize revenue for the franchise. During this period, fourteen franchises constructed retro stadiums modeled after the Camden Yards template.

Attendance for the retro stadium group, which included all franchises that played in retro stadiums between 1991 and 2004, displayed a sharp increase during the first season followed by a decline in the second season. Attendance remained steady between seasons two and nine before falling again in season ten. It is important to note that only four franchises had completed ten seasons in a retro stadium at the time of this study. In addition, there are other factors that may have accounted for the changes in attendance that are impossible to separate from the impact of retro stadiums. The Orioles likely enjoyed a surge in attendance during their first few seasons at Camden Yards because Cal Ripken, Jr. was chasing Lou Gehrig's consecutive games played streak. In addition, the San Francisco Giants' attendance was likely affected by Barry Bonds and his pursuit of the single-season home run record in 2001 as well as significant individual milestones such as Bonds' pursuit of 600 home runs and 700 home runs in later seasons. The Houston Astros' average attendance increased by 7,822 fans per game between their fourth and fifth seasons at Minute

Maid Park even though their winning percentage had only increased slightly. The Astros' attendance was most likely impacted by their signings of Roger Clemens and Andy Pettitte, two star players who were playing in their hometown for the first time.

On the other hand, franchises in the retro stadium group were not the only teams whose attendance could have been affected by other factors. The Chicago Cubs and St. Louis Cardinals both enjoyed increases in attendance in 1998 that they were able to sustain through the duration of the research period without the benefit of a retro stadium (<http://www.baseball-reference.com>). These increases were most likely caused by the interest in Sammy Sosa and Mark McGwire's chase of Roger Maris's home run record in 1998. Furthermore, the New York Yankees increased their average attendance after their World Series championship in 1996 and finished the research period with the largest sustained increase in average attendance of any MLB franchise despite not building a retro stadium. The Angels increased their average attendance by 13,212 fans per game between 2002 and 2004 while continuing to play in a non-retro same stadium. The Angels' increase was likely caused by their World Series championship in 2002. It is likely that the presence of Cal Ripken, Barry Bonds and Roger Clemens all affected the attendance of their franchises, but these examples show that attendance for non-retro stadium franchises were also affected by significant individual and team accomplishments during this period as well.

Winning percentage increased for the retro stadium group during each of the first three seasons and was higher than the non-retro stadium group in seven of the first eight seasons. Between 1991 and 2004, none of the franchises that constructed retro stadiums won a World Series championship. The Arizona Diamondbacks won the World Series in 2001 and their stadium would be considered a retro facility based on its design, but the Diamondbacks

were not included as part of the retro stadium group because the Diamondbacks were an expansion team during the research period and Bank One Ballpark was their original facility.

Winning percentage, attendance, revenue and value for franchises are all intertwined in a manner that makes their effects difficult to separate. Franchises want to attract top players to improve their winning percentage and need high revenues to afford these players. Franchises also assume that successful teams with high winning percentages will attract more fans, thereby increasing attendance and revenue at the same time. However, the data in this study indicates that these theories do not always produce the same results. For example, the Atlanta Braves began playing in their retro stadium, Turner Field, in 1997. The Braves were one of the most successful franchises in baseball before they moved to their new facility and their winning percentage remained the same after eight seasons at Turner Field, in which they won their division title each of those eight seasons. However, the Braves' average attendance actually decreased by 7,082 fans per game during this period. The Braves increased their value by \$183 million, but this increase was on par with franchises that did not build new stadiums. On the other hand, the Cleveland Indians began playing in Jacobs Field in 1994 and their average attendance increased during their first six seasons. The Indians maintained a positive sustained increase in attendance for nine seasons, but once their winning percentage began to fall, average attendance also declined as well. In fact, the Indians' average attendance declined by 17,846 per game fans between their eighth and tenth seasons at Jacobs Field as their winning percentage dropped by 0.142 points at the same time.

Changes in revenue and value for MLB franchises were characterized by unparalleled growth during this period. The average team value nearly tripled from \$116 million during

the first year of the research period to \$332 million in 2004. Revenues increased from an average of \$57.8 million in the first year of the research period to \$142 million in the last season. Unlike average attendance and winning percentage, revenues and team value increased immediately for franchises after the opening of a retro stadium and the means for sustained increases were always higher than the means for non-retro stadium franchises. Although all franchises benefited from the financial explosion of Major League Baseball during this research period, it seems obvious from this study that retro stadiums did increase revenue and team value for MLB franchises at higher rates than franchises that did not build retro stadiums.

