

The Paradox of Championships

“Be Careful, Sports Fans, What You Wish For”

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ABSTRACT: This paper examines issues related to the economic impact of sports championships on the local economy of host cities. While boosters frequently claim a large positive effect of such championships, a closer examination leads to the conclusion that the impact is likely much smaller than touted and may even be negative.

Key Words: Mega-event, sports, sporting events, impact analysis

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INTRODUCTION

Economics has frequently been used as a rationale in defense of public subsidies for professional sports. Subsidy advocates argue that new teams and/or stadiums provide an economic stimulus, and public support for professional sports should be construed as an investment rather than expenditure. This proposition is thought to be particularly true when the public subventions for sport produce championship teams. Two issues need to be analyzed in conjunction with this thesis. First, do greater subsidies translate into more frequent championships? Second, do sports championships correspond to higher levels of economic activity? The purpose of this report is to provide answers to these questions.

A direct correlation between subsidies and championships has theoretical appeal. In this era of free agency, compelling evidence exists to support the thesis. Teams that finish high in the financial standings have the resources to compete for the players that have the capacity to win. For example, using statistics provided by Major League Baseball (MLB) for the 2001 season, eleven of the fourteen teams with losing records correspond to those teams in the bottom half of stadium revenues (MLB, 2001). An equally convincing case can be made for the second thesis on several levels. Post-season games mean more spending not only because there are more contests, but also heightened fan interest very likely translates into additional expenditures. Furthermore, if people feel better as a consequence of their team's success, it is arguable that they are more productive.

The pursuit of championships comes at some costs, however, some of which are not obvious. In particular the following should be noted:

(1) Building a new stadium provides a team with a financial advantage only if other teams are not adopting the same strategy.

(2) The additional revenues must be spent on players to enable the team to become more competitive on the field.

(3) During the construction phase of a stadium project, the costs associated with economic dislocation due to construction may exceed the benefits associated with the expenditure. The closer the economy is to full employment prior to the project, the more likely this is to be the case.

(4) Sport is a diversion, and the additional games may capture the attention of workers to the point where economic activity falters rather than accelerates as a consequence of post-season play. Just as success in the playoffs may contribute positively to worker morale and productivity, a lack of success may have the opposite effect. In fact, only the city hosting the champion can claim a warm, fuzzy feeling for their fans.

(5) Celebrations, both formal and informal, are held in the host city to honor the championship team. The increasingly intense and destructive informal celebrations are costly.

(6) What does a championship mean to the fans? The evidence suggests that they pay for the championship before and after. Basking in the glow of the team's success does come at some expense.

The paper's is organized in accordance with these six points.

FALLACY OF COMPOSITION

It is well known that the behavior or actions of an individual economic actor produce different than the same behavior for a group of economic actors. One person standing at a football game does not alter viewing much for the fans in the row behind, but if an entire row decides to stand, it compels a reaction from the row behind. The fallacy of composition has application for issues relating to stadium construction and the pursuit of professional sports championships. Simply put, if a team is not competitive financially, then it cannot bid for the free-agent talent essential for being competitive on the field. The construction of a new stadium, while a necessary condition for athletic success, is not sufficient. The new venue confers a sustainable financial advantage to the team only if other teams do not adopt the same strategy. This is true for those professional sports teams that belong to leagues that have the most comprehensive revenue sharing programs, the National Football League (NFL), and it is also true for MLB, the league that arguably has least extensive revenue sharing arrangement.

In Table 1 information has been recorded relating to the effect a new stadium has had on the competitiveness of teams.

