

Sports Facilities and Metropolitan Economic Development:
The Impact of Professional Sports Facilities on Sales Tax Revenue
in Metropolitan Statistical Areas

By

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CHAPTER ONE

Introduction

With the growing popularity and the ever increasing value of professional sports, city and state officials throughout the United States are offering owners a myriad of financial packages to lure and retain sports franchises (Baade, 1996: 1; Donnelly, 1988: 170; Johnson, 1986: 412; Rosentraub, 1997: 33). In Texas alone, of the state's eight professional sports franchises one has begun its third season in a new, publicly financed stadium; one relocated to Tennessee because of a better stadium package paid with public funds; and the other six organizations lobbied the 75th Texas Legislature on eight bills concerning facility subsidies. City and state officials nationwide tout these subsidies as a means to increase local economic development; however, there has been much debate about the actual economic benefits of a new stadium.

This study attempts to determine the impact professional sports franchises or professional sports facilities have on the level of economic development in a metropolitan statistical area (MSA). Sports facilities potentially have both direct and indirect effects on a local area's economy (Baade, 1990: 2; Johnson, 1991: 412; Rosentraub, 1997: 129). Direct benefits of a sports facility can be defined in terms of increased personal income, new job growth, additional spending and increased tax revenues (Rosentraub, 1997: 129). Multipliers are often implemented to further describe the economic benefits of a new or renovated professional sports facility (Baade, 1996: 4;

Rosentraub, 1997: 161-169). Stadiums and arenas can also provide a community indirect benefits such as an enhanced city image, a focus for community pride and a corporate relocation magnet (Rosentraub, 1997: 172-173).

An examination of the factors that lead to stadiums and arenas and the actual benefits of these facilities will help both government leaders and the public determine what stadium finance policy is right for a particular metro area. Such an examination is crucial because as sports facilities continue to be built across the nation, prices will only increase and place a greater burden upon the public. A goal of this research is to help governments prepare a fair and workable sports facilities policy.

Research Purpose

The purpose of this research is to determine the impact of professional sports facilities on the level of economic development in metropolitan statistical areas (MSAs). The majority of studies about the impact of sports facilities on an area's economy have defined economic development in terms of personal income and jobs. The use of multipliers has been examined in the literature as well. In addition, much has been written about the indirect benefits of hosting a professional sports facility. While some studies do mention stadiums' impact on sales tax revenue, research on this variable is ambiguous.

Sales tax revenue contributes "approximately one-third of state tax revenue, reflecting a path of near-constant increase since the last state

adoption in 1969" (Mikesell, 1992: 83). When government officials offer to finance the construction of a stadium or arena and offer property tax relief, part of the justification is that increased sales tax revenues will offset the subsidy.

Discovering the relationship between sports facilities and sales tax revenues collected by state and local governments will be a highlight of this study and an important link to creating successful economic development policy decisions.

Organization of Research Project

This report focuses on the impact sports facilities have on economic development efforts of metro areas throughout the United States. Chapter Two presents a comprehensive review of the literature related to sports facilities and economic development. The key variables used to measure levels of economic development will be identified. Finally, this chapter will discuss the conceptual framework and will summarize the research hypotheses.

Chapter Three will identify the methodology designed for this study. Thirteen metropolitan areas as defined by the United States Bureau of the Census will serve as the research setting for this study. A close examination of the data, an explanation of variable measurement and the statistical techniques used will be discussed.

The findings of the study will be disclosed in Chapter Four. Results will be presented in narrative and tabular form. The acceptance or rejection of the

hypotheses will be discussed. The effect of the models' variables on the level of economic development will be analyzed and discussed.

The final chapter, Chapter Five, will present the conclusions drawn from the analysis. The limitations of the study and a discussion of the analysis results will be presented. Recommendations for further analysis and research of relationships identified in this research will be discussed.

CHAPTER TWO

Conceptual Framework

Introduction to the Literature

This literature review is designed to provide the theoretical foundation for this research project. The literature sets forth the means for examining the impact of sports facilities on economic development. More specifically, the purpose of this review is to identify the costs and benefits associated with sports and sports venues in order to provide a context for this research project.

The review will accomplish the following four objectives. First, this review will discuss the position sports has in American culture and will identify the cause of professional sports franchise relocations. Second, incentive offers and various methods of financing sports facilities will identify costs associated with cities efforts to host a professional sports team. The literature also will help put the economics of sports in perspective. Third, the literature will describe both the direct and indirect economic benefits of sports and sports facilities. Finally, this review will identify three economic development strategies that can be intertwined with sports development plans.

Sports in American Culture

An examination of the psychological attachment Americans have with sports does not provide the entire basis for the justification of subsidies for sports franchises. Economic development is more likely to be measured by job

growth, rising personal income, increased spending and expanding tax revenues. Despite this, a primary reason cities throughout the United States offer subsidies to team owners is because of the importance Americans have placed on sports (Rosentraub, 1997: 30).

Author Mark S. Rosentraub identifies the elements of Americans' attachment to sports in his book, *Major League Losers: The Real Costs of Sports and Who's Paying For It*. Sports are a significant part of American history. When the U.S. Olympic hockey team stunned the Soviets in the 1980 Olympic Games, the win represented more than just another upset in a hockey game, it symbolized the United States ability to defeat the Soviets during the Cold War (Rosentraub, 1997: 35). Mohammed Ali was more than boxing's heavyweight champion of the world. Ali defied draft orders during the tumultuous Vietnam War period and was a symbol for those both for and against the United States' involvement in the war. Today, Ali is touted as an American hero. These are just two examples of the numerous occasions when sports becomes interwoven into the fabric of American's daily lives.

Sports also "teach" and reflect positive values that are coveted in American culture. As Rosentraub points out, "Sports do teach the very positive values of teamwork, hard work, and sacrifice to attain goals" (Rosentraub, 1997: 37). In addition, the media's coverage of sports related stories like the O.J. Simpson trial and Michael Jordan's return to basketball can dominate all forms of media from television to the Internet (Rosentraub, 1997: 39).

Language, education, politics and even holidays are all affected by sports (Rosentraub, 1997: 41, 43-44, 56).

Rosentraub describes sports as a play and the sports facilities as the stage upon which the play is performed. Douglas B. Holt in his article "How Consumers Consume: A Typology of Consumption Practices," describes the significance of one particular baseball stadium in Chicago:

The ambiance created at Wrigley Field is a primary draw for many Cubs spectators. In an everyday framework, Wrigley Field is appreciated for providing a change of pace; an expanse of green in the middle of an urban enclave, it is an idyllic setting. The design of the ballpark, the old-time organ music, the vendors throwing peanuts – all act to create a radical, nostalgic departure from the typical Chicago environs (Holt, 1995: 35).

This romanticized view that many people have of sports and sports facilities is a key factor why cities throughout the United States offer team owners subsidies (Rosentraub, 1997: 30). Furthermore, "Cities and society have become convinced that sports teams help define a community's image. The absence of a team means a city is not part of this very important dimension of life in America" (Rosentraub and Swindell, 1991: 153).

Sports Franchise Relocations

Until the late 1950s, team owners and leagues would relocate a professional sports franchise because the team was not financially successful (Johnson, 1983: 521). The Brooklyn Dodgers move from New York to Los Angeles marked the first time a team moved because a better financial package was offered to the owner (Johnson, 1983: 521). Other variables including

better media markets, civic inducements, free real estate and tax incentives have evolved into the equation when a franchise chooses to relocate. The underlying reason franchise relocations are an issue is explained by Arthur T Johnson in his 1983 article "Municipal Administration and the Sports Franchise Relocation Issue:"

The leagues' conscious control of the number of franchises partly explains the fact that the demand by communities for sports franchises outstrips their supply. The imbalance of supply and demand leads cities to escalate their offers of publicly funded inducements in an attempt to outbid one another for franchises (Johnson, 1983: 522).

The limited number of professional sports franchises in the United States creates a competitive atmosphere between those cities with a team and those who want a team. A team owner's threat to move elsewhere is seen as credible because of the number of cities without teams who will offer owners impressive financial support and subsidies (Donnelly, 1988: 173).

