

PUBLIC FUNDING OF PROFESSIONAL SPORTS STADIUMS:

PUBLIC CHOICE OR CIVIC PRIDE?

Peter A. Groothuis

Appalachian State University

Bruce K. Johnson

Centre College

and

John C. Whitehead

Appalachian State University

INTRODUCTION

“Public funding for an arena is essential. If funding isn’t found I might have to sell the team to somebody who might move it.” —Mario Lemieux [Pittsburgh Post-Gazette, 2001]

In 1950, most professional sports teams in the United States played in privately financed and owned buildings. Over the past half-century, teams increasingly came to play in buildings heavily subsidized or entirely financed by tax revenues, a trend that has intensified in the last decade. Between 1990 and 1998, 46 stadiums and arenas were built or substantially renovated for teams in the four major league sports. At the end of 1999, an additional 49 sports buildings were under construction or in the planning stages. About two-thirds of the \$21.7 billion spent on these 95 buildings will have come from government sources by the time construction is complete [Siegfried and Zimbalist, 2000, 95].

This paper attempts to answer the question of why state and local governments subsidize stadiums and arenas for professional sports teams. We explore two hypotheses, the civic pride/nonuse benefit hypothesis and the public choice/use benefit hypothesis, by analyzing survey data on support for Pittsburgh’s decision to replace multi-purpose Three Rivers Stadium with separate stadiums for baseball and football. We also examine contingent valuation method (CVM) data to address the public’s willingness to pay taxes to keep a hockey team in Pittsburgh. In general, Pittsburgh provides an excellent case study because the Pirates baseball team, the Steelers football team,

Peter A. Groothuis: Department of Economics, Appalachian State University, Boone, North Carolina 28607. E-mail: groothuispa@appstate.edu.

and the Penguins hockey team have been long-time fixtures in Pittsburgh. Each has won national championships and both the baseball and hockey teams have threatened to leave the city.

Governments usually justify stadium subsidies with efficiency claims that sports generate large positive externalities for their communities. Subsidies internalize the externalities and can attract or keep a team that would otherwise not stay in a city. Teams allegedly generate two types of external benefits. First, they supposedly increase an area's aggregate income by generating increased spending on lodging, meals, and other travel and entertainment that takes place outside the stadium or arena, and will not accrue to the team or building owners. But numerous studies show that stadiums and professional sports fail to increase income. Some studies even find a negative impact on income. Coates and Humphreys [1999] estimate that the construction of a new baseball stadium reduces a city's per capita income by \$10, while a new basketball arena lowers per capita income by \$73. Baade and Sanderson [1997, 105] find that a city's share of its state's employment in leisure and recreation may fall with the addition of a team or new stadium.

The second type of externality allegedly generated by a sports team is civic pride—a nonuse benefit. Without ever paying the team, people can cheer for it, read about it in newspapers and magazines, and brag about it to out-of-town friends and relatives. To the extent that teams generate civic pride, subsidies to teams and arenas may be efficient. Using a CVM survey, however, Johnson, Groothuis, and Whitehead [2001] find that, while the Pittsburgh Penguins of the NHL generate substantial civic pride, the value of those public goods falls far short of the cost of a new arena. Johnson and Whitehead [2000] also used a CVM survey to determine that the public goods generated by a minor league baseball stadium in Lexington, Kentucky, and a new arena for University of Kentucky basketball fail to justify significant public subsidies.

The CVM results are consistent with the outcomes of many referendums on taxes to subsidize stadiums—they often lose. Yet, even in cities where stadium referendums fail, governments still often find ways to subsidize sports teams [Fort, 1997]. This suggests a public choice explanation that public stadium financing results from the influence of special interest groups.

Some studies have suggested a public choice motivation for subsidies. Swindell and Rosentraub [1998] say that fans, players, and owners benefit from a team's presence, and that fans themselves value the intangible benefits the most. Kalich [1998] studied three stadium-funding initiatives and found that, when the benefits were concentrated among a small group and a much larger group shared the costs, the funding initiative succeeded.

Section two recounts the history of the funding of the new Pittsburgh stadiums. It also describes the Penguins' bankruptcy and the recent push for a new hockey arena. Section three explains the CVM survey instrument used to elicit citizens' views of stadium subsidies and of how various amenities generate civic pride. Section four describes the data while section five develops the model and section six presents the results. Section seven concludes with policy implications.