Two other factors that likely affected the data for all four variables were the players' strike of 1994-95 and changes in revenue sharing for the collective bargaining agreement between players and owners in 2002. The players' strike in 1994 caused the first cancellation of a World Series and shortened both the 1994 and 1995 seasons. The strike also caused immeasurable negative publicity to Major League Baseball that likely affected attendance, revenue and value for all MLB franchises. Average attendance was selected as a variable in this study because attendance was dramatically altered during the 1994 and 1995 seasons because of the shortened schedules. Revenue during the 1994 season was based on the estimated revenues that franchises would have attained if the entire season had been completed. Average attendance for all but three MLB teams decreased after the players' strike and overall average attendance for Major League Baseball never again reached the level it had achieved in 1994 before the strike occurred. Revenue sharing was one of the main reasons for the players' strike in 1994, and players and owners finally agreed to increase revenue sharing beginning with the 2003 season. Although MLB's revenue sharing

policy does not place teams on the same equality level as the National Basketball Association and National Football League, the policy intended to slightly level the competition among MLB franchises. The impact of the new revenue sharing policy was obvious in team valuations and revenues during the 2003 season. The New York Yankees and Washington Nationals (Montreal Expos at the time) were the most valuable and least valuable MLB franchises respectively in 2003. However, the Yankees' and Nationals' revenues both increased by \$15 million during the 2003 season. In addition, the Nationals' value increased by \$32 million while the Yankees' value decreased by \$17 million at the same time.

Looking beyond the results for the retro stadium group in this study, there were also some interesting results for individual franchises. The Orioles, Indians and Rangers were the first three franchises to begin playing in retro stadiums while the Brewers, Pirates, Astros, Giants and Tigers were the last franchises to build a retro stadium and play at least four full seasons during the research period. The Orioles, Indians and Rangers all increased their average attendance and revenue during the first season in a retro stadium, and maintained positive increases for their first nine seasons (with the exception of the Rangers' attendance during the strike-shortened 1995 season). However, by their third season in a new stadium, the Pirates, Tigers and Astros' average attendance had all dropped to levels below their final seasons in their previous stadiums. Despite decreasing attendance, all five of the franchises had maintained positive sustained increases in revenue. It is interesting to note that the Brewers' value decreased below the level of their final season in their old stadium during their second year at Miller Park, and they were the only franchise to build a retro stadium and finish the research period valued less than when they played in their old facility. Finally, the value for the Brewers, Pirates, Astros, Giants and Tigers increased by an average of \$42.4

million after their first four seasons in a retro stadium. However, the value for the Orioles, Indians and Rangers increased by an average of \$124 million after their first four seasons, nearly three times the amount for the final five teams. It appears that the positive effect of retro stadiums on average attendance was sustained for a longer period of time by the franchises that first built these stadiums. These franchises also parlayed this success into greater initial increases in team value during the first four seasons of play. This clearly indicated that the “copycat” theory that Bauder (2003) described in his study was present for the final retro stadium franchises.

Based on the results from this study, a number of inferences can be made from the construction of retro stadiums in Major League Baseball. First, retro stadiums produced an initial increase in attendance, revenue and team value. Franchises were generally able to sustain these increases for the decade following the openings of their retro stadiums. The differences between increases in revenue and team value for retro stadium teams and non-retro stadium teams stayed relatively stable even as revenues and values increased for both groups during the research period. For retro stadium franchises, average attendance increased the most during the first season and then declined during following seasons, thereby following the “honeymoon” period that researchers have described. Winning percentage increased slightly overall for franchises that constructed retro stadiums, but the increases were negligible and not sustained over a long period of time. Finally, there appeared to be differences between franchises that capitalized on the retro stadium trend during its early years and teams that constructed new facilities closer to the end of the research period. Although all franchises that opened retro stadiums reported increases in revenue, the earliest franchises to open new facilities increased their value nearly three times as much as the last