Sports Subsidies

Sports subsidies are an important part of many sports facility development projects. Johnson states that "It is not an exaggeration to assert that professional sports could not exist as we know them without local subsidies (and federal anti-trust exemptions)" (Johnson, 1983: 519). State and local officials have developed a wide range of subsidies to offer as incentives to lure and retain professional sports franchises. City and state officials tout these subsidies as a means to increase local economic development.

The primary reason for the subsidies is to help team owners finance the construction of new, profitable sports facilities. As Robert A. Baade states, "Because even modest sports facilities generally cost more than \$100 million, taxpayers are source for billions of dollars for professional sports infrastructure" (Baade, 1996: 1). Examples of professional sports facilities costs include the Louisiana Superdome (1975) which cost \$374 million, the Seattle Kingdome (1976) which cost \$158 million, the Houston Astrodome (1965) which cost \$136 million, the Detroit Silverdome (1975) which cost \$108 million, the Indianapolis Hoosier Dome (1984) which cost \$92 million and the Minneapolis Metrodome (1982) which cost \$87 million (Baade and Dye, 1990: 4).¹ Costs of sports facilities are expected to increase as owners demand stadiums and arenas that offer them the most financial reward.

In 1988, 67 percent of "the 94 stadiums used by professional football, baseball, hockey and basketball teams since 1953...[were] publicly owned. The more recent the construction, the greater the incidence of public ownership" (Baade and Dye, 1988: 265). A number of cities at any given time "are at some stage in the process of getting a new stadium" (Donnelly; 1988: 170).² Therefore, the issue of subsidies and professional sports facilities will continue to impact public policy decisions nationwide.

These public policy decisions have led to over a billion dollars in expenditures for sports facilities by various governments since 1988

¹ Number in parentheses is the date of completion and the construction costs are in 1989 dollars.

² In 1988, twelve cities were in the process of getting a stadium. Even today a number of cities are fighting for stadiums and professional sports franchises, thus creating an ongoing situation.

(Rosentraub, et al., 1994: 222). According to Dennis Zimmerman, "One survey suggests that stadiums costing a total of more than \$2 billion either have opened in recent years or are scheduled to be built by the turn of the century" (Zimmerman, 1996: 113).

Tax-Exempt Bonds

A popular financing method for stadium and arena construction is the issuance of tax-exempt bonds. Tax-exempt or governmental bonds provide team owners both a state and federal subsidy:

The state-local subsidy arises because the tenants' lease or rental payments are insufficient to pay the operating and construction costs incurred by the state-local government. A federal tax subsidy arises because some portion of the debt financing for the stadium is in the form of state-local bonds whose interest income is exempt from federal taxes. This exemption causes the interest rate on these tax-exempt bonds to be lower than the interest rate on taxable bonds of equivalent risk. Thus, stadiums financed with tax-exempt bonds have lower-interest costs than if they were financed with taxable private debt. These lower-interest payments are paid for by federal taxpayers in the form of forgone federal tax receipts from the interest income that would have been taxed had taxable debt been used to finance the stadium (Zimmerman, 1996: 113).

To qualify for a tax-exempt bond after 1986, stadiums "cannot generate stadium-based payments that exceed 10 percent of the debt service on the bond issue" (Zimmerman, 1996: 115). This provision allows owners to receive a favorable lease arrangement from the city (Zimmerman, 1996: 115). Since bond proposals are voted on by the public, some stadium proposals fail. Therefore, bond proposals are not always the chosen method of financing despite the benefits to the team.

Property Tax Exemptions

Another technique that city and state officials implement to lure or retain professional sports franchises is the property tax exemption or tax abatement. Often, a city will establish a special governmental district around the proposed sports facility. A team will then sell the stadium to the city and since the owner of the property is a government agency, no property taxes are owed (Ihlanfeldt, 1995: 350). Team owners also receive a subsidy when a city builds a road or improves water and wastewater service around the proposed stadium. Houston Mayor Bob Lanier's recent refusal to offer \$245 million for a new Houston Oilers football stadium; however, is an example of many city leaders today who would not offer such tax exemptions to retain a professional sports franchise (Boulard, 1996: 21).

Increased Taxes

The other most common method of financing sports facilities with public funds involves revenues generated from either an increase or redistribution of taxes. Sales taxes, hotel and motel taxes, tourism taxes, and car rental taxes have all been used in one form or another to finance many of the sports facilities across the United States. Revenues from a temporary tax increase often finance the construction of sports facilities. Proceeds from new vanity license plates associated with a sports franchise and proceeds from sports-related lotteries also have been dedicated to stadium projects.

Public-Private Partnerships

Robert A. Baade and Richard F. Dye point out that private funds represent a larger share of stadium development costs than in the past. These public-private partnerships; however, have not reduced the amount of public funds as a fraction of government's capital budgets. According to Baade and Dye, "When infrastructure, land acquisition, and residential and commercial relocation expenses are considered, a city's contribution to a stadium project can quickly exceed \$100 million" (Baade and Dye, 1988: 268).

The multi-million dollar cost of sports facilities forces cities and states to ante millions in public funds despite increasing contributions from the private sector. While public acceptance of these projects has waned in recent years, cities continue to develop creative subsidy packages to convince an owner to move his team. If these subsidies are touted as an effort to increase economic development, attention must then turn to the proposed economic benefits that are derived from a professional sports stadium.

Sports Economics

Sports economics are most often defined in terms of franchise values, player salaries, attendance and Nielson television ratings. According to *Financial World*, the value of professional franchises range from an average of around \$100 million for a professional hockey team, up to \$200 million for a professional football team (Ozanian, 1995: 47-49, 52). Average salaries for professional baseball and football players grew from about \$25,000 a year in

1970 to nearly \$200,000 a year for football players and to over \$400,000 a year for baseball players by 1987 (Donnelly, 1988: 173). Today, \$100 million salaries are commonplace as professional sports franchises create numerous new millionaires each year. Attendance at major sporting events continues to rise and television networks now pay billions of dollars to broadcast a variety of professional sports (Donnelly, 1988: 170, 174-175, Fort and Quirk, 1995: 1291). Revenue that athletes, coaches and team owners receive for endorsement deals continues to increase and in some cases this revenue is higher than a players' actual salary.

While these numbers are certainly impressive for any business, Rosentraub cautions city and state leaders about looking at these numbers outside an area's economic context (Rosentraub, 1997: 138). As Rosentraub states, "Firms with annual budgets of \$60 million or \$100 million are certainly vital, vibrant, and are valued in terms of the development of any regions economy. But businesses of this size are quite small when compared to other organizations in urban areas" (Rosentraub, 1997: 139). To further expound upon his point, Rosentraub examined counties in the United States with a population of at least 300,000 residents and found that amusement and recreation services accounted for .06 percent of the 55,662,194 jobs in the 161 counties (Rosentraub, 1997: 142). In addition, "these jobs accounted for one-tenth of 1 percent of the \$1.5 trillion in income reported for these 161 counties. This tiny percentage, however, still amounted to more than \$1.5 billion" (Rosentraub, 1997: 142).

Sports economic variables that are most often discussed would lead one to believe that sports has a massive economic impact upon a local area's economy. Before an analysis of the impact of professional sports and professional sports franchises can take place, the numbers should be first placed in context if for no other reason than to reduce the "romanticized view" of the value of sports. As Rosentraub shows, some dollars associated with sports are quite large; however, some of these numbers represent a small portion of the total economy. A closer look at the literature regarding direct and indirect economic benefits of hosting a professional sports franchise will provide a means to investigate the claims made by city and state leaders and other proponents of sports facilities.

Benefits of Professional Sports

The use of tax incentives and abatements for economic development projects continues to expand among states (Ihlanfeldt, 1995: 339). In order to put a dollar amount on the impact of a new stadium to justify a subsidy, team owners and local officials often develop economic impact studies. The results stated in these economic impact studies are the subject of much debate.

Sports facilities potentially have both direct and indirect effects on a local area's economy (Baade and Dye, 1990: 2; Johnson, 1991: 412; Rosentraub, 1997: 129). According to Rosentraub, "Image and economic development are frequently the pillars used to support proposals for teams and their facilities" (Rosentraub, 1997: 129). Direct benefits of a sports facility can be defined in

terms of increased income, new job growth, additional spending and increased tax revenues (Rosentraub, 1997: 129). Multipliers are often implemented to further describe the economic benefits of a new or renovated professional sports facility (Baade, 1996: 4; Rosentraub, 1997: 161-169). Stadiums and arenas also can provide a community indirect benefits such as an enhanced city image, a focus for community pride and they can serve as a corporate relocation magnet (Rosentraub, 1997: 172-173).