Table 1
New Stadiums and Team Competitiveness for MLB

Field	City	Year Opened	First Playoff Appearance
Great American	Cincinnati	2003	-
PNC Park	Pittsburgh	2001	-
Miller Park	Milwaukee	2001	-
Invesco Field	Detroit	2001	-
Minute Maid Field	Houston	2000	2001
Pac-Bell Stadium	San Francisco	2000	2000
Safeco Park	Seattle	1999	2000
Tropicana Field	Tampa	1990/1998	-
Bank One Park	Phoenix	1998	1999
Turner Field	Atlanta	1996	1996
Coors Field	Denver	1995	1995
Jacobs Field	Cleveland	1994	1995
Ballpark at Arlington	Dallas/Fort Worth	1994	1996
Camden Yards	Baltimore	1992	1995
U.S. Cellular (Comiskey)	Chicago (AL)	1991	1992
Sky Dome	Toronto	1989	1991

The information indicates that shortly after the teams built new stadiums they became playoff contenders. The connection between new stadiums and team success is clear and is attributable to increased team payrolls (as the information in Table 2 indicates.) Following the open of the SkyDome in Toronto in 1989 the Blue Jays won World Series in 1992 and 1993 with baseball's largest payroll. Baltimore, near the bottom of league payrolls in 1992, had the second largest team payroll by 1995 following the opening of Camden Yards in 1992. Finally, Cleveland probably presents the greatest success story of stadium construction leading to on-field success. The Cleveland Indians, with one of baseball's three lowest payrolls in 1992 and 1993 and a 50-year record of post-season futility, turned around their franchise after the construction of Jacobs Field in 1994. The Indians were among the top three franchises in payroll in 1996 and 1997 and made World Series appearances in 1995 and 1997. In fact, on-field success following the opening was the rule, not the exception, during the early period of MLB's recent stadium construction boom. Of the 12 teams building new stadiums between 1989 and 2000, 11 made playoff appearances within 2 years of the construction of the stadium. Only Tampa Bay, a 1998 expansion franchise, and Baltimore, whose potential playoff appearance was postponed by a year due to the 1994 MLB players' strike, defied the pattern.

As more and more of baseball's infrastructure has been replaced in the last decade, however, it has become increasingly difficult for a new stadium to confer a

competitive edge. With 17 teams playing in facilities constructed or significantly renovated since 1989, and another 8 teams with plans for new stadiums, it is clear that not every team with a new stadium can support an above average payroll and the above average on-field performance that accompanies a large payroll. Since MLB allows for only eight teams to participate in the postseason, it is simply impossible for every team with a new stadium to qualify for the playoffs. It is likely that the early on-field success that accompanied teams such as the Blue Jays, Indians, Orioles, and Rangers, who built new stadiums in the early stages of the building boom, will not necessarily accrue to the most recent builders.

The evidence indicates that in the early years of this construction cycle, stadiums conferred an edge, which dissipated in part as a consequence of newer stadiums coming into existence. Winning in professional sports is by definition a zero-sum game, and the competitive advantage conferred by new stadiums is diluted by new ballparks. The experience of the teams in the most recently constructed stadiums demonstrates this pattern. Why?

NEW STADIUM REVENUES AND PAYROLLS: THE RECENT EXPERIENCE

In the earlier stages of the stadium construction boom, new stadium revenues translated into higher player salaries and a postseason experience. The Milwaukee Brewers, Detroit Tigers, and Pittsburgh Pirates, who have yet to make the post-season since the construction of their stadiums and appear unlikely to make the playoffs any time in the near future, broke the pattern through not using new stadium revenues to acquire the free agents that would make them competitive. The information recorded in Table 2 confirms the break with the past.