few franchises during a stadium's first four years. These early teams were also able to sustain their increases in average attendance for longer durations than the final few teams. In Major League Baseball, attendance is affected by extraneous factors that include the presence of superstar players, significant individual milestones, local economic conditions, weather, competitive rivalries with opposing teams, and a franchise's on-field success in addition to the team's stadium. However, these factors impacted the performance of both retro and non-retro stadium franchises at the same time. Therefore, while it is not possible to conclude that retro stadiums were the sole factor responsible for the results in this study, it is possible to conclude that, overall, retro stadiums did have a positive effect on attendance, revenues and team value. However, it also appears that this effect has lessened as the novelty of retro stadiums has diminished over the past fifteen years. Franchises may not be able to parlay a retro stadium into monumental increases in attendance and team value like the Orioles and Indians were able to do in the mid-1990's, but new stadiums are still a viable solution to boost attendance and revenues in an increasingly competitive market. The surge in importance of luxury suites, club seats, local media contracts, corporate sponsorship and naming rights during the past twenty years has provided teams in retro stadiums with a clear financial advantage over their non-retro counterparts.

Tables

Table 4: Sustained Increase in Average Attendance—Retro Stadium Franchises (fans per game)

Franchise	Seasons in Retro Stadium												
	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Atlanta Braves</i>	6,953.7	5,674.3	4,736.5	4,111.9	(959.4)	(3,676.0)	(6,174.8)	(7,082.4)					
<i>Baltimore Orioles</i>	12,531.7	13,484.1	14,582.0	11,518.9	13,508.6	14,301.0	13,974.0	10,869.1	9,188.6	6,693.1	1,601.1	(1,212.7)	2,361.3
<i>Cincinnati Reds</i>	6,166.3	5,326.7											
<i>Cleveland Indians</i>	12,233.3	12,594.8	14,077.4	15,146.2	15,918.4	15,932.7	15,782.3	12,316.2	5,420.1	(5,529.7)	(4,487.7)		
<i>Detroit Tigers</i>	5,088.6	(1,298.0)	(6,459.0)	(8,125.9)	(1,351.1)								
<i>Houston Astros</i>	4,322.5	2,447.7	(2,329.1)	(3,108.3)	4,714.3								
<i>Milwaukee Brewers</i>	15,276.8	4,883.1	1,564.6	6,034.1									
<i>Philadelphia Phillies</i>	12,224.0												
<i>Pittsburgh Pirates</i>	8,839.0	445.4	(1,384.7)	(2,084.9)									
<i>San Diego Padres</i>	12,181.1												
<i>San Francisco Giants</i>	15,313.6	15,229.1	14,503.8	14,648.1	14,548.8								
<i>Seattle Mariners</i>	3,269.6	3,248.3	10,565.6	11,005.3	7,617.3	3,570.6							
<i>Texas Rangers</i>	12,022.0	(129.2)	7,955.6	8,650.3	8,429.4	6,504.4	4,244.3	7,239.6	1,330.6	(1,854.6)	3,321.8		
Average	9,724.8	5,627.8	5,781.3	5,779.6	7,803.3	7,326.5	6,956.5	5,835.6	5,313.1	(230.4)	145.1	(1,212.7)	2,361.3

Table 5: Sustained Increase in Average Attendance—Non-retro Stadium Franchises (fans per game)

