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Abstract

Over the past 15 years, new stadiums in the National Football League have been built at an unprecedented rate, and most new facilities have utilized significant public funds. This paper looks at whether the methods used to finance these new facilities honored public finance principles regarding equity, efficiency, and transparency. An examination of the 20 NFL stadiums constructed or refurbished since 1992 reveals a trend towards more voter referendums and an increase reliance on taxation of visitors through hotel and rental car taxes. Although taxation of persons living outside one's own metropolitan area is appealing, this paper suggests that the benefits of these taxes are not nearly so clear.

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I. Introduction

Sports facilities in the United States for the four major professional sports leagues have been built recently at an unprecedented rate when the entire experience of the twentieth century is considered.[1] Taxpayers in the host communities have shouldered the burden to a substantial degree.[2] The purpose of this paper is to determine if the financing methods through time and currently have honored public finance principles relating to equity, efficiency, and transparency. If not, why not? Attention in the paper is focused on the National Football League (NFL) in part because it is arguably the most popular and prosperous of the four major professional sports leagues in the U.S., and the NFL has the most comprehensive revenue sharing arrangement, which has implications for various hypotheses identified and analyzed in this report. The evidence and analysis contained in this report suggests that the NFL has been able to use the excess demand for its' teams to induce cities to provide subsidies for stadiums that result in substantial increases in revenues, franchise values, and player salaries. The team financial gains are partially the result of appropriating a portion of fan/consumer surplus. Only the largest cities are capable of negotiating with the NFL on near equal footing, and only through collective action can cities counter the NFL's dominance in negotiating stadium deals and other contracts.

The first part of this paper identifies those public finance principles that are commonly invoked in designing and evaluating projects that are publicly funded. In the second part of the paper developments in funding NFL stadiums are identified and analyzed. The analysis will include those imperatives that account for any notable changes in the manner in which stadiums or teams are funded. In the paper's third section the current funding schemes are evaluated using the public finance criteria identified in the first section of the paper. The final section of the paper concludes the work and offers some policy suggestions.

[1] For the statistics on the number of stadiums built, see Robert A. Baade, "Evaluating Subsidies for Professional Sports in the United States and Europe: A Public Sector Primer," *Oxford Review of Economic Policy*, 19, no. 4 (Winter 2003): 587.
[2] Ibid.

II. Evaluating Proposals for Publicly Funded Projects

Public officials generally subscribe to the idea that public funding for projects should observe principles of equity and efficiency. Equity considerations are based on the "benefit principle," the straight forward proposition that the tax burden imposed on anyone for a publicly funded project ought to reflect the benefits they derive from it. This principle was articulated by political economists even before Adam Smith who spoke eloquently about the need for equity in the tax system. Smith observed:

> The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is in proportion to the revenue which they respectively enjoy under the protection of the state… In the observation or neglect of this maxim consists, what is called the equality or inequality of taxation.[3]

The benefit principle cleanly links tax policy to expenditures, and this linkage is the most appropriate basis for discussing equity in the funding of professional sports facilities. Indeed, the use of the benefit principle in evaluating the equity of any tax system would apply in cases where the use of the tax proceeds clearly benefits certain groups. Tax policy historically in the United States and elsewhere also has reflected the "ability to pay" and "sacrifice" principles, neither of which recognizes any tax-expenditure link.

Individual tax- expenditure programs are well suited for an up-or-down vote through a referendum if the benefits from the expenditure to particular taxpayers are known. Operationally, in many instances, benefits are so diffuse that they elude measurement or are otherwise not apparent. A lack of transparency vitiates the use of the benefit principle. Taxes to fund sports stadiums, however, potentially can be evaluated using the benefit principle since the gains are concentrated in the hands of a few groups and are theoretically measurable. In fact it could be argued that a sports facility financed publicly provides a "service" for people using the facility, i.e., the fans, and benefits for players and owners in the form of increased incomes and profits.

The case for direct charges to finance certain types of economic infrastructure has long been considered by public finance scholars. Consider this passage from a classic public finance text.

> The case for finance by direct charges to the uses is clear-cut where the goods or services provided by government are in the nature of private good, i.e., where consumption is wholly rival. Benefits can be imputed to a particular user who can be asked to pay. The issuance of licenses, the financing of municipal transportation, and the provision of airport facilities are more or less in this category. Where benefits are internalized,

[3] Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations* (New York: Random House, Inc., 1965), 777. Note that *The Wealth of Nations* was first published in 1776. The edition and page number referenced here is The Modern Library edition published as noted in 1965.

> the government may act in a capacity similar to that of a private firm and the same principles of pricing are appropriate… By using a market mechanism, a more efficient determination of the appropriate level of supply becomes possible.[4]

The key phrase in the preceding quote relates to an internalization of benefits. Subsidies for professional sports are rationalized on the grounds that teams generate substantial economic and hedonic value for host cities, external benefit, for which individual teams receive no compensation. If teams qualify as public goods, those that are collectively consumed, then the optimum provision of teams and their playing facilities require equating the sum of individual marginal utilities, marginal rates of substitutions, for host city residents with the marginal cost of attracting and maintaining the team. If the external economic benefit provided by professional sports teams, however, is negligible then the rationale for subsidies rests on a contingent valuation or hedonic argument.[5] If the external benefit is primarily hedonic in character, it is arguable that this psychological benefit is substantial for the relatively few city residents who paint their faces on game day, and relatively modest for those who kibitz about team developments around the coffee machine on Monday morning. It seems reasonable to assume that the hard core fans would attend games regularly, and the less ardent followers would be content with occasional attendance. A combination of a fan consumption tax or user fee, personal seat licenses or some other form of surcharge on tickets coupled with a small tax increase spread over a city's population would be the least inequitable method for subsidizing the team. This proposition will be discussed further later in the paper.

In addition to equity considerations, a "good" tax structure minimizes interference with otherwise efficient markets or if market imperfections or inefficiencies do exist, then a good tax could correct for the imperfections that exist for reasons not related to taxation. The four major professional sports leagues in the United States operate as unregulated monopolies, and that qualifies as a market imperfection. Every student of economics understands that monopolies charge higher prices and restrict supply (supply less of the good than society would find optimal) in pursuit of maximum profit. Professional sport is a subset of the amusement and recreation industry. If we assume for the moment that the amusement and recreation industry is competitive except for the professional sports component, it follows in theory that professional sports utilize too few resources, resources are underprovided, relative to the remainder of the amusement and recreation industry. If society sought to correct this outcome through imposing taxes or providing subsidies, then the amusement and recreation industry other than professional sports should be taxed and/or the professional sports industry should be subsidized. The professional sports industry would prefer the subsidy solution for obvious reasons, and to

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[4] Richard A. and Peggy B. Musgrave, *Public Finance in Theory and Practice* (New York: McGraw-Hill Book Company, 1980), 240.