Direct benefits–Income

To determine the impact of professional sports franchises and facilities on economic development, Robert A. Baade and Richard F. Dye measured economic development in terms of real aggregate personal income (Baade and Dye, 1990: 8). The authors regressed SMSA (Standard Metropolitan Statistical Area) personal income statistics "on independent variables which capture the character of the metropolitan area's economy before and after the establishment of sports stadiums and teams" (Baade and Dye, 1990: 8). The following equation provides the framework for their regression:

$$Y_i = b_0 + b_1 \text{POP} + b_2 \text{STAD} + b_3 \text{FOOT} + b_4 \text{BASE} + b_5 \text{TREND} + e_i$$

where, Y_i = the i^{th} SMSA's real aggregate personal income (in 1982 dollars) (data are from *Local Area Personal Income and Survey of Current Business*, various years);

POP_i = the i^{th} SMSA's population (data are from *Current Population Reports*, various years);

- STAD_i** = a dummy variable which assume a 0 value before the i^{th} SMSA renovates an old stadium or builds a new stadium; the value 1 is assigned after a stadium is renovated or built;
- FOOT_i** = a dummy variable which assumes a 0 value if the i^{th} SMSA does not have a professional football team in a given period; the value of 1 is assigned if it does;
- BASE_i** = a dummy variable which assumes a 0 value if the i^{th} SMSA does not have a professional baseball team in a given period; the value of 1 is assigned if it does;
- TREND_i** = a variable assigned a value of 1 for 1965 and going up to 19 for 1983.
- e_i = stochastic error.

Baade and Dye found that of the nine metropolitan areas studied, "the presence of a new or renovated stadium has an insignificant impact on area income for all but one of the metropolitan areas" (Baade and Dye, 1990: 10). The Seattle SMSA was the exception as "a new stadium (combined with the contemporaneous effect of a new NFL franchise)" did impact the level of personal income (Baade and Dye, 1990: 10). The authors conclude that the results "are ambiguous but generally show that after controlling for population and trend, there is an insignificant impact of the stadium or sports variables on the level of metropolitan area income" (Baade and Dye, 1990: 10).

Baade and Dye also hypothesized that if a stadium did cause an increase in area activity, it was merely a "reallocation or redistribution of the same level of activity—but with different beneficiaries of that activity" (Baade and Dye, 1990: 10). To measure this hypothesis, the fraction of real aggregate personal income in the appropriate multi-state region and the fraction of the

regional population took the place of the Y_i and POP_i variables in the original equation. The results indicated that the "impact of stadium construction or renovation on the metropolitan area's share of regional income is negative and significant" (Baade and Dye; 1990: 12). Baade and Dye offer an explanation for the findings:

This result is consistent with the kind of economic activity that stadiums and professional sports spawn. Professional sports and stadiums divert economic development toward labor-intensive, relatively unskilled labor (low-wage) activities (Baade and Dye, 1990: 12).

Their research is important in that it indicates that a new, professional sports facility does not have a significant impact on personal income.

In 1996, Baade looked at the impact of sports franchises and facilities on the level of real per capita income in a city at a particular time (Baade, 1996: 7). Baade's equation "allows for an estimation of the extent to which a change in a city's real per capita income, adjusted for trends in economic activity, correlates with a change either in the number of new stadiums or professional sports franchises a city acquires" (Baade, 1996: 7). Baade found that "professional sport is of little or no economic consequence to a city..." (Baade, 1996: 9). Baade again argues that the results are of no significance because the addition of a sports franchise or sports facility "appears to realign leisure spending rather than adding to it..." (Baade, 1996: 14). These results strengthen the observation that sports facilities do not impact economic development, as measured by income levels.

Direct benefits—Jobs

The promise of new jobs is another common refrain of city and state leaders to warrant millions in subsidies to renovate or build new professional sports facilities. In theory, these new jobs provide secondary benefits for a local economy including increased spending, expanded tax base and lower unemployment. According to Rosentraub, "sports is too small a component of any community's economy to be the engine that propels jobs and growth" (Rosentraub, 1996: 23). For example, the number of sports-related jobs in Chicago, a city with five professional sports teams, accounted for less than 1 percent of services income in 1992 (Baade, 1996: 5).

Mark S. Rosentraub, et al. examined the city of Indianapolis' efforts to rebuild the downtown area with a variety of economic development projects (Rosentraub, et al., 1994: 224). City officials launched a \$2.76 billion (\$436.1 million was from the City of Indianapolis) effort to improve the downtown area (Rosentraub, et al., 1994: 224). Sports facilities played a major role in Indianapolis' rebuilding efforts. Of the 30 major development projects, eight were part of the plan to establish a sports image for Indianapolis (Rosentraub, et al., 1994: 224). As is commonly the case, "Sports was used as the vehicle or marketing approach to revitalize downtown" (Rosentraub, et al., 1994: 225). Rosentraub, et al. chose Indianapolis as a case study because as they state, "if the sports emphasis as part of the overall downtown development strategy did not help stimulate economic growth, then it is unlikely that sports can be a successful development policy for any city" (Rosentraub, et al., 1994: 226).

The authors used two time periods, 1977-1989 and 1983-1989, to measure overall differences in employment rates and to isolate the years when employment would have most likely increased (Rosentraub, et al., 1994: 228). Growth in sports-related jobs and payrolls, compared to other cities, was quite low from 1977-1989; however, growth was higher compared to nine other cities in the years 1983-1989 (Rosentraub, et al., 1994: 228). Despite these comparisons, in 1989 "all sports-related jobs accounted for 0.32 percent (one-third of 1 percent) of all jobs in the Indianapolis economy and the sports-related payrolls accounted for less than one-half of 1 percent of the total payrolls of all Indianapolis businesses" (Rosentraub, et al., 1994: 229).

Indianapolis's downtown development strategy which emphasized sports provides one of the most extensive sports development projects by any United States city (Rosentraub, et al., 1994: 236). This project netted a small number of jobs compared to the city's economy as a whole, and from 1977-1989 the overall economy actually grew faster than sports-related jobs (Rosentraub, et al., 1994: 236).

Direct benefits—The Multiplier Effect

The use of multipliers when investigating the impact of sports facilities on economic development attempts to measure the ripple effects that professional sporting events are said to cause. For example, if a family were to attend a professional basketball game they might go out to dinner downtown before the game (Rosentraub, 1997: 162). If it were not for the basketball game that

evening, the family might not have spent the money to eat out. Put another way, the sporting event led to additional spending in the area, thus creating a "multiplier effect." Multipliers also attempt to measure dollars flowing into an area. This area of analysis is important because a "major portion of the economic impact expected from sports investments is generated by out-of-town spectators and participants" (Rosentraub, et al., 1994: 229).

A problem with reports that use multipliers is the overstatement or even understatement of the multiplier. Proponents of a stadium might want to inflate the economic benefits of a stadium. A way to overstate the economic impact is to use a high multiplier. Conversely, opponents of a stadium might use a small multiplier to deflate the impact numbers (Rosentraub, 1997: 163). Baade and Dye offer an example of the wide range of multipliers used by various groups:

A look at the range of multipliers across some of the studies is instructive. A study on the impact of the Pirates on the Pittsburgh area uses a multiplier of only 1.2 for goods and services and 1.6 for wages and salaries. They are even careful to include only wages paid to Pirate employees who actually live in Pittsburgh. A study commissioned by the Philadelphia Sports Consortium uses a multiplier of 1.7 obtained from the independent research of the Wharton Econometrics model of Philadelphia. The author of a study of the impact of a Class A baseball stadium for South Bend, Indiana, represents as 'conservative' a multiplier of 3.0. This, despite the well-established result that the smaller the city, the smaller the portion of respending that stays inside the area. A team-financed study on the impact of Chicago baseball asserts a multiplier of 3.2 (Baade and Dye, 1988: 270).

The U.S. Department of Commerce "estimates economic multipliers for each state and select geographic areas. For large metropolitan areas, the Department of Commerce generally estimates an amusement industry multiplier

of approximately two" (Baade, 1996: 4). As a rule of thumb, a multiplier in a small area would be smaller than two, while a multiplier in a large regional area would be larger than two. The use of multipliers to estimate the impact of economic development projects can produce controversial results.