HISTORICAL BACKDROP

In 1994, the owners of the Pittsburgh Pirates announced that baseball could not survive in Pittsburgh without a new ballpark. In 1995, Pittsburgh Steelers president Dan Rooney said that the Steelers needed a new football stadium to remain competitive.

In 1997, Governor Thomas Ridge signed legislation to allow voters in 11 counties in southwestern Pennsylvania to vote on a 0.5 percent sales tax to finance economic development projects including two new stadiums. Sixty-five percent voted against it, with the referendum failing by larger margins in counties the farthest from Pittsburgh. In the city of Pittsburgh 58 percent voted against the tax.

With the defeat of the referendum, the Pirates looked poised to leave Pittsburgh. The Allegheny Regional Asset District (RAD) suggested using an existing 1 percent sales tax, the county hotel tax, ticket surcharges, parking revenues, and a payroll tax on nonresident athletes to fund two new stadiums, pay off the debt on Three Rivers Stadium, and tear it down. The Pennsylvania Poll of 812 Pittsburgh residents showed that 55 percent opposed the use of existing funds, while 32 percent favored it, and 13 percent were unsure [*Pittsburgh Post-Gazette*, 1999b].

Ultimately the RAD board allocated \$13.4 million a year for 30 years to pay off the debt as well as pay for the demolition and removal of Three Rivers Stadium and help fund the two new stadiums. The Pirates agreed to pay \$40 million towards the baseball stadium and the Steelers agreed to pay \$76.5 million towards the new football stadium.

In 1999, the state of Pennsylvania allocated \$325 million to pay for two new stadiums in Pittsburgh and two in Philadelphia. The funding is contingent on the teams' guarantee that they will generate additional state taxes or make up the difference on the principal of the state share.

In April 1999, the Pirates broke ground for their new stadium, PNC Park. In September 1999, the Steelers broke ground for Heinz Stadium. In January 2001, the city imploded 30-year old Three Rivers Stadium.

Even as the state decided to finance new football and baseball stadiums, the Pittsburgh Penguins of the National Hockey League (NHL) declared Chapter 11 bankruptcy in October 1998 and were at risk of being moved to another city or being disbanded. In March 1999, U.S. Bankruptcy Judge Bernard Markovitz issued a permanent injunction against any owners, present or future, from discussing a possible sale to owners who would move the Penguins to another city. Markovitz wrote, "The Penguins are as much a part of the warp and woof (sic) of this community as are its other professional sports teams, museums, parks, theaters and ethnic neighborhoods. As important as [the creditors'] interests are, they may have to give way when the interest of the community at large so dictates. In this case, it so dictates" [*Montreal Gazette*, 1999, G2]. At a hearing on May 28, 1999, Judge Markovitz said the Penguins "are woven into the fabric of the city and county and surrounding counties" [*Pittsburgh Post-Gazette*, 1999a].

Markovitz's contention that the Penguins are part of the fabric of metropolitan Pittsburgh is consistent with the claim that the Penguins generate valuable and widely consumed civic-pride public goods. Perhaps Markovitz believed the Penguins generate valuable public goods because they have been very good. They won the Stanley

Cup in 1991 and 1992 and contended in the playoffs during much of the 1990s. With no NBA team to compete for fans, the Penguins enjoyed undiluted attention from local fans and Pittsburgh was regarded as one of the most enthusiastic hockey towns in the NHL [Lapointe, 1998, D5].

In June of 1999, Markovitz accepted an offer from a consortium of local investors headed by retired player Mario Lemieux to buy the team. Lemieux's group offered \$65 million, and Lemieux himself, owed \$30 million in deferred salary by the Penguins, agreed to convert \$20 million of that debt into an equity interest in the team [Sandomir, 1999, D3].

The Penguins remained in Pittsburgh, but continue to play in the oldest arena in the league. In 2001, team president Lemieux suggested that if public funds are not found for a new arena he might have to sell the team and it might move to a new city.

SURVEY

In order to test whether subsidies can best be explained by civic pride, public choice, or both, we analyze data from a CVM survey that presented a hypothetical scenario designed to elicit the willingness to pay taxes for Penguins hockey [Johnson, Groothuis, and Whitehead, 2001].

The survey was organized into five sections. The first section asked about professional football and baseball in Pittsburgh. Respondents were asked whether they support public funding for stadiums:

To help pay for the sports stadiums in the state of Pennsylvania, state tax revenues are being used. Do you support the use of state funds for this purpose?