[5] The vast majority of independent scholarly work on the external economic benefit induced by professional sports supports the hypothesis that professional sports fails to generate little if any additional economic activity. See for example, Roger G. Noll and Andrew Zimbalist, ed., *Sports, Jobs & Taxes* (Washington, D.C.: The Brookings Institution, 1997).

"correct" for the underutilization of resources in the professional sports industry, society has adopted this course of action.

The efficacy of the subsidy solution depends on the responsiveness of the quantity to a decrease in the marginal cost of production or a shift of the monopolist's supply curve to the right. If the monopolist's supply curve is perfectly inelastic, fixed supply, then the supply is invariant with respect to the change in marginal cost, and the society providing the subsidy receives the same amount of the good, the same number of seats, at a higher social cost. In fact, in an odd twist, the subsidies that society does provide for professional sports are often used to replace stadiums that have become economically obsolete. A primary driver for new stadium construction is luxury seating. The pursuit of the special "ambiance" that comes from smaller ballparks (from the producer's point of view, an increase in capacity utilization) in professional baseball at least, has involved replacing seats available to the general public with loges and other luxury accommodations available for an elite audience. The public subsidies provide nothing more in such cases with a convenient means through which the monopolist can price discriminate.

Team revenues will increase with an increase in supply, a shift to the right in a perfectly inelastic supply curve (fixed number of stadium seats), if the price elasticity of demand exceeds one. Even then the team motivated by profit maximization might not have an incentive to increase supply if seats available for sale to the public for individual games substitute for more lucrative luxury seating as noted above. In fact, the modern sports facility in the United States can be thought of as a collection of distinct game-day experiences differentiated by more than sight lines. Revenue sharing arrangements peculiar to the league,[6] capacity constraints defined by the distance of remote seating to the playing surface,[7] and the market for luxury seating all factor into the stadium design and seating capacity. There has been a trend in professional baseball in North America to build smaller stadiums to enhance the ambiance and spectator experience and to eliminate chronic "off-peak" excess capacity.[8]

The point is that imperfections or inefficiencies that exist in the market for professional sports in the abstract have the potential for correction through taxes or subsidies only if certain conditions with regard to demand exist. Even then the rapidly changing financial character of the professional sports industry does not necessarily lend

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[6] Jerry Jones, the owner of the Dallas Cowboys, for example, reportedly extracted individual seats to make room for luxury seating. This redesign of seating in Cowboys Stadium had to do, at least in part, with the NFL revenue sharing arrangement, which exempted revenue from luxury seating but not the seats removed. Through this stadium modification Jones avoided the "40 percent" league tax.

[7] The stadium in which the Chicago White Sox currently play, U.S. Cellular Field, had to be modified given the steepness of the slope in the upper grandstand to try to bring the action on the playing field closer to fans in the upper grandstand. The extreme cantilever was created by placing several stories of skyboxes between the upper and lower grandstand.

[8] As the regular season has lengthened, each regular season game has less incremental value in determining a champion. For teams that fail to compete, large stadiums with small crowds contribute negatively to the fan experience, and discourage future demand. Professional sports teams depend on season ticket holders, repeat customers, to a significant degree, and excess capacity to the extent that it detracts from the excitement of the game, has long-term financial implications for the team.

itself to classic solutions long term. In professional baseball, for example (see Table 2 below), subsidies have been used to reduce supply and raise prices resulting in windfall profits for teams at public expense in some instances. In Tables 1 and 2 below, the seating capacities for old and new stadiums in the NFL and for Major League Baseball (MLB) have been recorded.

Table 1
Seating Capacities for New and Old NFL Stadiums

Present City	Former Stadium Year Built	Seating Capacity	Present Stadium Year Built or Renovated	Present Seating Capacity
St. Louis	1966	60,000	1995	67,000
Atlanta	1965	60,700	1992	71,228
Tampa	1967	74,301	1998	75,000
Green Bay	1957	60,789	2003	71,500
Washington	1961	56,454	1997	80,116
Pontiac	1975	80,311	2002	65,000
Chicago	1924	66,944	2003	61,500
Philadelphia	1971	65,352	2003	66,000
Houston	1965	59,969	2002	69,500
Cleveland	1931	78,512	1999	73,200
Cincinnati	1970	60,389	2000	65,600
Foxboro	1971	60,292	2002	68,000
Seattle	1976	66,403	2002	67,000
Memphis	1965	62,380	1999	68,798
Baltimore	1953	60,020	1998	69,426
Denver	1948	76,273	2001	76,125
Oakland	1966	63,026	1998	63,132
Pittsburgh	1970	59,594	2001	65,000
Buffalo	1973	80,024	1999	73,976
San Diego	1967	59,022	1997	71,500
average		**65,538**		**69,430**

Sources: Robert A. Baade and others, "A Cost-Benefit Analysis of the Hudson Yards Multi-Use Athletic and Exhibition Facility (MUF)," *Mimeograph* (July 2004).
Paul Minsey and Cory Suppes, *Stadiums*, http://football.ballparks.com/.
Stadiums of the NFL: From the Past to the Future,
http://www.stadiumsofnfl.com/afc/QualcommStadium.htm.

Table 2
Seating Capacities for New and Old MLB Stadiums

Present City	Former Stadium Year Built	Seating Capacity	Present Stadium Year Built or Renovated	Present Seating Capacity
Arlington	1972	43,521	1994	49,200
Houston	1965	54,816	2000	40,950
Atlanta	1966	52,013	1997	49,831
San Francisco	1960	57,546	2000	41,503
Chicago	1910	52,000	1991	41,000
Cleveland	1932	74,400	1994	42,865
Milwaukee	1956	53,192	2001	42,400
Seattle	1977	59,100	1999	47,116
Baltimore	1954	54,000	1992	48,876
Denver	1993	76,098	1995	50,445
Cincinnati	1970	40,008	2003	42,059
Pittsburgh	1970	47,952	2001	38,365
Detroit	1912	52,400	2000	40,637
Philadelphia	1971	62,623	2004	43,500
San Diego	1968	47,972	2004	46,000
average		**55,176**		**44,316**

Source: Ballparks of Baseball: The Fields of Major League Baseball, http://www.ballparksofbaseball.com/.

The data arrayed in Tables 1 and 2 indicate that on average the new NFL stadiums have larger seating capacities than those that they replaced, but seating capacities have shrunk for MLB stadiums on average. The reason for that may well be the relative infrequency of NFL games. There is greater interest in each NFL game which translates into high capacity utilization rates in those stadiums compared to MLB where an 81-game home schedule diminishes the importance of individual games all else equal. The contraction of MLB stadiums may well be an attempt to capture the success of the Boston Red Sox at Fenway Park and the Chicago Cubs at Wrigley Field. The capacity utilization rates at present at Fenway and Wrigley are 97.2 and 97.7 percent, respectively.[9] The ambiance and experience of attending a game is enhanced by involved fans in an intimate space, and Fenway and Wrigley offer that kind of experience both inside and outside the ballpark (Yawkey Way in Boston and Wrigleyville in Chicago). The point once again is that it should be expected that a system of taxes and subsidies, a decrease in the marginal costs incurred by teams does not necessarily result in an increase supply of seats for professional sporting events. Indeed, a subsidy may even be used to reduce the number of seats available to the public, and in such instances the subsidy provides a windfall for the team.