Direct benefits–Tax revenues

Sales tax revenue contributes "approximately one-third of state tax revenue, reflecting a path of near-constant increase since the last state adoption in 1969 (Mikesell, 1992: 83). This increasing reliance on sales taxes forces governmental officials to develop new ways to expand the sales tax base. When government officials offer to finance the construction of a stadium or arena and offer property tax relief, part of the justification is that increased sales tax revenues will offset the subsidy.

Attendance or participation that is a result of a fresh professional sports facility involves many new purchases that are taxed. In most states, sales taxes are imposed on tickets, concessions and souvenirs. Sales taxes also are levied on food and drink at restaurants, car rentals and hotel stays. Increased sales tax revenue that is attributed to a new stadium is argued as a major component of economic development efforts in some **MSAs** (Metropolitan Statistical Areas). Since property tax abatements are offered to most teams, increased sales tax revenues are a primary source of revenue from sports for state and local governments (Rosentraub, 1997: 179).

Baade and Dye's 1990 study "The Impact of Stadiums and Professional Sports on Metropolitan Area Development," attempts to determine the impact stadiums have on sales tax revenues. The author's source for retail sales was the *Census of Retail Trade* which publishes data only at five-year intervals (Baade and Dye, 1990: 12). The lack of additional data limits the observations; however, the results are worth reporting. Baade and Dye found that "sports variables show an insignificant impact on area sales," but a "new result here is the significantly positive impact of the presence of a pro football franchise on metropolitan retail sales compared to the region" (Baade and Dye, 1990: 13). Baade theorized that some football fans come from outside the region and spend the weekend to watch Sunday's game (Baade and Dye, 1990: 13). Notwithstanding the limited observations of the author's analysis, the significant positive impact of a football stadium on the level of retail sales in one MSA might indicate that some professional sports facilities do impact retail sales.

Indirect Benefits

The value of professional sports and professional sports franchises cannot only be discussed in terms of new jobs or increased sales. According to Baade, "the most significant contribution of sports is likely to be in the area of intangibles. The image of a city is certainly affected by the presence of professional franchises" (Baade, 1996: 35). John P. Blair "suggests that [sports related] projects may be subsidized even if they deplete the public treasury as long as the costs are offset by benefits to citizens" (Blair, 1992: 91). The

indirect benefits, while often difficult to measure, provide a catalyst for many of the sports facility projects in the United States. Johnson's observation that if the value of professional sports cannot be determined by direct economic benefits, "the question of a sports franchise's worth to a community...hinges on the valuation of indirect and intangible benefits and costs" (Johnson, 1986: 423).

This research earlier discussed the importance of sports in American culture. Attendance as participation in sports is a consumption method many American's implement in order to fulfill important psychological needs. Douglas B. Holt attended a number of Chicago Cubs baseball games during the 1990-1991 season to describe why people consume (Holt, 1995: 30). Holt identifies four metaphors for consuming and attributes them to consumption practices he observed while watching the Cubs play baseball. The crux of Holt's research is the interrelation of the four metaphors for consuming:

...the typology suggests some of the ways in which the four core metaphors for consuming – experiencing, integrating, playing, and classifying – are interrelated. One important implication is that consuming is never just an experience, a disinterested end in itself. Consumer actions directed toward consumption objects that have many faces: they are lived experiences that enlighten, bore, entertain, or raise our ire, but they are also means that we use to draw ourselves closer to valued objects and resources that we use to engage others – to impress, to befriend, or simply to play (Holt, 1995: 50).

Holt's observations indicate that sports are valued in our society because sporting events allow people to interact with each other and allow people to compare events on a playing field to events in their lives.

Thomas V. Chema speaks to the psychological importance of sports when he states, "Cities of the future will be important and successful if they can create a critical mass of opportunities for people to socialize within their borders" (Chema, 1996: 19). Chema also argues that "Cities which understand that cultural activities, recreation, sports, and plain old socializing not only bring people together, but form a solid base for economic growth, will be the cities which prosper" (Chema, 1996: 20).

Johnson warns that "a sports team's intangible value should not be criticized" (Johnson, 1986: 423). Johnson maintains that the "psychological health' of a city is just as important as its fiscal condition. Thus, investment in cultural and recreational activities is a common and expected practice of municipal government" (Johnson, 1986: 423). Baade further emphasizes this point, "Professional sports serve as a focal point for group identification. Sports contests are a part of civic culture" (Baade, 1996: 37). The psychological positives of sports is a key indirect benefit of hosting a professional sports franchise.

Metropolitan Area Exposure

Professional sports franchises and facilities offer communities extensive exposure that a city might not otherwise be able to obtain. Cities that do not directly compete for a business relocation or tourism dollars can face each other in a professional sporting event. When the New York Knicks ("supercity") lose to the Sacramento Kings ("third-tier city") in a NBA game, Sacramento is saluted

as a winner and the citizens of Sacramento benefit because the victory occurred in a highly publicized setting (Rosentraub, 1997: 133).³ The victory elicits civic pride, community unity and encourages competition with other cities to establish their city "as a desirable location" (Rosentraub, 1997: 134). Mark Rosentraub offers another good example of how a community can benefit from hosting professional sports:

In the early spring of 1995 Michael Jordan 'unretired' from professional basketball. The first game he appeared in after his 'I'm Back' announcement was against the Indiana Pacers in Indianapolis. NBC seized the game for its Game of the Week and broadcast the return of his 'Airness' to numerous countries. During various breaks in the action NBC displayed aerial and ground-level shots of Indianapolis's skyline, civic fountains and monuments, and downtown parks. On a glorious spring afternoon, Indianapolis received worldwide attention and publicity (Rosentraub, 1997: 204).

This example probably overstates the benefits when a game is televised, but the value cities place on exposure cannot be denied. David Swindell and Rosentraub are careful to fully endorse the benefits of sports coverage as they point out that, "...scores [in a daily newspaper] are probably not the strongest method of municipal advertising available, although it could supplement a larger overall campaign" (Swindell and Rosentraub, 1992: 99). The indirect benefits identified from hosting a professional sports franchise cannot be measured and therefore are often a neglected aspect of the upside of building a sports facility.

³ A "supercity" like New York tends to compete on a global scale with cities like Los Angeles, Chicago, Paris, etc. A "third-tier" city is much smaller and tends to compete with like-sized cities. This all is a non-factor on the playing field.

The literature reviewed on the direct and indirect benefits of a sports facility provide no distinct conclusions about the viability of offering millions in public subsidies to build sports facilities.⁴ Despite these uncertainties, cities continue to offer financial packages to team owners who continue to move their franchises. In 1988, one-third of the largest metropolitan areas had stadium plans (Baade and Dye, 1988: 268). The on-going, high level of sports facility construction has prompted city leaders to include sports facilities projects as part of a larger economic development plan.

Sports and Economic Development Strategy

Many authors criticize the use of public funds to construct a professional sports facility that is not part of a larger economic development plan (Baade and Dye, 1988: 273). The success of a professional sports facility depends on the level the plan has been integrated into an area's larger economic outlook. As Chema points out, a stadium's "value as catalysts for economic development depends upon where they are located and how they are integrated into a metropolitan area's growth strategy" (Chema, 1996: 19).

There is limited research on the effectiveness of economic development projects that include sports facilities. According to Rosentraub, et al., "The effectiveness or impact of sports as either a development strategy or as a substantial part of a community's economic development program has neither

⁴ Reports touting benefits of a professional sports franchise often discuss attributes and outcomes of sports projects in isolation. A trend to include sports plans into larger economic development plans has evolved and that is the purpose of the next section of this review.

been studied nor evaluated" (Rosentraub, et al., 1994: 223). In addition, Peter Eisinger states that "State and local economic development policy is clearly in a state of ferment..." (Eisinger, 1995: 146). While there is uncertainty surrounding the success of economic development policies, there are three potential strategies that can involve sports facility development.

