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A Note on the Local Economic Impact of Sports Expenditures

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Public subsidies for sports stadiums and arenas are often justified as a means to boost the local economy. The argument relies on historical local economic impact multipliers that misrepresent the effect of consumer expenditures on professional sports. Sports expenditures are subject to extraordinary consumer substitution away from other local expenditures, and they suffer unusually large first round leakages from the local economy because, inter alia, players export their earnings to the locale of their permanent residence. This note illustrates the extent of such leakages using information about the permanent residence of players in the National Basketball Association. While 93% of average employees live in the area where they work, only 29% of NBA players do the same. The illustration shows that a standard local economic impact multiplier exaggerates the stimulative effect of sports expenditures by over 400%.

Since 1990, more than $15.6 billion of state and local tax revenues has been spent or is planned to be spent on 73 new stadiums and arenas (Rappaport & Wilkerson, 2001; Siegfried & Zimbalist, 2000). The beneficiary teams also receive concessionary lease terms, allowing them to pay little rent and to receive the lion's share of the revenues generated at the new facility. The governments that provide the funds realize only a small, if any, direct financial return—which in any case is dwarfed by the debt service, maintenance, sanitation, security, and opportunity costs incurred. The stated rationale for the public expenditure on sports facilities, then, is almost always premised on the promise of indirect returns to the community via economic development.

The political history behind public financing for individual sports facilities usually includes a popular referendum or a vote by a state and/or local legislative body.

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Although the expenditure of public resources on sports facilities might be justified on the basis of public goods benefits (e.g., creating community image enhancement), externalities (enjoyment by residents who follow the team but do not attend games), or consumer surplus (to fans who are willing to pay more to attend games than they are asked) accruing to local residents, the rationale employed by most campaigns for public support of stadiums and arenas has been the claim that new sports facilities and/or teams boost the local economy (cf. Noll & Zimbalist, 1997; Rappaport & Wilkerson, 2001, p. 59).

It is ironic perhaps that there is more support among economists for the possibility of significant public good, external benefit, or consumer surplus effects of sports facilities than for the proposition that such facilities boost local economies (Alexander, Kern, & Neill, 2000; Rappaport & Wilkerson, 2001; Sanderson, 2000). Indeed, there are few empirical conclusions on which a broad array of economists agree so strongly as the absence of local economic development effects of sports facilities (Noll & Zimbalist, 1997). Why, then, do teams rely so heavily on what is perhaps the weakest argument in favor of public subsidies for professional sports?

A simple answer is that the economic development argument has been persuasive, even if incorrect. At its heart is the creation of jobs, a result that has strong appeal, surprisingly even in areas experiencing full employment. The creation of jobs is a benefit to those who are most needy—the unemployed—whether they are local or new workers attracted to the area by the prospect of employment,[1] whereas community image enhancement, external benefits to local residents, and consumer surplus enjoyed by sports fans are more difficult to verify.

Even if only a small percentage of the population voting on a referendum is confused by a misleading economic impact statement commissioned by proponents of subsidization, it may be effective. Most referendums on public subsidies of sports facilities pass by a close margin, suggesting that proponents fashion the size of their subsidy appeal skillfully. In a close election, a small percentage of the voting public can be decisive. But how can the proponents fool even a small percentage of the voters?

Promotional impact studies ignore or understate the effects of consumer substitution and leakages from the local economy connected to sports facilities (Siegfried & Zimbalist, 2000). These studies rely largely on the assumptions that all (or much of the) spending on sports teams is new to the local economy and that this spending has a similar effect on the local economy as spending on other consumption goods and services. Both of these propositions are false.

Most consumers have a relatively inflexible leisure budget. The more time and money that is spent on a sports team, the less is available for golf, bowling, amusement parks, restaurants, theater, or concert halls. And although some expenditures on local sports teams substitute for imports (e.g., replace out-of-town travel), a lot also replace alternative leisure expenditures in the community where the team is located. The net effect of a new team or stadium on consumption in the team's local

community is likely to be close to zero, although sports teams cause a substantial rearrangement of leisure spending within the local area (Coates & Humphreys, 2000).

If sports teams attract new money into an area, the net effect of spending can be substantial. If that happened, of course, it would be largely at the expense of consumption expenditures in other areas. Thus, the economic impact rationale for sports team subsidies would constitute a "beggar-my-neighbor" policy. That may satisfy local politicians, but it is an uncomfortable justification for those economists who do not wish to distinguish local residents as favored people.

The experience of professional sports teams suggests a general range of 5% to 20% of attendance accounted for by people from outside the local area.[2] Football is likely to be at the high end of the range because few of its games are staged on workday evenings, thus accommodating travel time for fans from further distances. Of course, the larger the perimeter of the local area, the less new money is spent on a sports team. But a tighter definition of the local area has the disadvantage of causing larger leakages during subsequent rounds of spending.

Many of the out-of-state fans who attend professional sporting events do so while in town on other business or other pleasure activities. Often, these outsiders are hosted by a local company or family they are visiting, and the expenditures occasioned by their visit constitute nothing more than recirculation of local income. On other occasions, the outsider is attending a sporting event instead of engaging in another form of leisure activity. One of the present authors had to be in Pittsburgh on Sunday for a Monday morning meeting in August of 2001. He took in a Pirates game. The net expenditure in Pittsburgh because of his visit to the newly opened PNC stadium was only $25—the cost of a field box ticket. (That is correct: no concession expenditures, and he walked from the hotel to the game.) The other money he spent in Pittsburgh would have been spent there with or without PNC Park and the Pirates. Moreover, if he had not gone to the Pirates-Houston game, he would have done something else in Pittsburgh on Sunday afternoon. To the extent that he would have spent more than $25 on the alternative, PNC Park and the Pirates actually reduced new expenditures in Pittsburgh. In contrast, the typical promotional study might have reported the economic impact "caused" by PNC Park to exceed the $500 spent in Pittsburgh on hotels and meals during the trip.