A good tax system also should be designed so that it is understandable to the taxpayer.[10] A lack of transparency in the tax code confuses consumers or requires an

[9] David Haugh, "Game's Grande Dames," *Chicago Tribune*, June 12, 2005, 12-13.
[10] Musgrave and Musgrave, *Public Finance in Theory and Practice*, 235.

investment in information or knowledge that may exceed the potential benefits to the individual, but not to the sum of individuals. The information itself where stadium funding is concerned exhibits a public goods character that extends beyond the host community. It would appear credible, for example, at first blush to say that the imposition of a hotel tax in a city hosting a team would pay for a new stadium with nonresident funds. Transient taxes give the impression that residents will be spared the burden of paying, but that is more likely to be true if the city imposing a transient tax is the only city to do so. The reality, however, is quite different as host cities have sought means to raise revenues for sports facilities that minimize public resistance. The sports stadium funding issue in many ways manifests the fallacy of composition. Do taxpayers understand that they may not be shouldering the tax burden in their home community for stadium construction, but on a national level, they are paying for stadiums in part because their home community has attempted to deflect the tax burden and other cities have retaliated by adopting similar policy? It is often the case that a city will justify increases in a nonresident tax by noting that other cities "have done it to us." The inefficiencies potentially associated with professional sports exhibit a national character, at least to some degree. The retaliation noted clearly has national implications. It is important, therefore, to discuss the nature of current sports facilities funding strategies to better fashion methods for eliminating inequities and inefficiencies created through publicly financing sports facilities. In the next section of the paper the nature of strategies for funding sports stadium in major league host cities are identified and discussed.

III. Financing Professional Sports Facilities

It is important to review a history of the funding for professional sports stadiums in the United States. Table 3 provides historical information on the number and cost of stadiums in the U.S. as well as information relating to the public subsidies.

Table 3
Subsidies for Sports Stadiums in the United States
Constructed Between 1887-2002

Period	Number of Stadiums Built	Number of Stadiums Publicly Financed	Cost of Stadiums (In Millions of 1997 Dollars)	Public Subsidies (In Millions of 1997 Dollars)	Percent of Construction Percentage Publicly Financed
1887-1939	27	5	493.64	155.04	31.4
1887-1923	14	0	129.76	0	0
1923-1939	13	5	363.88	155.04	42.6
1947-1959	8	7	163.23	161.51	98.9
1960-1969	25	21	2,601.40	1,720.71	66.1
1970-1979	32	29	4,279.45	3,989.24	93.2
1980-1986	13	13	822.0	764	92.9
1987-1999	55	51	9,488.73	6,220.19	70.6
2000-2002	18	17	4,968.00	3,119.40	62.8
2003-?	15	14	4,726.30	4,270.00	90.4
Total 1887-?	193	157	27,542.75	20,400.09	74.1

Source: Raymond J. Keating, "Sports Pork: The Costly Relationship between Major League Sports and Government," *Policy Analysis*, no. 339 (1999).

The information recorded in Table 3 indicates several noteworthy developments. First, the number of stadiums built in the United States has increased over time. Furthermore, the pace of construction has accelerated with more than half of the stadiums currently in use having been constructed since 1987. In this year, Joe Robbie, the owner of the NFL Miami Dolphins at the time, unable to get approval for public funding for renovating the Orange Bowl in Miami, parlayed revenue from the lease and sale of luxury seating and personal seat licenses (PSLs) into the financing necessary to build his own stadium. The mining of these new sources of revenue by Robbie represents a watershed in stadium economics, and has become a part of the financial blueprint for other stadium projects.

Second, Robbie's financial creativity did not preclude public funding. The evidence recorded in Table 3 suggests that PSLs and luxury seating provided additional revenues for owners rather than substituting dollar for dollar for public funds. While not

all stadiums have been primarily financed with public money during the recent surge in stadium construction in the United States, the vast majority of them have been. Furthermore, the fraction of stadiums receiving some public funding has remained relatively constant since the early 1950s. It should be noted that public subventions take many forms, some of which are difficult to quantify. When stadium infrastructure, land acquisition subsidies, zoning variations, and tax abatements are figured into the subvention equation, every stadium project in the past three or four decades has received some public financial support. The figures in Table 3 do not include billions of dollars in subsidies for tax-free municipal bonds, interest paid on debt, smaller renovations, facilities for which information was not available, lost property and other tax revenues not paid on facilities, taxpayer money risked on failed venues, direct government subsidies paid to teams, and subsidies for minor league facilities.[11]

Third, stadium construction costs are increasing in both nominal and real terms. Escalating construction costs are responsible, at least to some extent, for the increase in the size of stadium subsidies. The public sector in general is contributing absolutely more for stadium construction in both real and nominal terms.

To summarize, the number of stadiums that have been built since 1987 to the present is unprecedented. Approximately 80 percent of the professional sports facilities in the United States will have been replaced or have undergone major renovation during this period of time. The new facilities have cost more than $19 billion in total, and the public has provided $13.6 billion, or 71 percent, of that amount. In few, if any, instances have professional teams in the United States been required to open their books to justify the need for these subsidies. Rather, teams have convinced cities that to remain competitive on the field they have to be competitive financially, and this, teams claim, cannot be achieved without new playing venues.

The trends in NFL stadium financing follow a pattern of innovation and imitation. Painting with the broadest possible strokes and for the purposes of this analysis, the innovation relates primarily to the discovery of new revenue streams spawned in part by actual or threatened changes in tax laws regarding stadium funding. The decline in the public finance percentage noted for 1986 through 2002 can be explained by six developments: (1) the sale or lease of luxury seating, the Joe Robbie innovation previously noted (not a dollar for dollar replacement for public funding – see previous comment); (2) the 1986 Tax Reform Act, which, among other things, terminated industrial development bonds (IDBs) for "sports facilities" (some transition/grandfathering allowed); (3) the sale of "personal seat licenses (PSLs)" by the

[11] It should be noted that the use of tax exempt bonds for playing facilities has been tightened over time, and there have been recent attempts to limit their use completely as discussed below. Other tax related issues regarding NFL stadium financing have surfaced, e.g., the tax-exempt status of loans from the NFL to individual teams, and congressional representatives from both political parties such as Senator Arlen Specter (R-Pa) and Representative Barney Frank (D-Mass) have expressed concern about the financial windfall for the NFL as a consequence of the favorable tax treatment extended the IRS in its stadium loan program to individual teams.

Carolina Panthers in 1993;[12] (4) the St. Louis Rams use of a government agency to sell PSLs, which avoided a significant tax burden assumed by the Carolina Panthers in their sale of PSLs in 1993;[13] (5) the release of final regulations by the federal government on private activity bonds on January 10, 1997; and (6) the attempt by the late Senator Daniel Patrick Moynihan to reintroduce legislation to eliminate the use of tax-exempt financing for professional sports facilities.[14] The "Moynihan Bill" apparently died in committee, but it sent a strong signal to professional sports leagues that public sentiment against the use of tax-exempt financing for their private gain was strengthening.