Amenities Strategy

An amenities strategy includes those efforts to improve "quality of life" standards in a city and is a strategy that most often involves subsidies (Gottlieb, 1994: 270). Paul D. Gottlieb defines amenities "as location-specific, nonexportable goods or services that primarily benefit employees in their role as residents or commuters" (Gottlieb, 1994: 271). A professional sports facility, therefore, would classify as an amenity and could be part of a larger, regional economic development plan that involves amenities as a primary strategy. According to Gottlieb, "Amenities are clearly viewed by executives as an important location factor, with the aggregate phrase 'quality of life' frequently ranking in the top half of all [location] factors" (Gottlieb, 1994: 273). Gottlieb also describes potential negatives of an amenity strategy:

The amenities strategy for development is incompatible with the traditional least-cost strategy for a simple reason: Amenities cost money. Most amenities are public goods. Funded by the public treasury, they necessarily cut into monies that would otherwise be available for tax abatements or other financial incentives (Gottlieb, 1994: 280).

In addition, econometric studies of firm location classify amenities as only an indirect factor in location decisions (Gottlieb, 1994: 276-277). While there may

be little econometric evidence of a stadiums' impact on location decisions, a "stadium can serve as a symbol of the community's commitment to growth, to attracting business, to the quality of life of its residents, and a number of other positive goals" (Johnson, 1991: 321). The indirect benefits of an amenities strategy could provide a city an adequate return on its investment.

Industry Cluster

Another economic development strategy that could effectively involve sports is the industry cluster strategy. Sports construction projects as a part of an industry cluster economic development strategy could help diversify an area's economic base. As Peter B. Doeringer and David G. Terkia state "Developing clusters of multiple industries, as compared to recruiting single industries or firms, offers opportunities for leveraging industrial development incentives while diversifying a region's industrial mix" (Doeringer and Terkia, 1995: 225).

A stadium project as part of a larger industry cluster strategy would add to the potential success of an economic development project. As Baade and Dye state, "A stadium is not usually enough of a significant development to anchor an area's economy alone. Rather, in considering the revitalization of an urban neighborhood, a number of potential economic anchors should be developed simultaneously" (Baade and Dye, 1988: 273). Sports as component of a larger industry cluster strategy would provide diversification opportunities, "quality of life" improvements, and further economic development opportunities.

Area Revitalization

Metropolitan areas often depend on a healthy downtown core to help sustain the economic viability of the surrounding suburbs (Savitch, et al., 1993: 341). The importance of a strong downtown is because as Savitch, et al. states, "67 percent of suburban income was generated by central city earnings" (Savitch, et al., 1993: 342). Savitch, et al. also points out that "suburbs continue to profit from vibrant cities and are hurt by declining ones" (Savitch, et al., 1993: 342). Today, community leaders have begun to redirect economic development efforts toward central cities.

A sports facility project would fit into a downtown revitalization project because the large amount of people that come downtown outside normal business hours would help to reshape the function of the downtown area:

Events at sports stadiums have the potential for attracting large crowds from outside the core. Spending could conceivably spill outside the stadium to other commercial activities in the city. If the stadium can be used for enough near-capacity events, the benefits to the city could be substantial. Public officials have bought into this logic, and, thus stadiums are often viewed as an economic development tool for reclaiming urban activities that have been lost to the suburbs. (Baade and Dye, 1988: 266).

In Indianapolis, "Sports was used as the vehicle or marketing approach to revitalize downtown. However, that revitalization included more than sports" (Rosentraub, et al., 1994: 225). New spending in the downtown area occurs because "people from outside the area...come to attend a game and spend money they would not have spent in the area...or...people in the area...decide to spend money there instead of going elsewhere for their recreation"

(Rosentraub, 1997: 155). This new spending produces positive economic activity for the downtown area and enhances the overall success of an economic development project.

Conclusion on the Literature

This literature review has summarized the literature that discusses the various elements of professional sports and professional sports facilities as they relate to economic development. More precisely, an understanding of the position sports has in American culture as been explained as well as the cause for sports franchise relocations. This review also identified the different methods of financing that are most often associated with sports facilities. The literature describing the direct and indirect benefits of professional sports facilities has been analyzed. Finally, three economic development strategies that could integrate sports construction projects were explained. The next chapter will present the methodology used to test the relationship between sports facilities and economic development as defined by this literature review.

Conceptual Framework

Attendance or participation that is a result of a fresh professional sports facility involves many new purchases that are taxed. In most states, sales taxes are imposed on tickets, concessions and souvenirs. Sales taxes are also levied on food and drink at restaurants and on some hotel stays. Increased sales tax

revenue that is attributed to a new stadium is argued as a major component of economic development efforts in some MSAs.

Hypotheses

This explanatory research project contains three hypotheses. The hypotheses are as follows:

1. A new professional sports stadium will have a significant, positive impact on sales tax revenues in a MSA.
2. A new professional sports arena will have a significant, positive impact on sales tax revenues in a MSA.
3. A new professional sports ballpark will have a significant, positive impact on sales tax revenues in a MSA.

A professional sports franchise and its corresponding facility is defined as a team that is a member of the National Basketball Association (NBA), Major League Baseball (MLB), National Football League (NFL) or the National Hockey League (NHL). Stadiums include those facilities hosting a NFL franchise. Arenas include those facilities hosting either a NBA or NHL franchise or both. Ballparks include those facilities hosting a MLB franchise.

Chapter Three

Research Methodology

Introduction

This chapter reviews the methodology used to test the hypotheses presented in Chapter Two. First, an explanation of the sample will be discussed. Second, a review of the data and sources will be discussed as well as the strengths and weaknesses of the data. Third, an explanation of how the data was converted into measurable predictor variables and how they were operationalized will be presented. Finally, a discussion of the types of statistical techniques used in the analysis will be presented.

The research design used to test the hypotheses is a quasi-experimental design. An analysis of existing data using a quasi-experimental design has been used in similar studies investigating the impact of stadiums on economic development (Baade, 1990: 8). Replacing Baade's personal income variable with sales tax revenue will serve to provide evidence as to the impact of sports facilities on another economic development indicator.

Sample

The first step of this design is to choose a sample of MSAs in the United States. Since there are no professional sports organizations in a MSA with a population below 900,000 people, a systematic sample of 13 MSAs with a population of at least 900,000 as indicated by the U.S. Bureau of the Census

and those MSAs with a state or local sales tax was selected. The United States Bureau of the Census provided metropolitan statistical area definitions used in this research. The 13 MSAs are listed in Table 3.1 and a map of the 13 metro areas can be found in the Appendix.

Table 3.1
Metropolitan Statistical Areas

State	Metropolitan Statistical Area
Arizona	Phoenix-Mesa MSA
California	San Jose MSA
Colorado	Denver MSA
Florida	Jacksonville MSA
Florida	Orlando MSA
Georgia	Atlanta MSA
Minnesota	Minneapolis-St. Paul MSA
Missouri	St. Louis MSA
North Carolina	Charlotte-Gastonia-Rock Hill MSA
Texas	Fort Worth-Arlington MSA
Texas	San Antonio MSA
Utah	Salt Lake City-Ogden MSA
Washington	Seattle-Bellevue-Everett MSA

Source: United States Bureau of the Census

The 13 MSAs account for just under 25 percent of the 54 MSAs with a population of at least 900,000. This sample design was used in order to obtain a sample of MSAs with populations large enough so that the related independent variables could be measured against the dependent variable (Babbie, 1995: 210). Team owners locate their franchises in MSAs with large populations in order to reap the benefits of media coverage and high densities of people who potentially will attend an event. Also, since sales tax data is a

crucial variable in this study only those MSAs with a state or local sales tax could be considered.

Data

Data for this analysis was obtained from various sources, as shown in Table 3.2 later in this chapter. Retail sales that are subject to a sales tax is the dependent variable for this study. Retail sales tax data for various years between 1984 and 1996 was obtained from different state revenue departments or similar state agencies. Beginning with sales tax data, the sources of data and a discussion about the data is presented below.

The Dependent Variable

In past research concerning sports facilities impact on metropolitan sales tax revenues, Robert Baade and Richard Dye collected retail sales tax revenue data from the *Census of Retail Trade* for various years (Baade and Dye, 1990: 12). A problem with this data set is that the data is published at five-year intervals. For this study a range of 13 years was selected from 1984 to 1996. This time period reflects an update of Baade and Dye's research. For these years retail sales tax data was collected by contacting various state revenue departments or other similar state agencies.