Respondents indicated whether they supported the use of state funds or not. This variable serves as one of the dependent variables (*SUPPORT*) in the empirical analysis. The survey then asked respondents if they supported public funding and how many professional football and baseball games they attended.

The survey's second section asked respondents about their consumption of Penguins hockey. Questions asked how many games they attend each season at Civic Arena and how many they watch on TV. The survey asked how often they read about and discuss the Penguins during the hockey season. Questions asked respondents to describe their level of interest in the Penguins and to indicate how the quality of life in Western Pennsylvania would change if the Penguins left.

The third section of the survey covered the willingness to pay taxes for Pittsburgh Penguins hockey and began with some background information:

The Pittsburgh Penguins declared bankruptcy last year in federal court and almost left Pittsburgh. The federal judge handling the case declared that the Penguins are too important to Pittsburgh to allow them to leave. After several months, a local group headed by former Penguin star Mario Lemieux took over the team and promised to keep the Penguins in Pittsburgh.

Respondents were then asked whether keeping the Penguins in Pittsburgh is important and whether they thought losing the Penguins would hurt Pittsburgh's image as a major city.

The survey presented respondents with a hypothetical scenario in which the Penguins might leave Pittsburgh:

The Penguins continue to play in one of the worst arenas in the NHL and Pittsburgh is a fairly small market. The new owners might not have enough money to support a payroll for a team that could challenge for the Stanley Cup. If more local investors are not found, the team may leave Pittsburgh. Some say this would damage Pittsburgh's national image and it would mean the city would never have the excitement of a Stanley Cup championship again.

The survey offered an alternative scenario in which the Penguins would become publicly owned at a cost to taxpayers:

If the city of Pittsburgh were to buy the team, it would never leave Pittsburgh. But in order for the city to buy the team, pay off its debts, and challenge for the Stanley Cup, taxpayer money will be needed. One estimate is that each Pittsburgh household would have to pay \$TAX each year in higher city taxes.

The four \$TAX amounts (\$1, \$5, \$10, and \$25) were randomly assigned. Then respondents were asked the discrete choice willingness to pay question: "Would you be willing to pay \$TAX each year out of your own household budget in higher city taxes to help keep the Penguins in Pittsburgh?" and were given three response categories: "Yes," "No," and "I don't know." Don't know responses are recoded to no responses in order to provide conservative willingness to pay estimates. This variable serves as the second dependent variable in the empirical analysis (*YES*).

The third section of the survey concluded with two questions asking whether respondents had lived in Pittsburgh when the Penguins won the Stanley Cup in 1991 and 1992, and how they had celebrated the Cup victories. Respondents could answer that they did not watch or celebrate, that they celebrated by consuming public goods—watched games at a sports bar, celebrated with friends, partied in the streets, etc.—or that they celebrated by consuming private goods, namely, attended Stanley Cup games in person.

The fourth section of the survey asked respondents several questions about the impact of various Pittsburgh area institutions, including teams, museums, and universities, on civic pride. The survey asked, "How important are the following items for civic pride in the Pittsburgh region?" Responses of "very important" or "important" are coded as one and responses of "unimportant" or "very unimportant" are coded as zero. The survey also asked whether respondents visit the attraction or attend games when out of town guests visit.

The fifth and concluding section of the survey asked about household size, gender, race, age, tenure in Western Pennsylvania, education, and income.

DATA

In February 2000, we sent the survey to a sample, purchased from a professional sampling firm, of 900 randomly selected households in the Pittsburgh Metropolitan Statistical Area (MSA). Seventy-eight surveys proved undeliverable. Of the 822 delivered, respondents returned 293, a response rate of 35.6 percent. This response rate is

low relative to many CVM mail surveys raising the possibility of sample bias. Nonresponse bias exists if the sample is different from the population on observable variables. Response bias can be corrected by weighting the sample to reflect the population characteristics [Mitchell and Carson, 1989]. Sample selection bias exists if the sample is different from the population on unobservable variables. For example, nonrespondents might have different tastes from respondents leading to different willingness to pay values. If data on nonrespondents is available, sample selection bias can be addressed with selection models [Mitchell and Carson, 1989; Whitehead, Groothuis, and Blomquist, 1993]. We address these concerns below.