Table 2
MLB Payrolls Before and After New Stadiums Built Between 1991 and 2001

Team (Year New Stadium Opened)	Team Payroll for the Year the Stadium Opened (Millions \$)	Total Payroll Two Years Prior to New Stadium (% of Payroll Year Stadium Opened)	Total Payroll One Year Prior to New Stadium (% of Payroll Year Stadium Opened)	Total Payroll One Year After New Stadium (% of Payroll Year Stadium Opened)	Total Payroll Two Years After New Stadium (% of Payroll Year Stadium Opened)
Arizona (1998)	29.16	NA	NA	70.37 (241)	77.88 (267)
Atlanta (1997)	50.49	45.2 (90)	47.93 (95)	59.54 (118)	75.07 (149)
Baltimore (1992)	20.99	10.04 (48)	14.63 (70)	26.92 (128)	37.67 (179)
Chicago White Sox (1991)	16.83	7.60 (45)	9.49 (56)	28.41 (169)	34.60 (206)
Cleveland (1994)	28.49	8.24 (29)	15.72 (55)	35.19 (124)	45.32 (159)
Colorado (1995)	31.15	8.83 (28)	22.98 (74)	34.92 (112)	42.87 (138)
Detroit (2000)	61.74	22.63 (37)	34.96 (57)	49.36 (80)	55.05 (89)
Houston (2000)	52.36	40.63 (78)	55.29 (106)	60.39 (115)	63.45 (121)
Milwaukee (2001)	45.10	42.93 (95)	35.78 (79)	50.29 (112)	40.63 (90)
Pittsburgh (2001)	57.76	24.22 (42)	29.56 (51)	42.32 (73)	54.81 (95)
San Francisco (2000)	53.54	40.32 (75)	46.06 (86)	63.28 (118)	78.30 (146)
Seattle (1999)	44.37	39.67 (89)	52.03 (117)	59.22 (133)	74.72 (168)
Texas (1994)	32.42	29.74 (92)	35.64 (110)	32.37 (100)	35.86 (111)
Average		(57)	(73)	(125)	(147)

Source: USATODAY.com Baseball salaries database.

The information recorded in Table 5 indicates that with few exceptions team payrolls increased rather substantially after a new stadium is built and sustained for several years following the inaugural season. The exceptions are for the stadiums built since 2000 in Detroit, Milwaukee, and Pittsburgh where payroll increases at the time those stadiums began operating were not maintained in subsequent seasons. The lesson is that a new stadium is not sufficient to produce a play-off caliber team. The incremental revenue generated by a new stadium does provide the potential for a more competitive team, but it is necessary that the money be used for payroll. For teams that do not use the money in this way, they risk alienating their fans thereby reducing the revenue enhancing novelty effect associated with new venues. Falling attendance in Milwaukee, Detroit, and Pittsburgh the year after the inaugural season for their new ballparks supports this proposition. An opportunity may have well been lost for all these cities at least until the next round of new stadium construction. The continual appearance of new facilities also makes it difficult for existing teams with newer stadiums to sustain their success.

INDIRECT STADIUM CONSTRUCTION COSTS

It is widely believed that cities benefit from the construction of a stadium. Money is spent and resources are employed during the construction phase of the project. Theoretically the extent to which the city benefits during construction depends on several things. First, the public money spent must not only generate benefit in a gross sense, but the benefit net of those benefits derived from the next best alternative use of those funds must be positive. In other words the project must represent the most efficacious use of money devoted to it. Second, the project must utilize resources that reside in the metropolitan area. To the extent that construction resources reside elsewhere, there may be a transfer of income from the city when resources repatriate their earnings to their primary residences. Firms that specialize in stadium construction exhibit a national or even international character given the specialized nature of the industry. For example, only one of the four firms involved in the construction of Miller Park in Milwaukee was headquartered in Milwaukee. The four firms included: Huber, Hunt & Nichols Inc. (Indianapolis), Clark Construction (Chicago), Hunzinger Construction (Milwaukee), and Mitsubishi Heavy Industries of America. Third, the amount of slack in the local economy will determine the extent to which the value created through construction is local in character. The closer the local economy is to full employment, the more likely resources used will be non-local.

Furthermore, large construction projects disrupt local economies. Traffic is diverted, and commercial interests within the construction zone suffer. Evidence from the City of Los Angeles during the construction phase of the Staples Center supports the contention that the net economic of a sports facility during the construction phase may be negative.