Franchise	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Atlanta Braves	0.0	11,570.2	21,537.1	19,745.6	9,158.6	9,395.4								
Boston Red Sox	0.0	-1,158.8	-1,733.5	-3,887.8	-1,573.8	-3,051.9	-4,151.8	-3,058.4	-1,435.5	289.6	776.5	1,091.7	1,996.7	3,393.3
Chicago Cubs	0.0	-2,315.2	4,191.5	2,703.7	-1,928.4	-1,174.6	-1,530.1	3,814.1	6,168.0	5,867.4	5,743.4	4,677.1	8,004.7	10,566.7
Chicago White Sox	0.0	-3,123.4	-4,358.8	-4,197.7	-13,866.2	-15,527.8	-13,202.1	-19,049.5	-19,695.1	-12,177.2	-14,419.5	-15,521.5	-12,279.4	-12,390.3
Cincinnati Reds	0.0	-696.7	998.2	2,875.5	-3,765.7	-6,308.0	-7,241.8	-7,144.8	-3,841.4	2,530.8	-6,081.7	-6,377.7		
Cleveland Indians	0.0	2,126.3	13,901.8											
Detroit Tigers	0.0	-2,687.6	4,071.1	159.9	-3,864.9	-5,840.1	-3,413.6	-2,867.5	4,750.4					
Houston Astros	0.0	188.4	10,968.7	11,692.6	4,174.4	9,626.4	10,501.6	15,583.9	18,640.3					
Kansas City Royals	0.0	-3,627.8	-2,802.0	-2,948.5	-9,553.3	-8,957.3	-7,949.4	-8,230.4	-8,092.2	-7,366.5	-7,718.1	-10,351.9	-4,711.6	-6,173.6
Los Angeles Angels	0.0	-4,330.8	-4,429.3	-5,820.2	-5,542.9	-7,354.5	-8,011.2	1,280.8	-2,013.7	-4,311.8	-5,127.4	-1,366.5	7,961.2	11,845.0
Los Angeles Dodgers	0.0	-10,801.3	-2,194.8	107.4	-2,915.3	-1,971.8	-353.9	-3,196.9	-3,121.3	-5,776.9	-4,086.8	-2,678.0	-2,587.0	1,729.8
Milwaukee Brewers	0.0	4,674.3	2,584.6	4,394.1	-3,150.9	-1,871.3	-428.4	4,109.4	2,753.9	1,171.5				
Minnesota Twins	0.0	2,328.9	-3,026.8	-4,614.5	-13,629.2	-10,574.0	-10,898.5	-13,924.3	-13,469.3	-15,964.0	-6,307.6	-4,560.1	-4,294.2	-4,720.4
New York Mets	0.0	-6,234.0	-5,077.8	-6,477.6	-10,520.4	-8,594.6	-6,398.9	42.8	5,446.7	6,617.9	4,615.4	6,424.1	-1,776.4	425.5
New York Yankees	0.0	-1,419.7	6,829.7	6,386.7	675.2	4,779.6	8,846.8	13,474.8	17,642.0	14,712.4	17,298.4	19,778.7	19,776.1	23,599.5
Oakland Athletics	0.0	-2,707.8	-8,376.1	-11,309.0	-17,190.1	-19,322.4	-17,892.3	-18,285.8	-15,788.7	-13,700.6	-7,163.2	-6,712.1	-6,134.5	-6,320.6
Philadelphia Phillies	0.0	-1,513.1	13,427.9	12,874.1	3,074.5	-3,065.9	-6,905.9	-4,127.0	-2,773.8	-5,398.1	-3,308.1	-5,327.7	2,591.8	
Pittsburgh Pirates	0.0	-2,912.4	-5,119.9	-1,526.6	-12,920.9	-9,051.3	-5,040.5	-6,226.6	-5,275.0	-3,906.1				
San Diego Padres	0.0	-1,023.2	-5,294.5	-5,540.8	-7,805.7	4,735.8	3,519.1	9,278.8	8,879.6	6,767.3	7,084.4	5,139.7	2,787.6	
San Francisco Giants	0.0	-2,178.8	10,726.9	6,959.8	-4,207.3	-3,994.5	-575.4	2,319.6	4,208.9					
Seattle Mariners	0.0	-6,130.1	-1,176.1	-1,421.8	-3,695.1	7,110.4	12,893.0	6,217.4						
St. Louis Cardinals	0.0	-373.0	4,892.3	3,100.3	-5,831.9	2,543.4	2,287.8	9,222.1	9,588.1	10,960.4	8,159.0	6,951.3	5,699.8	1,704.2
Texas Rangers	0.0	-1,228.3	-655.6											
Toronto Blue Jays	0.0	330.8	696.5	-114.6	-10,144.9	-17,801.9	-17,434.9	-19,101.5	-22,692.1	-28,343.4	-25,754.2	-29,180.6	-27,186.0	-26,275.0
Washington Nationals	0.0	9,066.5	8,724.6	13,003.2	6,649.1	8,419.3	6,949.0	-244.9	-1,993.4	-104.6	-3,604.9	-1,514.8	1,122.2	-3,408.5
Average		(967.1)	2,372.2	1,571.5	(4,712.0)	(3,384.8)	(3,019.6)	(1,823.4)	(1,053.0)	(2,674.0)	(2,493.4)	(2,470.5)	(601.9)	(463.4)