As is typical with CVM surveys, the willingness to pay and income questions create the greatest item nonresponse problems. In this survey, 5.4 percent ($n = 16$) and 11.9 percent ($n = 35$) of the sample did not answer the open-ended valuation and income questions. The empirical analysis uses all 175 surveys in which respondents answered every question. In the 24 cases where all but the income questions were answered, income was estimated as a function of the demographic characteristics reported in the sample, increasing the usable sample to 199. A summary of the variable names and their description is presented in Table 1. Summary statistics for each variable are presented in Table 2.

TABLE 1
Variables

Variable	Definition
SUPPORT	Support =1 if respondent supports the use of state funds for stadiums, Support = 0 otherwise.
YES	Yes = 1 if respondent said yes to the referendum, Yes=0 otherwise.
TAX	\$1, \$5, \$10, or \$25, depending on the amount requested from respondent on the discrete choice WTP new arena question.
BASEBALL	Number of Pirates baseball games respondent attended in 1999.
FOOTBALL	Number of Steelers football games respondent attended in 1999.
HOCKEY	Number of Penguins hockey games respondent attended in 1999.
INCOME	1999 self-reported household income.
HOUSE	Number of people normally living in the same household as respondent.
GENDER	1 if respondent is male, 0 if female.
RACE	1 if respondent is white, 0 otherwise.
AGE	Age in years of respondent.
EDUCATION	Years of formal education.

In general, we find that our sample is fairly representative of the Pittsburgh MSA. The average household size in the sample is 2.68 compared to 2.25 for the MSA. Ninety-three percent of the sample identified themselves as white compared to 91 percent of the MSA. The average household income was \$48,700 for the sample compared to the MSA average of \$55,779. At an average age of 52.4, the typical respondent is somewhat older than the average resident, as in many CVM surveys. Voters, too, are older than the average resident, since only citizens over 18 years of age vote. We do find, however, that males constitute 75 percent of the sample but only 49 percent of the MSA population. These comparisons suggest that nonresponse may not be of concern

with this sample with the exception of the over representation of males. To correct for the overrepresentation of males in our sample we construct weights to correct for nonresponse bias.¹ The very nature of sample selection bias, however, makes it impossible to determine if it exists or not without data on nonrespondents [Whitehead, Groothuis, and Blomquist, 1993]. Unfortunately we do not have these data.

TABLE 2
Data Summary

Variable	Mean	Std.Dev.	Min	Max
SUPPORT	.40	.49	0	1
YES	.41	.49	0	1
TAX	10.82	9.53	1	25
BASEBALL	2.71	4.63	0	35
FOOTBALL	1.18	2.18	0	10
HOCKEY	1.63	4.98	0	42
INCOME	48.69	21.63	15	75
HOUSE	2.68	1.36	1	8
GENDER	0.75	0.43	0	1
RACE	0.93	0.25	0	1
AGE	52.37	15.69	19	89
EDUCATION	14.36	2.51	10	18
Cases	199			

The means of the dependent variables *SUPPORT* and *YES* indicate that only about two-fifths of the sample support public funding of sports stadiums. Recall that only about two-fifths of Pittsburgh residents voted in favor of the sales tax referendum to fund new baseball and football stadiums in Allegheny County. Respondents attended an average of 2.7 baseball games, with 60.3 percent attending at least one game. They attended an average of 1.2 football games, with 41.2 percent attending at least one game. They attended an average of 1.6 hockey games, with 39.7 percent attending at least one game.

TABLE 3
Means of Cultural Amenity Indicator Variables

	Civic Pride	Visit or Attend
Carnegie Museum	.92	.42
Pittsburgh Zoo	.91	.53
Carnegie Science Center	.91	.53
University of Pittsburgh	.90	.11
Carnegie Mellon University	.89	.07
Benedum Theater	.85	.21
Heinz Hall	.85	.21
Pittsburgh Symphony	.83	.11
Pittsburgh Steelers	.78	.21
Pittsburgh Pirates	.73	.38
Pittsburgh Penguins	.67	.16
Pittsburgh Regatta	.62	.18

Civic pride is coded as one if the respondent answered either "important" or "very important" to the question: "How important are the following items for civic pride in the Pittsburgh region?", zero otherwise.