These six developments arguably have contributed to a discernible change in strategies and methods for financing professional sports facilities. Before identifying and discussing the change in strategies, it would be useful to list the public sector funding sources for stadium financing in recent times. They include: (1) sales taxes; (2) hotel/motel taxes; (3) car rental taxes; (4) general revenue bonds; (5) tax increment financing (TIF); (6) lottery funds; (7) ticket surcharges; (8) parking revenues; (9) sin taxes; (10) revenues, surplus and otherwise, from other government agencies or funds such as the $13.5 million of construction fund investment income used to fund the stadium for the Cincinnati Bengals;[15] and (11) sale of assets owned by the government, e.g., to help fund the stadium for the Detroit Lions, Wayne County sold $20 million worth of "surplus land."[16] In Table 4 below information to the extent it is available is provided on the mixed use of these 12 revenue sources for funding stadiums.

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[12] Josh Peter, "Building NFL Fortunes," *The Dallas Morning News*, 2002, http://apse.dallasnews.com/contest/2002/writing/over250/over250.enterprise.fourth1.html.

[13] Ibid.

[14] Martin J. Greenberg, *The Stadium Game*, 2nd ed. (Milwaukee, Wisconsin: Marquette University Press, 2000), 170. Mr. Greenberg provides more detailed information in his "Exhibit D: Development of Tax Law Principles Relating to Sports Facility Bonds," pp. 170-171 of his text.

[15] Horrow Sports Ventures, "Representative NFL Stadium Public/Private Partnerships," September 12, 2002, http://www.sandiego.gov/chargersissues/pdf/horrow.pdf.

[16] Ibid.

Table 4
Information Regarding Sources of Funds for Stadium Construction

City/Statistics	Year Built	public contribution (%)	Sales Tax	Hotel/ Motel Tax	Car Rental Tax	Ticket Surcharge	"Sin" Tax	PSL	General Funds	Referendums	Lottery
Atlanta	1992	100.00		yes (2.75%)						no	
Carolina	1995	22.92						**yes**[a]		no	
Jacksonville	1995	90.68	yes	yes		yes			yes	no	
St. Louis	1995	100.00		yes (2.5%)					Yes ($257 mill)	no	
Washington	1997	27.03								no	
Baltimore	1998	89.29								no	yes
Oakland	1998	100.00						yes[b]		no	
Tampa Bay	1998	91.07	yes (.5%)							yes	
Buffalo	1999	100.00							yes	no	
Cleveland	1999	70.67		yes	yes	yes (2%)	yes	**yes**		yes	
Tennessee	1999	75.34		yes				**yes ($72 mill)**		yes	
Cincinnati	2000	94.44	yes (.5%)			**yes**		**yes ($25 mill)**		yes	
Denver	2001	62.16	yes							yes	
Pittsburgh	2001	58.97				yes ($14 mill)		**yes ($42 mill)**		no	
Detroit	2002	26.54		yes (1%)	yes (2%)					yes	
Houston	2002	72.88		yes	yes	**yes**	yes	**yes**		yes	
New England	2002	17.24								no	
Seattle	2002	63.66	yes	yes (2%)		yes (10%)		**yes ($17 mill)**		yes	yes
Chicago	2003	66.10		yes (2%)				**yes ($60 mill)**		no	
Green Bay	2003	57.28	yes (.5%)			yes ($92.5M 1 time charge)				yes	
Philadelphia	2003	36.38								no	
Arizona	2006	66.18		yes (1%)	yes ($3.50)					yes	

Sources: (1) Horrow Sports Ventures, "Representative NFL Stadium Public/Private Partnerships," September 12, 2002, http://www.sandiego.gov/chargersissues/pdf/horrow.pdf. It should be noted that the information contained in Table 2 differs from Table 1. This may be due to whether items such as ticket surcharges, parking revenues, naming rights, and PSLs are counted as public or private funding. (2) Robert A. Baade and others, "A Cost-Benefit Analysis of the Hudson Yards Multi-Use Athletic and Exhibition Facility (MUF)," *Mimeograph* (July 2004). (3) Atlanta stadium construction date from Citizens Union Foundation, *Football Stadiums*, http://gothamgazette.com/stadiums/. (4) Arizona stadium construction date from Arizona Sports and Tourism Authority, *Cardinals Stadium Construction Update*, http://www.az-tsa.com/cardinals/update.html.

[a] PSLs/ticket surcharges that are represented in bold and underlined qualify as private financing, or, in other words, represent team contributions for financing stadium construction.
[b] PSLs/ticket surcharges that are not underlined or emboldened represent public financial contributions. Only one such PSL is represented as public in this table.

The information recorded in Table 4 indicates at least five things worth noting. First, the numbers indicate that sales taxes and car rental taxes are being used with increasing frequency. In fact, compared to the period 1992 and 1999, the number of cities using sales taxes and car rental taxes from 2000 to the present to fund stadiums has doubled and tripled, respectively, albeit the incidence of their use is still relatively small. Second, hotel taxes continue to be popular in stadium financing with almost half of the sports facilities projects using hotel taxes. Third, there have been no general funds used to back stadium projects since 1999, but that could change with the stadium proposed for the New York Jets in West Manhattan.[17] The size of the Jets' project and public subsidy, currently reported at $600 million could necessitate the use of general funds. Fourth, ticket surcharges of one form or another, one-time fee (Green Bay) or taxes imposed with each ticket sale (Cleveland), are being used with increasing frequency. Ticket surcharges were imposed twice in the period 1992 to 1999 in the NFL, but were employed on five stadium projects during the period 2000 to the present. Fifth, during the period 1992 through 1999, only two of the eleven stadium projects were subjected to a referendum. Between 2000 and 2006 eight of the eleven stadium projects identified in Table 2 were decided through a referendum.

In summarizing these results, nine of the possible forty-four cells for sales, hotel, car-rental, and sin taxes for NFL stadium construction were filled in the eight-year period, 1992 through 1999. If Cleveland is excluded only six of those cells contained an observation. Thirteen of these forty-four cells, by contrast, were filled in the 2000 through 2006 period. If ticket surcharges are included in the analysis, then eleven of the fifty-five cells (seven of the fifty-five if Cleveland is excluded) were filled during the 1992 through 1999 period in contrast to eighteen of the fifty-five cells during the 2000 through 2006 period.