Table 3
The Economic Impact of the Staples Center During the Construction Phase

Quarter	Actual %	Predicted %	LA County Taxable Sales Less City Taxable Sales (millions \$)	Estimated versus Observed Taxable Sales (millions \$)
1998.2	42.25	42.11	15,825	22.042
1998.3	41.79	42.13	16,064	-55.781
1998.4	41.64	41.91	17,032	-46.707
1999.1	41.97	41.81	15,498	24.953
1999.2	41.86	41.88	17,022	-3.737
1999.3	41.41	41.79	17,304	-65.758
Average				-20.831

The model used to generate these results is as follows:

Equation 1

$$R_t = \beta_0 + \beta_1 R_{t-1} + \beta_2 \text{RODNEY} + \beta_3 \text{TIME}_t + \beta_4 \text{TIME}_t^2 + \varepsilon_t$$

where for each time period t ,

R_t = the City of Los Angeles' ratio of taxable sales to the taxable sales in the rest of the County of Los Angeles in time period t ,

RODNEY = dummy variable representing the effect of the Rodney King riots,

TIME_t = linear time trend,

TIME_t^2 = quadratic time trend,

ε_t = stochastic error.

POST SEASON BENEFITS?

During championship runs, league officials and team boosters are quick to publish official sounding claims of the economic benefits that a city derives from hosting these sporting mega-events. The NFL typically claims an economic impact from the Super Bowl in the neighborhood of \$300 to \$400 million. Estimates from hosting a World Series and the preceding playoffs games range as high as \$250 million with predictions for the impact of the NBA and NHL finals generally coming in somewhat lower.

Numerous scholars have attempted to estimate the impact of large sporting events and league championships on host cities. Baade and Matheson (2001) use employment

and taxable sales data to find the effect of MLB's All-Star Game metropolitan areas. Porter (1999) uses taxable sales data determine the implications of hosting the Super Bowl for host cities. Baade and Matheson (2003a, 2003b) use metropolitan area personal income data to estimate the impacts of MLB's post-season and the Super Bowl on local economies. In all cases, the economic consequences of hosting these mega-events are statistically insignificant and, generally speaking about a tenth the size of the figures quoted by league and team boosters. The prevailing opinion among economists is that while these sporting events may be large in a gross sense, because of crowding out, leakages, and substitution effects, the net influence on the host city is small.

The one exception to this is rule is Coates and Humphreys (2002). Their examination of post-season play in the NFL, NBA, and MLB, similar to all of the previous studies, finds that the cities hosting post-season play experience no significant increase in real per capita personal income. In a very surprising discovery, however, they found that over the time period of their sample, 1969-1997, the city winning the Super Bowl experienced a statistically significant increase of roughly \$140 in per capita income.

This result is particularly surprising considering that the Super Bowl, unlike the championships in the other major professional sports, hockey, basketball, and baseball, is held at a pre-determined neutral site rather than at one of the participants' home fields. Therefore, while one might predict that the economies in the cities of the other sports' champions will be influenced by the economic activity surrounding the actual game(s), in the case of the Super Bowl, the winner's home town receives no direct revenue from the team's big victory since the win will likely take place thousands of miles away. In fact, no Super Bowl champion has ever won the big game in their own home stadium. Furthermore, because of the NFL's single-game elimination playoff system, it is quite possible that the winning team may never have played even a single post-season game at home.

A positive correlation between a championship and economic activity has some theoretical appeal, which most likely has a psychological basis. As argued by Coates and Humphreys, if people in a community bask in the reflected glory of their team, that positive feeling could translate into greater productivity in the workplace. It is debatable, of course, how pervasive that feeling is and how long it endures. In fact, a further examination of victorious Super Bowl cities conducted by Matheson (2003) concluded that the economic impact from winning the Super Bowl was approximately one-third that estimated by Coates and Humphreys, and it was not statistically significant. The collective evidence, therefore, would offer only tepid support for the thesis that winning any championship in a professional sport boosts a metropolitan economy.