Since data was collected from 11 different states there are some consistency concerns. To create a consistent data set, all sales tax data is in calendar years and is in actual dollars. The different states; however, have

different definitions and tax rates regarding sales and use taxes. In addition, the majority of states did not have data available for all of the 13-year time periods selected for this study. The type of regression selected for this research minimized the impact of the missing sales tax data.

The Independent Variables

Metropolitan area population data that is published by the U.S. Bureau of the Census was used as an independent variable. The population variable is used as a control variable for fluctuations in a metropolitan area. Furthermore, sales tax rates for the selected **MSAs** over the 13-year period were used as a control variable as an increase or decrease in the tax rate would effect sales tax revenues.

Dummy Variables

This study incorporates the use of three dummy variables that indicate stadium type. Professional sports facilities can be divided into three categories; stadiums, arenas and ballparks. The International Association of Auditorium Managers (IAAM) defines arenas as indoor facilities that can be set with different event configurations with basketball and hockey as typical events. **IAAM** defines stadiums as large facilities, either open-aired or domed, with fixed seats or bleachers surrounding the field with football and soccer as primary events. **IAAM** includes baseball stadiums under the stadium definition. For this

study; however, baseball stadiums are placed into their own category and are classified as ballparks.

Trend Variable

A potential weakness of this research is the "possibility of bias imparted by the correlation of unknown and omitted determinants of area growth with the stadium or franchise variables" (Baade, 1990: 9). In reality, a number of variables affect the rise and fall of sales tax revenues. Income levels, immigration/outmigration, boom and bust cycles and the overall economic status of an area all impact the amount of revenue that is subject to a sales tax. As an effort to minimize this bias, a trend variable is added as a control for these general influences acting on metropolitan area sales tax revenues. This technique has been used in research similar to this project (Baade and Dye, 1990: 9).

Operationalized Variables

The sales tax and tax rate variables were already in a format that was easily transferred directly into the research analysis. The population data was also in a format that fit into the model without any manipulation. The stadium, arena and ballpark variables assume a 0 value if a MSA has not built a new, professional sports facility. A value of 1 is recorded in the years after construction of a new sports facility. Finally, the trend variable is assigned a value of 1 for 1984 and going up to 13 for 1996.

Table 3.2
Variable Measurements, Expected Outcomes and
Data Sources for Research Hypothesis

Variables	Hypothesis	Variable Measurement	Data Source
<i>Dependent Variable</i>			
Sales Tax Revenue		State Tax Revenue generated for the years 1984 - 1996	State Revenue Departments
<i>Independent Variables</i>			
Tax rate	+	Sales Tax Rate for the years 1984-1996	State Revenue Departments
Population	+	MSA population numbers for the years 1984-1996	U.S. Bureau of the Census
Stadium	+	A dummy variable which assumes a 0 value before the ith MSA renovates an old stadium or builds a new stadium; the value 1 is assigned after a stadium is renovated or built	Data gathered from NBA, MLB, NFL and NHL league offices
Arena	+	A dummy variable which assumes a 0 value before the ith MSA renovates an old arena or builds a new arena the value 1 is assigned after a arena is renovated or built	Data gathered from NBA, MLB, NFL and NHL league offices
Ballpark	+	A dummy variable which assumes a 0 value before the ith MSA renovates an old ballpark or builds a new ballpark the value 1 is assigned after a ballpark is renovated or built	Data gathered from NBA, MLB, NFL and NHL league offices
TREND	+	A variable assigned a value of 1 for 1984 and going up to 13 for 1996	

Statistical Methods Used

The data and variable measurements provided in the first section of this chapter are operationalized within the conceptual models provided in the preceding chapter. This section explains how the predictor variables are used to measure the impact of professional sports facilities on sales tax revenues in selected MSAs. The technique used to test the hypothesis was a multiple regression analysis. The statistical package SPSS was used to calculate coefficients, t-statistics, R^2 and F-ratios.

The sales tax revenue data was regressed "on independent variables which capture the character of the metropolitan area's economy before and after the establishment of sports stadiums and teams" (Baade, 1990: 8). The following equation provides the formula for the regression:

$$Y_i = b_0 + b_1 \text{POP} + b_2 \text{STAD} + b_3 \text{ARENA} + b_4 \text{BALLPARK} + b_5 \text{TREND} + b_6 \text{RATE} + e_i$$

where, Y_i = the i^{th} MSA's sales tax revenue collections (data are from various state revenue agencies);

POP_i = the i^{th} MSA's population (data are from U.S. Bureau of the Census Bureau, various years);

STAD_i = a dummy variable which assume a 0 value before the i^{th} MSA renovated an old stadium or builds a new stadium; the value 1 is assigned after a stadium is renovated or built;

ARENA_i = a dummy variable which assume a 0 value before the i^{th}

MSA renovated an old arena or builds a new arena; the value 1 is assigned after an arena is renovated or built;

BALLPARK_i = a dummy variable which assume a 0 value before the i^{th}

MSA renovated an old ballpark or builds a new ballpark; the value 1 is assigned after a ballpark is renovated or built;

TREND_i = a variable assigned a value of 1 for 1984 and going up to 13 for 1996.

RATE_i = a variable assigned the MSAs sales tax rate;

e_i = stochastic error.

By examining the outcomes of the calculation of the coefficients and t-scores, the relationship between the dependent and independent variables was determined.

One strength of multiple regression analysis is that it provides a means of analyzing a situation where a dependent variable is affected simultaneously by several predictor variables. This technique also allows researchers to evaluate large amounts of data. In addition, this method is a good explanatory technique (DiLeonardi and Curtis, 1992: 107).

Conclusion

This chapter reviewed the methodology used to test the hypothesis presented in Chapter Two. The sources of data and how the data was

converted into measurable variables for this analysis was discussed. Finally, the multiple regression techniques employed in this analysis were presented.

Chapter Four

Empirical Results

Introduction

This chapter presents the results of the regression analysis used for this research project. The results are revealed in tables and discussion that are presented in three sections; one for each type of professional sports facility used in this analysis. Each section discusses the results of the relationships with sales tax revenues and sports facilities. The implications of the findings will be discussed in Chapter Five.

Results

Once the dependent variable (sales tax revenue) was regressed on the six independent variables (Stadium, Arena, Ballpark, Rate, Population and Trend) results indicate a significant F-ratio for all 13 MSAs. The significant F-ratios reveal that the variance in the dependent variable is explained by the regression equation and the relationships between predictor and dependent variables do not result from chance. In addition, all 13 regressions show a high R^2 (coefficient of determination) value. The lowest R^2 value for the 13 MSAs is .868. This means that 86.8 percent of the variation in the dependent variable is explained by the variation in the predictor variable(s). The significant F-ratios and the high R^2 values indicates that the regression equation used in this analysis was effective.

Table 4.1
The Impact of Professional Sports Facilities
on the Level of MSA Retail Sales Subject
to Sales Tax

MSA	POP	STADIUM	ARENA	BALLPARK	RATE	TREND	CONSTANT	R²
Atlanta	110070.9 (6.068)**	533769491.1 (.6190)			1023664619 (1.006)	-7406597156 (-4.766)*	-2.5 (-5.387)**	0.993
Charlotte	2438.3 (1.468)		-38965337.4 (-1.672)		29146389.4 (1.237)	-23784924.2 (-.688)	-2112914306 (-1.424)	0.972
Denver	30646.6 (3.550)**			440243936.9 (.452)		187032042.3 (1.099)	-35247919646 (-2.643)*	0.974
Fort Worth	-2274.5 (-1.019)			224374249.2 (1.843)	-450065421.6 (-5.087)**	443925171 (7.090)**	9084951818 (3.697)**	0.994
Jacksonville	-43341.1 (-2.120)	481797005.4 (1.010)			-238556643.3 (-.584)	1088386606 (3.234)*	-42023322513 (2.648)	0.971
Orlando	-24808 (-1.374)		449219207 (.446)		-202476482.8 (-.256)	2100389941 (3.319)*	33050286887 (1.911)	0.985
Phoenix	607 (1.133)	-78190465.9 (-1.390)	72487242.5 (1.129)			1444109.8 (.038)	-703366199.7 (-.729)	0.938
Salt Lake City	93497.2 (9.755)**		-1604696087 (-3.714)**		-119291503.6 (-.969)	-776035895.5 (-4.909)**	-85233526575 (-9.302)**	0.99
San Antonio	493.4 (.150)		399300302.9 (2.210)		-432986429.5 (-3.874)**	2979991932 (4.049)**	5317002708 (1.317)	0.988
San Jose	-108.1 (-.002)		571173547 (.547)		-1115254041 (-1.091)	853486638 (1.113)	19654397102 (3.14)	0.929
Seattle	14109.6 (4.094)**		509597016.9 (1.837)			39549305.8 (.243)	-17164925335 (-2.946)*	0.996
St. Louis	-7302.2 (-2.59)	836657300.6 (3.057)*	1369134085 (4.775)**		92681918.9 (.217)	537294792.9 (1.274)	19466858600 (.491)	0.995
St. Paul	113605 (1.911)		33371439 (.031)		360783797.3 (2.067)	-4195483345 (-1.810)	-2.6 (-2.122)	0.868