Taken together these developments suggest a hypothesis. To wit, the evidence arguably suggests that residents of NFL host cities have increasingly resisted the use of their tax money to fund the construction of new stadiums. It could be that the increasing

[17] General funds have been used to fund stadiums since 1992 on only three occasions, and in all thee instances it may be more an indication of an inordinately compliant host or potential host city. When Buffalo devoted a relatively small amount of funds to the renovation of Ralph Wilson Stadium, it may have been at least in part because Buffalo is a very small NFL city. Cleveland provided currency for NFL threats to relocate teams from those cities that are reluctant to finance new facilities. Prior to Buffalo only St. Louis and Jacksonville in 1995 used general funds in NFL stadium projects. St. Louis was desperate to replace the Cardinals after they relocated to Phoenix, Arizona, and Jacksonville, a small market by NFL standards, may have felt the use of general funds was a necessary expedient to secure the financing they needed to renovate the "Gator Bowl" to attract the NFL. Concerning the proposed new stadium for the New York Jets, during the first week of June the decision was made not to fund it. The amount of the public subsidy was a major hurdle the Jets were not able to negotiate. The stadium proposals currently being advanced by the MLB New York Mets and Yankees together involve a public contribution less than that initially proposed for the Jets.

number of stadium referendums coupled with the rejection of the use of general funds to finance venue construction indicates growing taxpayer antipathy. Furthermore, as indicated earlier in the paper, it has become more difficult for teams to get tax-exempt financing directly to finance stadium projects. The NFL and host cities have had to find ways to fund their stadium projects using financing techniques and strategies that are more tolerable for taxpayers. Transient and car-rental taxes create the impression that outsiders will shoulder the financial burden related to stadium construction. Sales taxes are generally imposed in amounts that create the impression that the financial burden imposed on individual taxpayers is insignificant. Sin taxes are imposed more frequently because it appears to be the case that society is more inclined to tax those whose behaviors are perceived to be a social burden. Ticket surcharges are approved arguably because at least one group that clearly derives benefit from a public subsidy pays.

The manner in which the NFL has addressed the increased difficulty of getting tax-exempt financing for stadiums is worth considering at some length, because it provides a good example of the modification in league financial strategies as a consequence of legislative pressures. Lack of access to tax exempt bonds for sports facilities can break a project through a substantial increase in the cost of debt service. The NFL has aggressively supported a stadium construction binge, and one aspect of that support has been to find an end-around play to replace tax exemptions for stadium construction bonds. The G-3 loan program has proved the perfect counter to what the NFL has considered overzealous play on the part of government in limiting the use of tax-free municipal bonds. The NFL program, perhaps not coincidentally, was used first in 1999,[18] the year the final version of the Moynihan bill appeared. Moynihan's bill explicitly proposed eliminating tax-exempt financing for professional sports stadiums and arenas.

The G-3 program is the initiative through which the league office lends money to teams seeking to construct a stadium. The funds teams secure from the NFL G-3 program are characterized as private financing in representing the mix of private/public funds, and increase the team's advertised contribution to the stadium construction project. This, of course, helps secure public funding because it appears that the team is doing its part to build the new facility. Is the G-3 program truly private in character? A review of the mechanics relating to the lending program reveals a distinct public aspect.

To qualify for a G-3 loan, the NFL requires that a "public/private partnership" to finance the stadium be in place.[19] If approved for the loan, the League will lend the team up to $150 million for the project in large markets and up to $100 million in smaller markets.[20] The NFL is able to borrow money from banks at very low-interest rates given the League's financial stature, and the NFL loans the money to individual teams at a rate slightly above the amount at which it secures the loan. The NFL, for example, recently

[18] Josh Peter, "Building NFL Fortunes," *The Dallas Morning News*, 2002, http://apse.dallasnews.com/contest/2002/writing/over250/over250.enterprise.fourth1.html.
[19] Josh Peter ,"Bank of NFL; Sure, if NFL Teams can secure taxpayer money," *The Dallas Morning News*, 2002, http://apse.dallasnews.com/contest/2002/writing/over250/over250.enterprise.fourth2.html.
[20] Ibid.

loaned the Seattle Seahawks $63 million at a 3.5 percent rate.[21] Since the League qualifies as a not-for-profit entity, it is eligible for a tax-exemption for the money it borrows.[22] Indirectly, therefore, the individual teams receive loans at tax-exempt rates.[23] The low rates at which teams borrow have implications for taxes at the federal level. The League's actions relating to G-3 loans serve to reduce its tax burden, which has to be compensated for by higher taxes elsewhere. Furthermore, the presence of this strategy effectively provides an incentive to increase the number of stadiums provided, and given the G-3 subsidy, too many resources are devoted to stadium production. The NFL loan program to individual teams, therefore, induces economic inefficiencies.

Taxpayer resistance has increased arguably due to the perception that residents of a community, particularly those of modest means and not ardent sports fans, should not be taxed to enhance the financial privilege of owners, players, and wealthy fans who can afford to attend games. The evidence supports the view that NFL owners and players have been the financial beneficiaries of public largesse in the past. The information in Tables 5 and 6 corroborate this assertion.

[21] Rick Anderson, "After Further Review," *Seattle Weekly*, February 12-18, 2003, http://www.seattleweekly.com/features/0307/anderson2.php.
[22] Josh Peter, "Building NFL Fortunes," *The Dallas Morning News*, 2002, http://apse.dallasnews.com/contest/2002/writing/over250/over250.enterprise.fourth1.html.
[23] See for example, Josh Peter , "Critics question league's tax-exempt activities, "*The Dallas Morning News*, 2002, http://apse.dallasnews.com/contest/2002/writing/over250/over250.enterprise.fourth3.html. It should be noted that the NFL's G-3 policy and its implications have been noted by congress, and steps may be taken to thwart the NFL's clever scheme to circumvent legislation designed to prevent the tax-exempt financing of stadiums.

Table 5
NFL Franchise Values Before and After Stadium Construction

	Team	year built (t)	value for t-2 ($M)	value for t-1 ($M)	value for year t ($M)	value for t+1 ($M)	value for t+2 ($M)	t-2 value as a % of year t value	t-1value as a % of year t value	t+1value as a % of year t value	t+2 value as a % of year t value
1	Washington Redskins	1997	151	184	200	403	607	75.5%	92.0%	201.5%	303.5%
2	Dallas Cowboys										
3	Houston Texans	2002									
4	New England Patriots	2002	464	524	571	756	861	81.3%	91.8%	132.4%	150.8%
5	Cleveland Browns	1999									
6	Denver Broncos	2001	427	471	540	604	683	79.1%	87.2%	111.9%	126.5%
7	Tampa Bay Buccaneers	1998	164	187	346	502	532	47.4%	54.0%	145.1%	153.8%
8	Baltimore Ravens	1998	201	235	329	408	479	61.1%	71.4%	124.0%	145.6%
9	Carolina Panthers	1995									
10	Miami Dolphins										
11	Detroit Lions	2002	378	423	509	635	747	74.3%	83.1%	124.8%	146.8%
12	Chicago Bears	2003	362	540	621	785		58.3%	87.0%	126.4%	
13	Tennessee Titans	1999	193	322	369	506	536	52.3%	87.3%	137.1%	145.3%
14	Philadelphia Eagles	2003	405	518	617	833		65.6%	84.0%	135.0%	
15	Seattle Seahawks	2002	407	440	534	610	712	76.2%	82.4%	114.2%	133.3%
16	Green Bay Packers	2003	392	474	609	756		64.4%	77.8%	124.1%	
17	Pittsburgh Steelers	2001	397	414	468	557	608	84.8%	88.5%	119.0%	129.9%
18	St. Louis Rams	1995									
19	Kansas City Chiefs										
20	New Orleans Saints										
21	Oakland Raiders	1998	162	210	235	299	315	68.9%	89.4%	127.2%	134.0%
22	New York Giants										
23	Jacksonville Jaguars	1995									
24	San Francisco 49ers										
25	New York Jets										
26	Buffalo Bills	1999	200	252	326	365	393	61.3%	77.3%	112.0%	120.6%
27	Cincinnati Bengals	2000	311	394	423	479	507	73.5%	93.1%	113.2%	119.9%
28	San Diego Chargers	1997	153	169	191	248	323	80.1%	88.5%	129.8%	169.1%
29	Indianapolis Colts										
30	Minnesota Vikings										
31	Atlanta Falcons	1992									
32	Arizona Cardinals	2006									
	average		297.938	359.813	430.5	546.625	561.7692	**69%**	**84%**	**127%**	**130%**