CELEBRATING CHAMPIONSHIPS

On the other hand, in today's social climate there is reason to believe that a sports championship could exert a negative effect on the host city's economy. Both informal

and formal celebrations occur following championships. English football no longer holds a monopoly on sports-related violence, and the informal celebrations all too frequently degenerate into riots resulting in violence and the destruction of property, which will likely negatively affect productive activity in the short-run. While violent celebrations first received widespread publicity following the NBA title won by the Detroit Pistons in the late 1980s, nowadays no sport seems to be immune from hooliganism as witnessed by the widespread arrests following the loss of the Purdue University women's basketball team in the 2001 title game. Even orderly, well-organized formal celebrations may result in economic losses. Tickertape parades often result in business closings along parade routes for the day, and, if enough people participate could eliminate part or all of a workday for a substantial number of workers.

In using the same model discussed earlier to identify the economic impact of the Staples Center on the City of Los Angeles economy during the construction phase of the project, it was discovered that economic activity during the championship runs for the NBA Los Angeles Lakers during the 2000 and 2001 NBA seasons correlated negatively with City of Los Angeles taxable sales. For the second quarter, the operation of Staples Center correlated negatively with economic activity in the City of Los Angeles. It is possible that during the Lakers championship runs, people in sufficient numbers preferred to watch the games at home and spent less money as a consequence. Testing this hypothesis is beyond the scope of this work, but it could be that winning a championship does have an economic cost other than the damage that unfortunately accompanies impromptu championship celebrations. It should be noted, however, that the official celebration in Los Angeles closed Figueroa Street, a major commercial corridor, following Lakers championships in 2000, 2001, and 2002. It would not be implausible that one-day of lost economic activity would translate into tens of millions of dollars of reduced taxable sales given the size of the Los Angeles economy. Then too, people who ordinarily patronize businesses in the City would avoid doing so during the chaos and congestion that generally characterizes championship celebrations in sport.

CHAMPIONSHIPS, THE GIFT THAT KEEPS ON TAKING

Evidence indicates that fans get burned basking in the warm glow of a team's success. In the parlance of economists, teams extract a portion of fan consumer surplus following a championship run. Consider the evidence from the NFL and MLB. Between 1983 and 2000, the average ticket price for all NFL teams increased by 6.40 percent per year, while the ticket price for teams having won the Super Bowl the previous year averaged 12.0 percent during that same period of time. Over the period 1992 through 2002, the average MLB ticket price rose 6.97 percent, while ticket prices for the World Series champions rose 10.02 percent over that same time period.

CONCLUSIONS AND POLICY IMPLICATIONS

Teams and leagues have used various arguments to enlist public financial support in the construction of professional sports facilities. One argument has focused on the fact that in this era of player free agency, sports championships are won as much on the income statement as the playing field. If teams are burdened with debt accumulated through privately financing stadium construction when the teams with whom they compete are not, then championships will not materialize. Public subsidy advocates argue that championships not only bring fame but fortune to the host city. This paper analyzed the proposition that championships materially benefit the host city and its fans.

The evidence does indicate that new stadiums do correlate with post-season play, but only if the incremental revenues spent from the operation of a new stadium are spent on acquiring players. It should be noted, however, that the ability of a new stadium to secure a place in the playoffs is likely diminishing as more teams adopt this strategy. In addition there is some evidence to indicate that there are negative costs associated with stadium construction and the actual achievement of a championship. The preoccupation with some workers during the championship run coupled with business disruption during formal and informal celebrations make a championship a potentially expensive prize. Furthermore, the glow fans feel in the wake of their ascension to the top of the sports world will quickly dissipate fairly quickly as teams douse them with the equivalent of the contents of a Gatorade container, in the form of higher ticket prices. Thus a warning to cities and fans, be careful what you wish for – sports championships may come at a substantial cost.

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