(t-statistics in parentheses)
* significant at less than .05
** significant at less than .01

Stadiums

As shown in Table 4.1, four of the 13 MSAs either built a new stadium, or refurbished an existing stadium between 1984 and 1996. The four MSAs include the Atlanta, Jacksonville, Phoenix and St. Louis MSAs. For three out of the four MSAs there was no significant relationship between the new stadium and sales tax revenues. In the St. Louis MSA, however, the results show a significant positive relationship between the metro area's new stadium and sales tax revenues.

The new multi-million dollar TransWorld Dome in St. Louis is home to the NFL's Rams and hosts other major sporting events including the NCAA Big 12 Football Championship in 1996. A domed stadium has many advantages over a typical open-aired stadium. Specifically, these weather controlled stadiums can host a variety of events even if unfavorable weather conditions exist. This allows for additional utilization of the stadium, as events can be planned in advance without the threat of cancellation because of the weather.

The Atlanta MSA was the only other MSA to construct a domed stadium. The major difference between Atlanta's stadium and St. Louis' stadium is the fact that the TransWorld Dome was built for a new professional football franchise while the Georgia Dome was built for an existing professional football franchise.

The St. Louis MSA was without a NFL franchise for a number of years as the NFL's St. Louis Cardinals moved to Arizona in 1991. The TransWorld

Dome was built for the NFL's Rams, who moved from Los Angeles to St. Louis in 1995.

The success of the TransWorld Dome and its significant effect on sales tax revenues in the St. Louis MSA could be attributed to the fact that domed stadiums can be utilized more often, thus creating additional spending in the area. More importantly, the success of a professional sports stadium depends in part on new spending in a metro area that comes from those living outside the MSA's boundaries. When the St. Louis MSA began hosting NFL games in 1995 for the first time in four years, it can be argued that many people came from outside the St. Louis MSA and spent money on tickets, hotel rooms as well as other taxable goods.

Arenas

A new arena was built between 1984 and 1996 in nine of the 13 MSAs studied. The regression for arenas shows that for seven of the nine MSAs a new arena had an insignificant impact on sales tax revenues. The Salt Lake City MSA's new arena had a significant negative impact on sales tax revenues, while St. Louis' new arena had a significant positive impact on sales tax revenues.

The fact that the majority of arenas have a statistically insignificant relationship with retail sales tax revenues is surprising considering the number of home games awarded to NBA and NHL franchises. Of the new arenas, however, none had a situation where both an NBA and NHL franchise utilize

the facility.' In theory, more tickets, concessions and souvenirs can be sold if more events are held at a professional sports facility. These increased sales would lead to additional sales tax revenue gains. The lack of utilization might be a reason for an arena's insignificant impact on sales tax revenues.

The two exceptions in this study are the new arenas in the Salt Lake City and St. Louis MSAs. Salt Lake City's new arena, The Delta Center, is home to the NBA's Jazz. The significant negative impact of The Delta Center on sales tax revenues in the Salt Lake City MSA is difficult to understand without further research. However, some conclusions can be drawn. First, the underutilization of The Delta Center might cause a negative drain on sales tax revenues. If the new arena is not hosting enough events, then high amounts of tax revenue cannot be generated to offset stadium costs.⁶ In addition, if the tax burden to build The Delta Center was so high for the citizens of the Salt Lake City MSA, then the funds that would have been spent on retail activity had to instead be spent on increased taxes.

The new Kiel Center in St. Louis offers one case in which a new arena did have a significant positive impact on sales tax revenues. While the primary tenant of the Kiel Center is the NHL Blues, the arena is often used for college basketball as well. This is juxtaposed to the case in Utah where there is only

⁵ AmericaWest Arena in Phoenix, Arizona is now home to the NBA Suns and the NHL Coyotes. The Phoenix Coyotes moved to Phoenix from Winnipeg, Ontario for the 1996-1997 NHL season. The move occurred after the time frame of this study.

⁶ The introduction of the WNBA (Women's National Basketball Association) in the summer of 1997 would further increase arena utilization. The WNBA franchises are awarded in some of the NBA cities using arenas as defined by this study.

one primary tenant. The results for the St. Louis MSA seem to show that if an arena is fully utilized then sales tax gains are possible.

Ballparks

The ballpark dummy variable is shown as statistically insignificant when regressed with sales tax revenues in both MSAs with a new professional baseball facility. Of the 13 MSAs selected only two—Fort Worth and Denver—have built new baseball specific stadiums. These ballparks were built in isolation and are some distance away from a downtown area or a highly traveled retail area.

While many baseball teams continue to play in stadiums shared with professional football teams, a trend is developing to build baseball-only facilities. Despite that fact that both the MLB Rangers and Rockies are drawing record numbers of fans, the ballparks were not part of an economic development plan and do not seem to be drawing enough spectators from surrounding areas; thus the facilities' impact on a MSA's sales tax revenues was insignificant.

Conclusion

The results indicate that for the majority of MSAs in this study, a new professional sports facility has an insignificant impact on local area sales tax revenues. It was argued in the literature review that for a new professional sports facility to be successful it should be incorporated into an economic

development strategy. These results indicate that the majority of new facilities were not incorporated into an economic development strategy similar to the ones mentioned in the literature review.

The only exceptions to this conclusion were found in the Salt Lake City and St. Louis MSAs. The negative effects of The Delta Center on sales tax revenues might lead one to conclude that the new arena is being underutilized. While the NBA offers a generous home schedule for franchises, the lack of other events would dampen any positive effects of a new arena. How a professional sports facility is utilized is concluded to play a large role in determining the significance of a new arena, stadium or ballpark on a MSA economy.

Another interesting factor is that both the new stadium and arena in St. Louis were significant in relation to an increase in the metro area's sales tax revenues. In recent years, the city of St. Louis has developed an economic development plan designed to rebuild many parts of the city. Urban revitalization is an economic development strategy mentioned in the literature review. The case of the TransWorld Dome and the Kiel Center offers some evidence of a stadium and arena being incorporated into an overall economic development plan. The significant positive relationship between the two new professional facilities in St. Louis and the MSA's sales tax revenues indicates that if a sports facility is part of an overall economic development plan than tax revenue gains can be expected.

In addition, the presence of a new professional football franchise seems to have a significant positive impact on sales tax revenues in some cases. A

new domed stadium built for a new NFL franchise seems to have a greater impact on sales tax revenues than a new stadium built for an existing NFL franchise. Furthermore, the proximity of the St. Louis MSA to surrounding states could lead residents from outside the MSA to visit the St. Louis area for a vacation that might include attending a NFL football game.

The results of the analysis provide some valuable information for the further analysis of professional sports facilities' impact on economic development efforts in MSAs throughout the United States. The next chapter discusses the major findings of the research, their value and recommendations for further research.

Chapter Five

Conclusions

Introduction

This chapter summarizes the steps of the research project and presents the major findings of the research results. The research summary presents the research question and explains the steps that were taken, why each step was taken and how each step was accomplished. In the next section, recommendations for future research are discussed.

Research Summary

The purpose of the research was to determine the impact a new, or refurbished professional sports facility has on retail sales tax revenues in 13 MSAs throughout the United States. The review of the literature presented background information about sports facilities and their impact on MSAs both actual and perceived. Data sources and variable measurements for the research model was revealed. The hypotheses to be tested in this analysis were presented.

The research methodology presented the sources of data and their limitations. Variable measurements and the operationalization of those variables were presented and discussed. Multiple regression analysis was indicated as the statistical method used to test for explained relationships. The coefficient, R^2 , t-statistic and F-ratio were revealed as the statistical indicators of

testing the relationships of the multiple regression. The strengths and weaknesses of these statistical methods and indicators were presented.