Table 3 reports the percentage of people who think various amenities are “important” or “very important” to civic pride. Apparently, civic pride benefits accrue to many nonusers of amenities, since the percentages of respondents who actually visit or attend the amenities with out-of-town guests are far smaller than the percentages that say they create civic pride. For instance, while 91 percent say the zoo is a source of pride, only 53 percent visit the zoo, and while 89 percent say Carnegie Mellon University is a source of pride, only 7 percent visit it.

The story is similar for the sports teams. Sixty-seven percent of respondents say the Penguins generate civic pride, yet only 39.7 percent attended a game and only 16 percent took out-of-town guests with them. The Pirates engender civic pride for 73 percent of respondents, but only 60.3 percent attended a game, 38 percent with out-of-town guests.

Though nonusers may derive civic pride from sports teams, Table 4 shows that users are far more likely to say that sports generate civic pride. Even so, a clear majority of nonusers believe sports teams generate civic pride, ranging from just under 60 percent for the Pirates and the Penguins to about 70 percent for the Steelers.

TABLE 4
Percentage of Civic Pride of Users and Nonusers for Sports Amenities

	Civic Pride for Users ^a	Civic Pride for Nonusers
Pirate Baseball	83.3	58.3
Steelers Football	91.9	69.4
Penguins Hockey	83.3	57.6

a. Users attended at least one game. Nonusers attended zero games per season.

EMPIRICAL MODEL

To test the civic pride and the public choice models, we estimate a bivariate probit model of public support for taxes used to finance stadiums and a willingness to pay for the Pittsburgh Penguins. In the first equation we specify support of public funds for sports stadiums. In the second equation we specify the willingness to pay taxes for the Penguins.

$$\begin{aligned}
 \pi(S = 1) &= \Phi(\alpha_0 + \alpha_1 CP_{BF} + \alpha_2 G_{BF} + \alpha_3 \mathbf{X} + \varepsilon_1) \\
 \pi(Y = 1) &= \Phi(\beta_0 + \beta_1 TAX + \beta_2 CP_H + \beta_3 G_H + \beta_4 \mathbf{X} + \varepsilon_2) \\
 \rho &= corr(\varepsilon_1, \varepsilon_2),
 \end{aligned}
 \tag{1}$$

where $\pi(\cdot)$ is the probability function, S is *SUPPORT*, Y is *YES* for the willingness to pay question, CP is civic pride, G is games attended, \mathbf{X} is a vector of demographic variables, and $\Phi(\cdot)$ is the standard normal density function. The subscript BF is for the baseball and football model and the subscript H is for the hockey model. We use a bivariate probit because we expect that the correlation in error terms, ρ , will be positive because unobservable characteristics that affect the probability of supporting

tax dollars for stadiums will be positively correlated with unobservable characteristics that affect the probability of saying yes to the willingness to pay question.

The civic pride and games attended variables for the Pirates and Steelers are included in the support model. The civic pride and games attended for the Penguins are included in the willingness to pay model. If respondents who say that sports teams generate civic pride are more likely to support public funds for stadiums and are more willing to pay taxes for the Penguins, then this is evidence that professional sports teams generate public goods. If the number of games respondents attended increase the likelihood of support for public funds for stadiums or of willingness to pay for the Penguins, then this is evidence in favor of public choice.

The likelihood of a yes response to the question of willingness to pay taxes for the Penguins should go down with increases in the tax amount, \$TAX. The demographic vector, \mathbf{X} , contains the variables for income, education, household size, gender, race, and age. If hockey is a normal good, increases in income will increase public support of taxes and willingness to pay for the Penguins.

RESULTS

Table 5 reports the bivariate probit estimation results. The positive and significant coefficients on income in both equations suggest that sports amenities are normal goods.

TABLE 5
Bivariate Probit Model

SUPPORT		
Variable	Coeff.	t-ratio
CONSTANT	-1.52	-2.10
INCOME	0.015	2.12
EDUCATION	-0.063	-1.00
GENDER	-0.336	-1.43
HOUSE	-0.015	-0.17
FOOTBALL	0.046	0.75
BASEBALL	0.060	3.61
CIVIC PRIDE STEELERS	0.549	0.80
CIVIC PRIDE PIRATES	1.24	1.70
YES		
Variable	Coeff.	t-ratio
CONSTANT	0.632	0.71
TAX	-0.059	-4.62
INCOME	0.018	2.12
EDUCATION	-0.158	-2.21
GENDER	-0.055	-0.20
HOUSE	-0.065	-0.62
HOCKEY	0.249	2.75
CIVIC PRIDE PENGUINS	1.424	4.37
ρ	0.324	2.21
LL Function	-191.13	

The support equation results show that those who attend Pirates games and who take civic pride in the Pirates are more likely to support the use of public funds for stadiums. But the coefficients on Steelers football game attendance and civic pride do *not* significantly differ from zero. These contradictory results may reflect the fact that the Pirates, but not the Steelers, had threatened to leave Pittsburgh. Perhaps people perceived the stadium issue as a keep-the-Pirates-in-Pittsburgh issue.