Table 6: Sustained Increase in Winning Percentage—Retro Stadium Franchises

Franchise	Seasons in Retro Stadium												
	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Atlanta Braves</i>	0.031	0.062	0.043	-0.006	-0.049	0.031	0.031	0.000					
<i>Baltimore Orioles</i>	0.136	0.111	0.149	0.079	0.130	0.191	0.074	0.068	0.043	-0.025	0.000	0.025	0.068
<i>Cincinnati Reds</i>	-0.056	-0.012											
<i>Cleveland Indians</i>	0.115	0.225	0.142	0.062	0.080	0.130	0.086	0.093	-0.012	-0.049	0.025		
<i>Colorado Rockies</i>	0.082	0.059	0.059	0.022	-0.009	0.053	-0.002	-0.002	0.004	-0.033			
<i>Detroit Tigers</i>	0.062	-0.019	-0.086	-0.160	0.019								
<i>Houston Astros</i>	-0.154	-0.025	-0.080	-0.062	-0.031								
<i>Milwaukee Brewers</i>	-0.031	-0.105	-0.031	-0.037									
<i>Philadelphia Phillies</i>	0.000												
<i>Pittsburgh Pirates</i>	-0.043	0.019	0.037	0.019									
<i>San Diego Padres</i>	0.142												
<i>San Francisco Giants</i>	0.068	0.025	0.056	0.086	0.031								
<i>Seattle Mariners</i>	0.019	0.093	0.247	0.105	0.105	-0.080							
<i>Texas Rangers</i>	-0.075	-0.017	0.025	-0.056	0.012	0.056	-0.093	-0.080	-0.086	-0.093	0.019		
Average	0.021	0.035	0.051	0.005	0.032	0.063	0.019	0.016	-0.013	-0.050	0.014	0.025	0.068

Table 7: Sustained Increase in Winning Percentage—Non-retro Stadium Franchises

Franchise	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<i>Atlanta Braves</i>	0.000	0.025	0.062	0.016	0.045	0.012								
<i>Arizona Diamondbacks</i>	-	-	-	-	-	-	-	-	0.216	0.123	0.167	0.204	0.117	-0.086
<i>Boston Red Sox</i>	0.000	-0.068	-0.025	-0.049	0.079	0.006	-0.037	0.049	0.062	0.006	-0.012	0.056	0.068	0.086
<i>Chicago Cubs</i>	0.000	0.006	0.043	-0.042	0.032	-0.006	-0.056	0.080	-0.062	-0.074	0.068	-0.062	0.068	0.074
<i>Chicago White Sox</i>	0.000	-0.006	0.043	0.056	-0.065	-0.012	-0.043	-0.043	-0.074	0.049	-0.025	-0.037	-0.006	-0.025
<i>Cincinnati Reds</i>	0.000	0.099	-0.006	0.122	0.133	0.043	0.012	0.019	0.136	0.068	-0.049	0.025		
<i>Cleveland Indians</i>	0.000	0.117	0.117											
<i>Colorado Rockies</i>	-	-	-	0.039										
<i>Detroit Tigers</i>	0.000	-0.056	0.006	-0.058	-0.102	-0.191	-0.031	-0.117	-0.093					
<i>Florida Marlins</i>	-	-	-	0.048	0.070	0.099	0.173	-0.062	0.000	0.093	0.074	0.093	0.167	0.117
<i>Houston Astros</i>	0.000	0.099	0.123	0.173	0.127	0.105	0.117	0.228	0.198					
<i>Kansas City Royals</i>	0.000	-0.062	0.012	0.050	-0.020	-0.043	-0.093	-0.062	-0.111	-0.031	-0.105	-0.123	0.006	-0.148
<i>Los Angeles Angels</i>	0.000	-0.056	-0.062	-0.091	0.042	-0.068	0.019	0.025	-0.068	0.006	-0.037	0.111	-0.025	0.068
<i>Los Angeles Dodgers</i>	0.000	-0.185	-0.074	-0.065	-0.032	-0.019	-0.031	-0.062	-0.099	-0.043	-0.043	-0.006	-0.049	0.000
<i>Milwaukee Brewers</i>	0.000	0.056	-0.086	-0.051	-0.061	-0.019	-0.031	-0.056	-0.056	-0.062				
<i>Minnesota Twins</i>	0.000	-0.117	-0.117	-0.087	-0.167	-0.074	-0.136	-0.123	-0.167	-0.130	0.031	0.025	0.000	0.012
<i>New York Mets</i>	0.000	-0.031	-0.111	0.011	0.004	-0.037	0.068	0.068	0.123	0.105	0.031	-0.012	-0.068	-0.037
<i>New York Yankees</i>	0.000	0.031	0.105	0.181	0.110	0.130	0.154	0.265	0.167	0.099	0.148	0.198	0.185	0.185
<i>Oakland Athletics</i>	0.000	0.074	-0.099	-0.071	-0.053	-0.037	-0.117	-0.062	0.019	0.043	0.111	0.117	0.074	0.043
<i>Philadelphia Phillies</i>	0.000	-0.049	0.117	-0.012	-0.002	-0.068	-0.062	-0.019	-0.006	-0.080	0.049	0.012	0.049	
<i>Pittsburgh Pirates</i>	0.000	-0.012	-0.142	-0.140	-0.202	-0.154	-0.117	-0.179	-0.123	-0.179				
<i>San Diego Padres</i>	0.000	-0.012	-0.142	-0.117	-0.032	0.043	-0.049	0.086	-0.062	-0.049	-0.031	-0.111	-0.123	
<i>San Francisco Giants</i>	0.000	-0.019	0.173	0.015	0.002	-0.043	0.093	0.086	0.068					
<i>Seattle Mariners</i>	0.000	-0.117	-0.006	-0.075	0.036	0.012	0.043	-0.043						
<i>St. Louis Cardinals</i>	0.000	-0.006	0.019	-0.054	-0.088	0.025	-0.068	-0.006	-0.056	0.068	0.056	0.080	0.006	0.130
<i>Tampa Bay Devil Rays</i>	-	-	-	-	-	-	-	-	0.037	0.037	-0.006	-0.049	0.000	0.043
<i>Texas Rangers</i>	0.000	-0.049	0.006											
<i>Toronto Blue Jays</i>	0.000	0.031	0.025	-0.083	-0.173	-0.105	-0.093	-0.019	-0.043	-0.049	-0.068	-0.080	-0.031	-0.148
<i>Washington Nationals</i>	0.000	0.099	0.142	0.211	0.020	0.105	0.043	-0.037	-0.019	-0.025	-0.019	0.074	0.074	-0.025
Average		-0.008	0.005	-0.003	-0.012	-0.012	-0.010	0.001	-0.001	-0.001	0.018	0.027	0.028	0.018