Sources: Robert A. Baade and others, "A Cost-Benefit Analysis of the Hudson Yards Multi-Use Athletic and Exhibition Facility (MUF)," *Mimeograph* (July 2004).
Horrow Sports Ventures, "Representative NFL Stadium Public/Private Partnerships," September 12, 2002, http://www.sandiego.gov/chargersissues/pdf/horrow.pdf.
Martin J. Greenberg, *The Stadium Game*, 2nd ed. (Milwaukee, Wisconsin: Marquette University Press, 2000), 46.
Citizens Union Foundation,. *Football Stadiums*, http://gothamgazette.com/stadiums/.
Arizona Sports and Tourism Authority, *Cardinals Stadium Construction Update*, http://www.az-tsa.com/cardinals/update.html.

"Team Valuations 1998 to 2004," *Forbes*, 2004, http://www.forbes.com/finance/lists/30/2004/LIR.jhtml?passListId=30&passYear=2004&passListType=Misc&uniqueId=308211&datatype=Misc.

The statistics recorded in Table 5 indicate that on the basis of a weighted average of team revenues stadiums increase franchise values by 52 percent from the year before a new stadium is built to the year after. In addition all stadiums do enhance franchise values by a substantial amount following the construction of the stadium.[24] Increased revenues are responsible for the capital appreciation, but it is interesting that in some cases, the Washington Redskins, for example, the entire appreciation cannot be explained by the return to the stadium asset.[25] In some instances there appears to be a magnification effect. The numbers arrayed in Table 5 echo conclusions reached during the Oakland Raiders trial when the NFL books were opened during the course of litigation. Quoting from a story that appeared in latimes.com, the authors wrote:

> Confidential National Football League financial documents, never before seen in full detail even by the 31 teams in the league, reveal a robust enterprise that gets more so each year as team after team moves into new or renovated stadiums, many paid for by taxpayers.[26]

[24] A word of caution with regard to the calculations is in order. The 52 percent figure is derived by dividing the average franchise value for t+1 by the franchise value for t-1 ($546.625 million/$359.813 = 1.52 or 152%). If the average is calculated by summing the information in the percentage columns and dividing by the number of new or renovated stadiums, then each observation is valued equally in the percentage columns and not weighted in a way that is implicit in an average calculation derived from the data in the rows for individual teams. Individual team data is expressed using dollars as the dimension. Percentages are without dimension. Incidentally, the most recent data available indicates that the Washington Redskins are the most valuable team in the NFL at $1.104 billion as of 2004.

[25] The Redskins reported a second-place league profit of $32.4 million in 1999 (See Alan Abrahamson and Sam Farmer, "NFL Ledgers Reveal Profits Depend on New Stadiums," http://www.latimes.com/sports/updates2/lat_nfl0105.htm.). The discounted present value of that sum over a thirty-year stadium contract is far less than $1.104 billion, the reported value according to *Forbes Magazine* of the Redskins franchise value in 2004.

[26] Alan Abrahamson and Sam Farmer, "NFL Ledgers Reveal Profits Depend on New Stadiums," http://www.latimes.com/sports/updates2/lat_nfl0105.htm.

Table 6
NFL Team Payroll Before and After Stadium Construction

Team	year built (t)	team payroll for t-2	team payroll for t-1	team payroll for t	team payroll for t+1	team payroll for t+2	t-2 payroll as a % of year t payroll	t-1 payroll as a % of year t payroll	t+1 payroll as a % of year t payroll	t+2 payroll as a % of year t payroll
Arizona	2006									
Atlanta	1992									
Baltimore	1998	$38,938,400	$44,079,000	$53,770,300	$64,956,900	$54,811,100	72.4%	82.0%	120.8%	101.9%
Buffalo	1999	$39,669,600	$66,426,000	$70,807,400	$54,612,000	$51,602,563	56.0%	93.8%	77.1%	72.9%
Carolina	1995									
Chicago	2003	$76,479,893	$71,853,262	$82,803,517	$81,361,350		92.4%	86.8%	98.3%	
Cincinnati	2000	$63,754,600	$59,950,700	$54,171,200	$81,989,628	$57,867,603	117.7%	110.7%	151.4%	106.8%
Cleveland	1999									
Dallas										
Denver	2001	$62,717,400	$50,239,400	$102,582,620	$62,563,073	$64,826,919	61.1%	49.0%	61.0%	63.2%
Detroit	2002	$54,635,200	$76,573,454	$64,329,265	$77,662,097	$81,130,917	84.9%	119.0%	120.7%	126.1%
Green Bay	2003	$68,979,435	$49,980,056	$77,230,121	$83,016,450		89.3%	64.7%	107.5%	
Houston	2002									
Indianapolis										
Jacksonville	1995									
Kansas City										
Miami										
Minnesota										
New England	2002	$51,344,300	$65,793,825	$46,194,915	$82,128,250	$71,548,750	111.1%	142.4%	177.8%	154.9%
New Orleans										
New York Giants										
New York Jets										
Oakland	1998	$48,933,600	$45,695,500	$58,389,500	$64,384,800	$49,143,700	83.8%	78.3%	110.3%	84.2%
Philadelphia	2003	$70,893,988	$81,929,630	$77,436,900	$84,468,880		91.6%	105.8%	109.1%	
Pittsburgh	2001	$65,902,700	$58,464,200	$77,711,029	$85,283,461	$63,571,735	84.8%	75.2%	109.7%	81.8%
San Diego	1997	$35,497,800	$43,173,600	$42,986,300	$71,264,400	$50,648,600	82.6%	100.4%	165.8%	117.8%
San Francisco										
Seattle	2002	$47,802,600	$81,034,664	$58,320,758	$84,227,732	$86,926,500	82.0%	138.9%	144.4%	149.0%
St. Louis	1995									
Tampa Bay	1998	$44,891,800	$49,563,300	$56,104,800	$58,256,100	$58,054,900	80.0%	88.3%	103.8%	103.5%
Tennessee	1999	$38,439,000	$64,305,000	$64,712,200	$55,487,200	$70,126,673	59.4%	99.4%	85.7%	108.4%
Washington	1997	$46,752,400	$36,031,000	$43,953,200	$66,664,600	$52,956,800	106.4%	82.0%	151.7%	120.5%
average		$53,477,045	$59,068,287	$64,469,002	$72,395,433	$62,555,135	**83%**	**92%**	**112%**	**97%**