Major Findings

This study examined the impact of professional sports facilities on taxable retail sales for 13 major metropolitan areas. The analysis showed that the majority of stadiums, arenas and ballparks have an insignificant impact on the level of sales tax revenues generated by an MSA.

The exceptions were The Delta Center in the Salt Lake City MSA and the TransWorld Dome and the Kiel Center in the St. Louis MSA. It can be concluded that the underutilization of a facility will not produce enough sales tax revenues to offset the taxes used to build the facility. Furthermore, as the St. Louis example indicates, if a professional sports facility is built within an economic development plan and if the facilities are fully utilized then increased sales tax revenues would be more likely. Finally, the TransWorld Dome example shows that if a new professional sports franchise moves to a MSA that is close to surrounding states and other major metropolitan areas, then increased spending from outside the MSA can positively affect sales tax revenues.

Recommendations for Further Research

As metropolitan areas continue to battle for the scarce resource of professional sports franchises, government leaders will continue to offer

millions in subsidies to lure and keep professional sports franchises. These subsidies are often said to be offset by the millions in financial gains that a team and a new stadium will bring to a metropolitan area. This study attempted to determine what impact a professional sports facility has on one economic development variable—retail sales revenues subject to a sales tax.

Further research on this topic should be expanded to include an analysis of a professional sports facility's impact on job growth, population growth and tax revenue growth. A comprehensive look at the professional sports facilities built in the past decade would help update and further advance research on this topic. Future research is important as more and more facilities owners are attempting to expand the number of events in order to maximize financial gains. Also, an examination of the evolution of stadium construction would offer an analysis of economic development goals used by government leaders in the past.

Research on the specific components of stadiums should be analyzed in order to advance information on this topic. While this study and others have looked at basic components of professional sports facilities, an objective analysis of construction costs, financing plans and the effects of these facilities on metro area development is crucial to assist city leaders efforts to create a meaningful professional sports facility development plan.

Conclusion

In conclusion, this research offers an analysis of the impact of professional sports facilities on economic development in metropolitan areas. The research found that a majority of new sports complexes have an insignificant impact on the level of taxable retail sales in **MSAs** throughout the United States. Two arenas and one stadium offered exceptions to the general findings.

The main weaknesses of this study are the isolation of sales tax revenue as the only measure of economic development and the lack of information available after 1995. These are the reasons the recommendations for future research suggest incorporating many economic development variables over a longer period time. In addition, an analysis of the evolution of stadium construction would aid research on this topic. Finally, a comprehensive, objective analysis of many professional sports stadiums is needed to further assist those responsible for developing professional sports facility development plans.

BIBLIOGRAPHY

- Baade, Robert A. and Richard F. Dye. "The Impact of Stadiums and Professional Sports on Metropolitan Area Development." *Growth and Change*. Spring 1990: 1-14.
- Baade, Robert A. "Professional Sports as Catalysts for Metropolitan Economic Development." *Journal of Urban Affairs*. 1996, Volume 18, Number 1: 1-17.
- Baade, Robert A. and Richard F. Dye. "Sports Stadiums and Area Development: A Critical Review." *Economic Development Quarterly*. August 1988, Volume 2, Number 3: 265-275.
- Baade, Robert A. "Stadium Subsidies Make Little Economic Sense for Cities, A Rejoinder." *Journal of Urban Affairs*. 1996, Volume 18, Number 1: 33-37.
- Babbie, Earl. *The Practice of Social Research*. Belmont, California, Wadsworth Publishing Company, 1995.
- Blair, John P. "Benefits from a Baseball Franchise: An Alternative Methodology." *Economic Development Quarterly*. February 1992, Volume 6, Number 1: 91-95.
- Boulard, Garry. "Emulating Players, Team Owners are Shopping All Around for the Best Money-Making Package They Can Find. And While Folds Are As Eager As Ever To Have a Sports Franchise In Town, They May Not Be Quite So Willing To Put Up Millions To Get It As They Once Were." *State Legislatures*. May 1996.
- Chema, Thomas V. "When Professional Sports Justify the Subsidy, A Reply to Robert A. Baade." *Journal of Urban Affairs*. 1996, Volume 18, Number 1: 19-22.
- DiLeonardi, Joan W. and Patrick Almond Curtis. *What to do when the Numbers are in: A User's Guide to Statistical Data Analysis in the Human Services*. Chicago, Illinois, Nelson-Hall, 1988.
- Doeringer, Peter B. and David G. Terkia. "Business Strategy and Cross-Industry Clusters" *Economic Development Quarterly*. August 1995, Volume 9, Number 3: 225-237.
- Donnelly, Harrison. "High Stakes of Sports Economics." *Editorial Research Reports*. 1988: 170-183.

- Eisinger, Peter. "State Economic Development in the 1990s: Politics and Policy Learning." *Economic Development Quarterly*. May 1995, Volume 9, Number 2: 146-158.
- Fort, Rodney and James Quirk. "Cross-subsidization, Incentives, and Outcomes in Professional Team Sports Leagues." *Journal of Economic Literature*. September 1995, Volume 33: 1265-1299.
- Gottlieb, Paul D. "Amenities as an Economic Development Tool: Is There Enough Evidence?" *Economic Development Quarterly*. August 1994, Volume 8, Number 3: 270-285.
- Holt, Douglas. "How Consumers Consume: A Typology of Consumption Practices." *Journal of Consumer Research*. June 1995, Volume 22, Number 1: 29-54.
- Ihlanfeldt, Keith R. "Ten Principles for State Tax Incentives." *Economic Development Quarterly*. November 1995, Volume 9, Number 4: 339-355.
- International Association of Auditorium Managers. "Industry Profile Survey," 1994: 2-3.
- Johnson, Arthur T. "Economic and Policy Implications of Hosting Sports Franchises: Lessons from Baltimore." *Urban Affairs Quarterly*. March 1986, Volume 21, Number 3: 411-433.
- Johnson, Arthur T. "Local Government, Minor League Baseball, and Economic Development Strategies." *Economic Development Quarterly*. November 1991, Volume 5, Number 4: 313-324.
- Johnson, Arthur T. "Municipal Administration and the Sports Franchise Relocation Issue." *Public Administration Review*. November/December 1983: 519-528.
- Mikesell, John L. "State Sales Tax Policy in a Changing Economy: Balancing Political and Economic Logic Against Revenue Needs." *Public Budgeting and Finance*. Spring 1992: 83-91.
- Ozanian, Michael K. "Suite Deals: Why New Stadiums are Shaking up the Pecking Order of Sports Franchises." *Financial World*. May 9, 1995: 42-56.
- Rosentraub, Mark S. "Does the Emperor Have New Clothes?, a Reply to Robert J. Baade." *Journal of Urban Affairs*. 1996, Volume 18, Number 1: 23-31.

Rosentraub, Mark S. and David Swindell. "'Just Say No?' The Economic and Political Realities of a Small City's Investment in Minor League Baseball." *Economic Development Quarterly*. May 1991, Volume 5, Number 2: 152-167.

Rosentraub, Mark S. *Major League Losers: The Real Cost of Sports and Who's Paying For It*, Basic Books, 1997.

Rosentraub, Mark S.; David Swindell; Michael Przybylski and Daniel R. Mullins. "Sport and Downtown Development Strategy: If You Build It, Will Jobs Come?" *Journal of Urban Affairs*. 1994, Volume 16, Number 3: 221-239.

Savitch, H.V.; David Collins; Daniel Sanders and John P. Markham. "Ties That Bind: Central Cities, Suburbs, and the New Metropolitan Region." *Economic Development Quarterly*. November 1993, Volume 7, Number 4: 341-357.

Swindell, David and Mark Rosentraub. "Hammers and Their Use: Some Issues Involved in the Selection of Appropriate Tools for Public Policy Analysis." *Economic Development Quarterly*. February 1992, Volume 6, Number 1: 96-101.

Zimmerman, Dennis. "Tax-Exempt Bonds and the Economics of Professional Sports Stadiums." *Sales Tax Notes*. July 8, 1996.

APPENDIX A:
MAP OF METROPOLITAN STATISTICAL AREAS

Appendix A
Figure A.1