Table 8: Sustained Increase in Revenue—Retro Stadium Franchises (values in millions)

Franchise	Seasons in Retro Stadium												
	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Atlanta Braves</i>	40.5	63.6	76.1	66.4	80.9	83.9	76.9	82.9					
<i>Baltimore Orioles</i>	32.9	30.7	30.0	24.5	54.7	83.9	89.9	88.2	73.4	82.4	78.4	78.4	97.4
<i>Cincinnati Reds</i>	32.0	36.0											
<i>Cleveland Indians</i>	16.9	11.4	46.6	85.2	100.9	102.9	94.1	101.2	92.2	78.2	90.2		
<i>Colorado Rockies</i>	5.6	30.9	51.9	59.9	57.5	54.4	64.3	56.3	59.3	67.3			
<i>Detroit Tigers</i>	49.3	42.5	36.5	45.5	54.5								
<i>Houston Astros</i>	28.9	31.7	27.7	34.7	61.7								
<i>Milwaukee Brewers</i>	38.4	28.4	32.4	42.4									
<i>Philadelphia Phillies</i>	52.0												
<i>Pittsburgh Pirates</i>	37.6	30.6	38.6	38.6									
<i>San Diego Padres</i>	44.0												
<i>San Francisco Giants</i>	66.9	70.1	87.1	81.1	87.1								
<i>Seattle Mariners</i>	30.3	57.0	84.7	85.7	87.7	91.7							
<i>Texas Rangers</i>	9.7	1.6	27.4	37.3	47.8	57.2	66.2	73.7	70.7	66.7	81.7		
Average	34.6	36.2	49.0	54.7	70.3	79.0	78.3	80.5	73.9	73.7	83.4	78.4	97.4

Table 9: Sustained Increase in Revenue—Non-retro Stadium Franchises (values in millions)