Besides overstating the extent of new local spending generated by a sports team, estimates of the impact of sports teams on local economies often are exaggerated because they use standard local expansion multipliers extracted from regional input-output models. Not only are such multipliers often based on outdated technical coefficients which are treated as invariant to shifts in supply and demand, but they also represent an average over a wide variety of consumption expenditures.

Sports teams, however, are not average. They "import" an unusually high proportion of their inputs. Approximately 53% to 60% of total revenues in the National Hockey League, Major League Baseball, National Football League, and National

Basketball Association (NBA) go to the players as salaries and benefits.[3] A large share of the balance goes to high-paid executives and owners. These are all high-income individuals with high marginal tax and savings rates. Taxes leak out of the local economy to the federal government, and savings leak into the world's financial markets. Neither gets recirculated in the local economy. Because a large share of the consumption expenditures of these individuals is on goods produced or sold outside the local economy, the standard economic expansion multiplier overstates the first-round effects of payroll and team profits on the local economy.

PLAYERS' PERMANENT RESIDENCES AND THE SPORTS MULTIPLIER

It has frequently been claimed that a high share of the players on a professional sports team have permanent residences outside the community hosting their team. If this is true, a large proportion of consumption expenditure resulting from sports revenues is immediately diverted to other areas. To ascertain the extent of this phenomenon and verify the high use of imports in the production of professional sports, we obtained the home address for NBA players in the 1999 to 2000 season. From these data, we computed the percentage of the players who lived in the "hometown" of each U.S. team. (Vancouver and Toronto were excluded from the analysis because some of the data are not available for Canadian teams.)

Only 29% of NBA players during the 1999-2000 season permanently resided in the city of their team.[4] For employees at large in those same cities, 93% lived in the local area.

Because these percentages differ so dramatically, it is important to understand precisely what is being compared. First, we located the U.S. county in which each NBA team plays its home games. We then added each contiguous county to it to form the "surrounding area" for each NBA team. The 29% means that of all players in the league on U.S.-based teams for whom we had an off-season home address (220), 29% reported a permanent residence zip code within the surrounding area of their team's arena.

To formulate a benchmark for this fraction, we identified all workers who worked in the county in which the NBA team's arena was located and lived either in that county or a contiguous county, and made a calculation identical to that of the NBA players. In short, we defined a local area as the county in which the NBA team plays its home games plus all those counties contiguous to it. We then determined what proportion of the people who work in that area also live in the same area.[5] The answer is 93%.

The difference in the extent of imported labor between basketball and other jobs has implications for the economic impact of local expenditures. It is principally the direct and, to a lesser extent, induced round of sports expenditures that will differ from other leisure activity spending.

We use an example to illustrate the difference in effect of professional basketball payroll dollars and an average payroll dollar on local economies. If all consumption expenditures are conducted in the area of a person's permanent residence,[6] 29% of an NBA payroll would be available for local distribution, in contrast to 93% of the average payroll. If the typical NBA player, regardless of where he lives, pays a marginal rate of 45% in federal and state income taxes, saves 30% of his aftertax income, and spends 10% of his marginal disposable income on imports (e.g., travel), 10.05% of gross payroll (0.29×0.3465) would be injected into the local economies of NBA teams.[7]

If the average employee pays 30% in federal and state income taxes,[8] saves 5%, and spends 5% on imports, 58.75% of gross payroll ($0.93 \times .63175$) would be injected into the local economy. Under our assumptions, the difference between the proportions of payroll injected into the local economy in the first round is .5875 for average employees versus .1005 for NBA players, a disparity of 485%!

Our goal here is not to document precisely the appropriate multiplier to use when calculating the local economic impact of sports teams. Indeed, we are persuaded by the growing body of both time-series and cross-section studies conducted by economists that find no evidence of any statistically significant local economic impact from expenditures on a professional sports team. Our goal, instead, is to provide a firmer empirical basis for one of the reasons underlying this finding, namely, huge leakages of sports team revenues that never recirculate in the local economy.

NOTES

1. When new workers are attracted to the area, the likelihood is that property values and home rents will increase, increasing the wealth of some local residents. In turn, the cost of living rises, and some other existing residents may experience a reduction in real income.

2. It is interesting to note that a recent study commissioned by the Virginia Baseball Stadium Authority found that only 13% of the fans at Camden Yards in Baltimore were from the greater Washington, D.C., area. Camden Yards is on the south end of the city and just off a major highway artery. It is an approximately 40-minute drive from the capital district. These circumstances make it likely that Camden Yards would be on the high end for baseball teams of outsiders attending its games.

3. And, generally, 3% to 5% of player salaries go to their agents.

4. Player agents are even less likely to live in the area of a player's home team, but we were unable to obtain data on agents' permanent residences.

5. The raw data for our calculations are from "Journey to Work" and "Place of Work" County-to-County Worker Flow files of the 1990 U.S. Census.

6. To the extent that some expenditures occur in the area of people's employment regardless of the proximity of their permanent address, the differences estimated in the text will be more modest.

7. The 0.3465 is calculated as (0.55)(0.7)(0.9). Of course, a small portion of the state income taxes paid would find its way back to the local economy. To the extent that this happens, the local impact estimated in the text will be too conservative.

8. Including social security taxes on all his earnings.

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