In the willingness to pay for Penguin hockey equation, the coefficient on the proposed tax amount is negative and significant, such that increases in taxes typically lead to lower support. The negative and significant coefficient on education suggests that hockey appeals to respondents with less education. Both hockey attendance and Penguin civic pride increase the likelihood of responding yes to the willingness to pay question.

The positive and significant bivariate correlation coefficient, ρ , indicates that respondents who favor public funds for football and baseball stadiums are also more likely to support Penguins taxes for some unmeasured, underlying reason. Overall, the bivariate analysis suggests that civic pride plays a role in public support of stadiums.

Further insight can be gained by splitting the sample into supporters and opponents of public funds for baseball and football stadiums. Table 6 reports the means of the split sample. Only 20 percent of those opposing public funding for new stadiums supported public funds to purchase the Penguins, while 73 percent of stadium supporters favored public funds for the Penguins. Opponents of public stadium funding have lower incomes, take less civic pride, and take out-of-town guests to see the Penguins less than respondents who said yes to public support.

TABLE 6
Comparison of Split Sample Means

	No to Support	Yes to Support
Yes	0.20	0.73
Household Income	\$45,882	\$52,875
Respondent's Education	14.09	14.76
Respondent's Gender	0.75	0.75
People in Household	2.53	2.70
Number Hockey Games Attended	0.48	3.36
Civic Pride in Penguins	0.46	0.97
Take Out of Town Guest to Pens	0.05	0.33
Willingness to Pay	\$0	\$30.76
Sample size	119	80
	60%	40%

Yes to Support if respondents favor public funding of baseball and football stadiums.

No to Support if respondents do not favor public funding of baseball and football stadiums.

In order to determine the monetary support for the Penguins, we estimate willingness to pay for supporters and nonsupporters [Johnson, Groothuis, and Whitehead, 2001]. Table 7 reports the coefficients of the split sample probit equations and the willingness to pay estimates. In the split sample, we find that the signs of the coefficients on taxes, income and hockey attendance are all the same as the bivariate probit estimates for both models. We also find in a likelihood ratio test that the split sample

gives a better fit to the data than the pooled sample, with a test statistic of $\chi^2 = 36.28$ (7 df), further suggesting that supporters of a tax have a different willingness to pay than nonsupporters. Most importantly, however, is that opponents of public funding for baseball and football stadiums were unwilling to pay to keep the Penguins in Pittsburgh, while willingness to pay is positive and significant for supporters of public funds for stadiums.

TABLE 7
Split Sample Probit Willingness to Pay Model

Variable	No to Support		Yes to Support	
	Coeff.	t-ratio	Coeff.	t-ratio
CONSTANT	-0.479	-0.56	2.53	2.05
TAX	-0.046	-2.79	-0.049	-2.24
INCOME	0.009	1.10	0.001	0.11
EDUCATION	-0.027	-0.42	-0.144	-1.67
GENDER	0.005	0.07	0.262	0.65
HOUSE	-0.011	-0.09	0.042	0.03
HOCKEY	0.166	1.15	0.209	1.79
LL Function		-54.06		-38.59
Willingness to Pay		-\$9.00 ^a		\$30.76
Sample size		119		80

a. 90 percent confidence interval includes zero.

This result suggests that public choice plays a role in public subsidies for professional sports since the willingness to pay is zero for a majority of the citizens. Overall, we find that the civic pride benefit of a sports team is primarily found in citizens who attend games and who feel that sports generate civic pride for the community. This conclusion suggests that the public choice theory is not necessarily a minority exercising their will on the majority, but a minority that believes that their public good is everyone's public good.