Franchise	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Atlanta Braves	0.0	4.9	15.3	43.6	47.2	25.3	43.7								
Arizona Diamondbacks	-	-	-	-	-	-	-	-	-	-4.8	-7.2	10.7	5.7	9.7	19.7
Baltimore Orioles	0.0	2.7													
Boston Red Sox	0.0	12.8	21.9	8.8	1.4	-0.8	19.7	23.4	38.2	54.6	57.0	83.3	102.3	121.3	132.3
Chicago Cubs	0.0	14.2	13.7	32.5	26.7	12.6	26.3	31.2	42.8	55.1	62.1	80.7	92.7	105.7	119.7
Chicago White Sox	0.0	29.0	28.9	29.8	21.9	6.7	21.3	33.3	25.1	24.8	43.6	52.0	57.0	75.0	82.0
Cincinnati Reds	0.0	0.3	0.6	4.2	-3.5	-8.3	-3.4	1.5	5.7	0.7	29.1	38.3	42.3		
Cleveland Indians	0.0	7.2	5.1	14.0											
Colorado Rockies	-	-	-	-	12.5										
Detroit Tigers	0.0	13.6	12.5	17.6	11.5	1.1	6.4	12.6	16.2	33.5					
Florida Marlins	-	-	-	-	12.7	47.8	55.8	88.2	69.5	59.3	67.3	81.0	76.0	101.0	103.0
Houston Astros	0.0	6.0	3.3	20.5	9.8	4.4	22.4	28.0	42.5	53.3					
Kansas City Royals	0.0	0.4	-1.2	-1.5	-5.2	-17.4	-10.1	-2.0	0.3	9.3	19.4	31.8	31.8	44.8	50.8
Los Angeles Angels	0.0	5.5	7.2	5.2	-2.4	-9.6	-6.1	14.0	39.9	42.1	45.8	54.4	69.4	78.4	98.4
Los Angeles Dodgers	0.0	14.9	19.8	15.3	9.9	6.5	24.2	29.9	43.5	55.9	66.9	78.6	85.6	89.6	101.6
Milwaukee Brewers	0.0	0.4	6.9	7.9	2.0	-8.9	3.2	8.5	17.1	22.4	31.2				
Minnesota Twins	0.0	5.5	14.2	10.3	1.2	-8.4	2.5	8.2	8.2	9.1	19.4	36.4	48.4	60.4	63.4
New York Mets	0.0	10.0	5.8	-0.3	-12.9	-19.6	-12.8	-0.6	18.6	44.5	80.9	87.9	93.9	76.9	98.9
New York Yankees	0.0	-8.0	-3.4	9.6	7.3	-4.1	35.3	46.7	77.5	97.6	94.4	117.0	125.0	140.0	166.0
Oakland Athletics	0.0	6.1	6.5	2.2	-3.3	-16.7	-8.5	-1.5	-1.2	3.0	16.8	32.1	38.1	52.1	58.1
Philadelphia Phillies	0.0	-13.7	-11.9	-0.8	-2.8	-16.6	-11.9	-4.8	4.1	6.2	17.3	32.1	35.1	53.1	
Pittsburgh Pirates	0.0	4.7	9.0	1.9	-2.4	-16.2	-1.2	8.2	10.6	16.5	29.3				
San Diego Padres	0.0	1.2	6.4	0.5	-9.4	-19.0	5.6	10.4	31.7	31.7	36.8	44.8	50.8	58.8	
San Francisco Giants	0.0	-1.1	-3.0	19.1	13.4	-3.6	1.8	19.8	23.3	21.9					
Seattle Mariners	0.0	10.7	11.4	16.7	12.6	2.7	23.6	55.8	47.3						
St. Louis Cardinals	0.0	3.3	-4.9	9.0	2.8	-7.0	14.0	27.1	42.0	48.7	54.7	67.2	72.2	75.2	95.2
Tampa Bay Devil Rays	-	-	-	-	-	-	-	-	-	-16.2	-12.4	-1.7	-2.7	7.3	16.3
Texas Rangers	0.0	11.2	15.9	10.0											
Toronto Blue Jays	0.0	11.2	10.2	10.9	3.6	-15.0	-7.3	-10.4	-4.1	-3.8	2.8	13.5	12.5	21.5	29.5
Washington Nationals	0.0	4.1	11.4	10.9	5.9	-6.0	5.6	8.3	11.2	11.8	18.6	27.7	30.7	45.7	44.7
Average		6.0	8.1	11.9	6.4	-2.9	10.4	18.9	26.5	28.2	36.8	50.9	56.1	67.6	80.0

Table 10: Sustained Increase in Team Value—Retro Stadium Franchises (values in millions)