Sources: Robert A. Baade and others, "A Cost-Benefit Analysis of the Hudson Yards Multi-Use Athletic and Exhibition Facility (MUF)," *Mimeograph* (July 2004).
Citizens Union Foundation, *Football Stadiums*, http://gothamgazette.com/stadiums/.
Arizona Sports and Tourism Authority, *Cardinals Stadium Construction Update*, http://www.az-tsa.com/cardinals/update.html.
Rodney Fort, "National Football League Payroll,"
http://users.pullman.com/rodfort/PHSportsEcon/Common/OtherData/NFLPayroll/NFLPayrollindex.xls.

New stadiums resulted in increased payrolls for most teams in the NFL, but not all. In six of the sixteen cases of new or renovated stadiums in the NFL identified in Table 6, payrolls actually decreased when play began in the new facility. The fact that the evidence indicates that two years prior to the new stadium (t-2) three teams exhibited a payroll above that for the year the new or renovated stadium was built suggests that payrolls may have been increased the year before in anticipation of new stadium revenues. These results are all the more surprising in light of the fact that the national broadcast money, the most important source of revenue in the NFL, has steadily increased. One would expect an upward trend in payrolls for all NFL teams for each year if for no other reason than the increase in broadcast revenues. That makes the decline in payrolls for the year in which a new stadium appears all the more unanticipated. The evidence, however, on the whole indicates that player salaries positively correlate with new or renovated stadiums as would be expected.

New stadiums boost revenues in the NFL through selling more seats and through the sale or lease of luxury seating. It should not be too surprising that the average weighted ticket price in the NFL increased following the introduction of a new or renovated stadium. As the information in Table 7 below makes clear in only two cases, did weighted average ticket prices fall with the appearance of a new NFL facility. On average ticket prices the year before the new stadium were only 77 percent of what they averaged the year the new stadium was brought into play. It is interesting, however, that ticket prices have remained stable, even declined a bit on average for teams the year after and two years after the new stadium was introduced.

Table 7
NFL Ticket Price Before and After Stadium Construction

Team	year built	ticket price for year t-2	ticket price for year t-1	ticket price for year t	ticket price for year t+1	ticket price for year t+2	t-2 ticket price as a % of year t ticket price	t-1 ticket price as a % of year t ticket price	t+1 ticket price as a % of year t ticket price	t+2 ticket price as a % of year t ticket price
Atlanta	1992									
Baltimore	1998	$35.68	$37.44	$42.93	$42.75	$42.75	83.11%	87.21%	99.58%	99.58%
Buffalo	1999	$35.58	$35.58	$40.89	$46.06	$46.06	87.01%	87.01%	112.64%	112.64%
Carolina	1995									
Chicago	2003	$42.70	$51.42	$65.00	$65.56		65.69%	79.11%	100.86%	
Cincinnati	2000	$37.77	$37.77	$56.21	$56.21	$47.31	67.19%	67.19%	100.00%	84.17%
Cleveland	1999									
Dallas										
Denver	2001	$46.40	$46.40	$77.41	$52.50	$57.28	59.94%	59.94%	67.82%	74.00%
Detroit	2002	$39.05	$39.05	$50.23	$53.91	$56.63	77.74%	77.74%	107.33%	112.74%
Green Bay	2003	$53.51	$50.73	$54.40	$54.40		98.36%	93.25%	100.00%	
Houston	2002									
Indianapolis										
Jacksonville	1995									
Kansas City										
LA Raiders										
LA Rams										
Miami										
Minnesota										
New England	2002	$47.77	$47.77	$76.19	$75.33	$75.33	62.70%	62.70%	98.87%	98.87%
New Orleans										
NY Giants										
NY Jets										
Oakland Raiders	1998	$51.41	$52.84	$52.84	$51.68	$51.74	97.29%	100.00%	97.80%	97.92%
Philadelphia	2003	$46.19	$46.19	$64.00	$61.91		72.17%	72.17%	96.73%	
Phoenix										
Pittsburg	2001	$40.76	$40.76	$62.03	$49.83	$54.55	65.71%	65.71%	80.33%	87.94%
San Diego	1997	$37.96	$38.96	$53.87	$53.87	$53.87	70.47%	72.32%	100.00%	100.00%
San Francisco										
Seattle	2002	$44.21	$44.97	$43.28	$43.06	$42.80	102.15%	103.90%	99.49%	98.89%
St. Louis	1995									
Tampa Bay	1998	$33.06	$35.46	$64.58	$64.65	$67.49	51.19%	54.91%	100.11%	104.51%
Tennessee	1999	$40.75	$45.11	$55.63	$59.33	$60.94	73.25%	81.09%	106.65%	109.55%
Washington	1997	$35.70	$35.69	$52.92	$62.07	$62.07	67.46%	67.44%	117.29%	117.29%
average		$41.78	$42.88	$57.03	$55.82	$55.29	**73%**	**75%**	**98%**	**97%**

Sources: Robert A. Baade and others, "A Cost-Benefit Analysis of the Hudson Yards Multi-Use Athletic and Exhibition Facility (MUF)," *Mimeograph* (July 2004).
Citizens Union Foundation, *Football Stadiums*, http://gothamgazette.com/stadiums/.
Arizona Sports and Tourism Authority, *Cardinals Stadium Construction Update*, http://www.az-tsa.com/cardinals/update.html.

Rodney Fort, "National Football League Ticket Prices," http://users.pullman.com/rodfort/PHSportsEcon/Common/OtherData/NFLTicketPrice/NFLWATicketIndex.xls.

In the next section of the paper, the most current funding strategies used by the NFL are evaluated based on equity, efficiency, and transparency.

III. An Evaluation of Current NFL Funding Proposals

A good tax system exhibits three characteristics: equity, efficiency, and transparency. In this section of the paper, the methods for funding stadiums are evaluated based on these criteria. The primary implication of Tables 5, 6, and 7 is that players, fans, and especially owners have benefited from new stadiums. The evidence recorded in Table 3, in particular, indicates that taxpayers have shouldered the majority of the financial burden. Taxpayer resistance has shown signs of galvanizing, and stadium-tax strategies reflect that fact. Transient taxes, car-rental taxes, sin taxes, and small, incremental changes in sales taxes have become more popular precisely because stadium subsidy proponents recognize the need to placate taxpayers. Transient and car rental taxes give the impression that people outside the community will fund stadium projects. Sin taxes do not find ardent opponents, in part, arguably because smoking, drinking, and gambling are perceived as socially undesirable and problematic behaviors. Sales taxes are often imposed in multi county areas in small increments precisely because the individual incremental tax burdens will be too small to encourage active resistance. In the case of small increases in sales taxes, the professional sports industry has capitalized on the idea that it is important to be economically unimportant.