CONCLUSION

The data and analysis in this paper indicate that major league sports teams generate widely consumed public goods benefits for the residents of their cities. A majority of both users and nonusers agree that sports teams generate civic pride for their city, indicating that civic pride benefits consist largely of passive, nonuse benefits. But we find that only a minority of respondents support public funding for football and baseball stadiums or for efforts to keep the Penguins in Pittsburgh. Sports-generated civic pride does not appear to be something a majority of Pittsburghers are willing to pay for with public funds.

These results suggest that the motivation for government subsidy of teams and stadiums is twofold. First, because a minority of respondents is willing to pay higher taxes, a classic public choice explanation is suggested. The minority supporters organize because they receive high nonuse benefits from professional sports, but they still pass on much of the cost to the majority whose nonuse benefits are less than the cost of the project.

The other explanation is based on the public good of civic pride, and the results provide some evidence in support of that explanation. The results indicate that people who believe the Pirates and Penguins generate local civic pride, a nonexcludable public good, support public subsidy of the baseball and hockey teams. This support is not limited to those who actually attend games, but comes from nonusers, as well. To the extent that such public goods exist, subsidies can enhance efficiency.

The support growing from sports' role in creating civic pride may make the job of forming an interest group coalition to extract economic rents from the majority easier. Because civic pride to nonusers reduces the net cost of a subsidy to teams and stadiums, the opposition to such subsidies may be lessened, improving their chances of passing.

NOTES

Centre College in Kentucky and Westminster College in Pennsylvania provided financial support for this project.

1. We find that including weights does not alter the signs, magnitudes, or statistical significance of any of the variables in our bivariate probit. We report the weighted version, however, because it corrects for nonresponse bias [Mitchell and Carson, 1989].

REFERENCES

- Baade, R. A. and Sanderson, A. R.** Employment Effect of Teams and Sports Facilities, in *Sports, Jobs, and Taxes: The Economic Impact of Sports Teams and Stadiums*, edited by R. G. Noll and A. Zimbalist. Washington, D.C.: The Brookings Institution, 1997, 92-118.
- Coates, D. and Humphreys, B. R.** The Growth Effect of Sport Franchises, Stadia, and Arenas. *Journal of Policy Analysis and Management*, Fall 1999, 601-24.
- Fort, R.** Direct Democracy and the Stadium Mess, in *Sports, Jobs and Taxes: The Economic Impact of Sports Teams and Stadiums*, edited by R. G. Noll and A. Zimbalist. Washington, D.C.: Brookings Institutional Press, 1997, 146-77.
- Johnson, B. K. and Whitehead, J. C.** Value of Public Goods from Sports Stadiums: The CVM Approach. *Contemporary Economic Policy*, January 2000, 48-58.
- Johnson, B. K., Groothuis, P. A., and Whitehead, J. C.** The Value of Public Goods Generated by a Major League Sports Team: The CVM Approach. *Journal of Sports Economics*, February 2001, 6-21.
- Kalich, V. Z.** A Public Choice Perspective on the Subsidization of Private Industry: A Case Study of Three Cities and Three Stadiums. *Journal of Urban Affairs*, 20 (2), 1998, 199-219.
- Lapointe, J.** Penguins Go From Cup Chapters to Chapter 11. *New York Times*, 19 October 1998, D5.
- Mitchell, R. C. and Carson, R.** *Using Surveys to Value Public Goods: The Contingent Valuation Approach*. Washington, D.C.: Resources for the Future, 1989.
- Montreal Gazette.** Penguins Must Stay in Pittsburgh: Judge. 27 March 1999, G2.
- Pittsburgh Post-Gazette.** Power Play. Editorial, 31 March 1999a.
- _____. How they Scored: A Timeline. 7 April 1999b.
- _____. Teams Squeeze City to Finance New Arenas. 29 June 2001.
- Sandomir, R.** Lemieux Can Keep Penguins in Pittsburgh. *New York Times*, 25 June 1999, D3.
- Siegfried, J. and Zimbalist, A.** The Economics of Sports Facilities and their Communities. *Journal of Economic Perspectives*, Summer 2000, 95-114.
- Swindell, D. and Rosentraub, M. S.** Who Benefits from the Presence of Professional Sports Teams? The Implication for Public Funding of Stadiums and Arenas. *Public Administration Review*, January-February 1998, 11-20.
- Whitehead, J. C., Groothuis, P. A., and Blomquist, G. C.** Testing for Non-Response and Sample Selection Bias in Contingent Valuation—Analysis of a Combination Phone/Mail Survey. *Economics Letters*, 41 (2) 1993, 215-20.