Franchise	Seasons in Retro Stadium												
	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Atlanta Braves</i>	100	158	189	208	225	224	175	183					
<i>Baltimore Orioles</i>	-10	-11	24	28	67	183	211	207	195	179	170	156	201
<i>Cincinnati Reds</i>	22	32											
<i>Cleveland Indians</i>	3	25	75	222	259	264	272	260	231	192	219		
<i>Colorado Rockies</i>	16	67	186	194	188	217	230	187	168	173			
<i>Detroit Tigers</i>	90	62	37	35	39								
<i>Houston Astros</i>	38	57	47	40	77								
<i>Milwaukee Brewers</i>	29	-3	-35	-1									
<i>Philadelphia Phillies</i>	111												
<i>Pittsburgh Pirates</i>	31	13	6	7									
<i>San Diego Padres</i>	64												
<i>San Francisco Giants</i>	96	118	145	131	144								
<i>Seattle Mariners</i>	54	96	137	149	160	179							
<i>Texas Rangers</i>	25	6	42	122	149	162	210	224	200	174	194		
Average	47.8	51.7	77.5	103.2	145.3	204.8	219.6	212.2	198.5	179.5	194.3	156.0	201.0

Table 11: Sustained Increase in Team Value—Non-retro Stadium Franchises (values in millions)

Franchise	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Atlanta Braves	0	9	14	22	46	89	125								
Arizona Diamondbacks	-	-	-	-	-	-	-	-	-	-23	-46	-20	-22	-15	-5
Baltimore Orioles	0	-60													
Boston Red Sox	0	-20	-44	-39	-37	-37	-8	50	76	104	159	246	308	353	383
Chicago Cubs	0	7	-24	-5	10	15	40	79	99	117	122	162	210	233	273
Chicago White Sox	0	15	-2	8	27	19	24	89	53	41	88	98	108	123	137
Cincinnati Reds	0	-4	1	-16	-18	-3	-7	34	61	73	85	102	121		
Cleveland Indians	0	2	6	25											
Colorado Rockies	-	-	-	-	7										
Detroit Tigers	0	1	13	5	-1	22	26	53	68	116					
Florida Marlins	-	-	-	-	11	17	42	78	72	44	47	56	55	91	125
Houston Astros	0	3	-5	-7	0	5	22	98	147	188					
Kansas City Royals	0	-5	-11	-28	-26	-42	-34	-14	-26	0	16	30	31	49	65
Los Angeles Angels	0	1	3	-9	-14	-12	-9	55	93	93	96	93	123	139	192
Los Angeles Dodgers	0	-20	-65	-62	-57	-53	-22	36	70	125	181	235	249	199	224
Milwaukee Brewers	0	-4	5	15	-6	-10	11	46	74	86	128				
Minnesota Twins	0	2	14	2	-1	-7	-4	13	8	10	18	46	67	87	97
New York Mets	0	-30	-55	-53	-65	-69	-56	-7	49	114	254	282	298	242	305
New York Yankees	0	-25	-65	-59	-40	-16	16	137	266	323	410	527	624	607	725
Oakland Athletics	0	-1	8	-2	-15	-19	-1	2	9	18	33	41	56	70	69
Philadelphia Phillies	0	-15	-34	-34	-34	-27	-18	1	15	20	28	101	109	151	
Pittsburgh Pirates	0	5	13	-3	-12	-20	-11	51	63	79	129				
San Diego Padres	0	-3	4	-14	-25	-32	-13	62	106	98	77	108	127	166	
San Francisco Giants	0	-6	-2	-12	-3	17	23	83	108	132					
Seattle Mariners	0	8	10	9	5	21	36	180	165						
St. Louis Cardinals	0	6	-28	-21	-16	-14	8	48	79	93	117	145	182	188	244
Tampa Bay Devil Rays	-	-	-	-	-	-	-	-	-	-62	-75	-83	-80	-73	-49
Texas Rangers	0	22	5	31											
Toronto Blue Jays	0	-18	-23	-28	-32	-26	-23	-37	-16	-16	-17	4	-12	-9	36
Washington Nationals	0	1	12	1	2	-6	3	13	10	15	18	34	39	71	236
Average		-5.0	-10.0	-11.0	-11.8	-7.8	7.1	50.0	71.7	74.5	89.0	116.2	136.5	148.4	191.1

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