The taxes identified in the previous paragraph that are growing in popularity in funding stadiums generally fail any reasonable test of equity. Transient and car rental taxes, which ostensibly deflect the tax burden from residents to nonresidents, have no equitable basis for at least two reasons. First, there is no reason to expect that those who rent cars or hotels are sports fans. Second, it is not always the case that individuals who rent hotel rooms or cars are nonresidents. Many car rentals originate locally as a consequence of automobile accidents. What is there to suggest that those who experience auto accidents are sports fans? Furthermore, since the use of car rental taxes by one community inspire retaliatory use by others, a redistribution of tax burdens for those who travel, particularly those who travel frequently, results. If Chicago taxes hotel rooms used by Phoenix citizens to build a stadium, and Phoenix increases hotel taxes to fund their stadium in retaliation, citizens of Phoenix and Chicago pay for stadiums as a consequence of the tax changes. It is just that they pay for stadiums built in another community rather than in their home community. It is even less likely that a resident of Chicago will derive benefit from the stadium in Phoenix and vice versa.

Sin taxes and sales taxes similarly by their nature provide no reason to think that those who buy products or services, especially "sinful" products, are sports fans. Sales taxes impose on residents of a multi-county area contiguous to the county, in which the

stadium is located, has the "virtue" of being small. The smaller the tax burden imposed on any one person, the less inequitable is the tax used to fund stadiums in an absolute sense. Fairness as a principle, however, is clearly violated when a sales tax is imposed on a multi county area to fund a stadium in a neighboring county. Indeed, as you move further away from the home county, fan loyalty likely wanes. To the extent that people from neighboring counties attend games, counties may actually be subsidizing the relocation of amusement and recreation spending toward the team's home community.

Ticket surcharges and PSLs were also mentioned as a funding source growing in popularity, and a financial burden is imposed on those who attend games. For those types of taxes, the teams are tapping some of the consumer (fan) surplus, and fans pay for the benefit they derive from a new or renovated stadium.

Efficiency can be analyzed through considering the extent to which the profit-maximizing motivation of the firm(s) induces a market outcome from that which would occur in a perfectly competitive situation. The NFL is an unregulated national monopoly, and individual teams are unregulated local monopolies. The NFL has systematically constrained the supply of teams to maintain an excess demand for franchises. In such a case, the marginal social benefit characteristic of the last team exceeds the marginal social cost, and to maximize social well being, society wants teams in an amount such that marginal social benefit and cost for the last team are equal. One solution to this problem is to encourage the monopolist to supply more at a lower price through a public subsidy. Locally that could mean an increase in the number of seats available to the public at lower prices, i.e., larger stadiums. The public subsidies that have been provided for professional sports teams have not always been used to expand seating, but have in the case of MLB actually resulted in smaller stadiums at higher prices. While the NFL has expanded the size of their stadiums in general, prices on average have gone up. The price increases are attributable, at least in part, to the sale of luxury seating, but should the public be asked to subsidize the construction of stadiums that increasingly exclude citizens who pay for the facility. On efficiency grounds the funding proposals currently in place do not generally pass an efficiency test.

The current methods for funding stadiums are anything but transparent. Indeed the emphasis appears to be on trying to make the funding schemes as obscure, trivial, and inconsequential to taxpayers as possible. It is appropriate to describe the nonresident taxes to fund stadiums as a national shell game in which citizens of each host city are duped into believing that the tax burden for sports facilities can be deflected to citizens elsewhere in the country. This proposition crucially depends on the fact that other cities do not adopt a similar strategy. To ascertain the tax burden imposed on anyone with the widespread adoption of transient and car rental taxes is a monumental undertaking, and the difficulty of completing such a study serves the interests of those supporting stadium subsidies through ostensible nonresident funding.

The G-3 NFL loan program also benefits from the difficulty of tracing its public character. The fact the League functions as a not-for-profit entity allows in an indirect way the maintenance of tax-exempt financing for stadiums despite all the legislation

designed to eliminate it. Ironically, and disingenuously, in describing the nature of the public-private partnerships in funding stadiums, the NFL loan under the auspices of G-3 is represented as a portion of the private contribution.

In summary, on equity, efficiency, and transparency grounds, the strategies currently employed in the funding of NFL stadiums fail.

IV. Conclusions and Policy Implications

This purpose of this paper was to analyze the evolution of public financing for building or renovating stadiums used by the NFL, and to analyze the funding mechanisms based on equity, efficiency, and transparency criteria. Various forces have conspired to fashion a movement toward methods for financing stadiums that appear to deflect the tax burden to nonresidents, make the individual burden sufficiently small so as to minimize tax resistance through maximizing taxpayer apathy, and obscure the financing method so that taxpayers have a difficult time determining how the stadium project will affect their tax status overall.

While the increased use of PSLs and ticket tax surcharges should be applauded as equitable methods for funding NFL stadium projects, the other funding methods that are gaining prominence are not equitable, efficient, or transparent. Subsidies for NFL teams appear to have led to an expansion of NFL seating capacities, but ticket prices have not fallen. The increase in the weighted average ticket price may be attributed, at least in part, to the increase in very expensive luxury seating and other luxury amenities at state-of-the-art NFL stadiums. Equity principles are clearly violated if public money is used to build stadiums that exclude an increasing number of those who provide the subsidy.

The major policy implication is that cities cannot act alone to compel the design of stadium subsidies that are more equitable, efficient, and transparent. The current funding outcome is in large part due to the asymmetry at the bargaining table between the NFL and government. As long as the NFL maintains an excess demand for teams, it can play one city off against the other, use in effect a “prisoner’s dilemma” to their advantage, to fashion a stadium funding package that maximizes the well being of the team and league at the expense of the public. Since the league is using national market conditions to create a strategy that maximizes the interest of local teams, cities must develop their own collective or “League of Cities” to countermand the NFL’s power. When cities recognize and implement policies based on their shared interests, then subsidies for professional sports will no longer be needed. The reality is that subsidies for each team ultimately maintain the status quo with regard to team financial standings, and only serve to enhance the absolute wealth of the individual teams and the league. Even if value added taxes of 100 percent are

imposed at the new stadiums for each event hosted there, the impact of the combined subsidy/tax will not be equitable or efficient unless the tax revenues are returned in some form in the exact amounts to those who provided funds for stadium construction. That cannot be done without incurring administrative costs. Once the subsidy is provided there will be deadweight losses in any event. The only policy is not to provide the subsidies in the first place, and that can be accomplished only if cities recognize their shared interests and act on them in relating to the NFL and other professional sports leagues.

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