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Caught Stealing
Debunking the Economic Case for D.C. Baseball

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Executive Summary

District of Columbia mayor Anthony Williams has convinced Major League Baseball to move the Montreal Expos to D.C. in exchange for the city's building a new ballpark. Williams has claimed that the new stadium will create thousands of jobs and spur economic development in a depressed area of the city.

Williams also claims that this can be accomplished without tax dollars from D.C. residents. Yet the proposed plan to pay for the stadium relies on some kind of tax increase that will likely be felt by D.C. residents.

Our conclusion, and that of nearly all academic economists studying this issue, is that professional sports generally have little, if any, positive effect on a city's economy. The net economic impact of professional sports in Washington, D.C., and the 36 other cities that hosted professional sports teams over nearly 30 years, was a reduction in real per capita income over the entire metropolitan area.

A baseball team in D.C. might produce intangible benefits. Rooting for the team might provide satisfaction to many local baseball fans. That is hardly a reason for the city government to subsidize the team. D.C. policymakers should not be mesmerized by faulty impact studies that claim that a baseball team and a new stadium can be an engine of economic growth.

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Major league sports teams are certainly not mom-and-pop operations and can pay entirely for the construction of their own stadiums.

Introduction: The D.C. Baseball Deal

The September 28, 2004, press conference at the Washington City Museum was a lively affair. As the *Washington Post* described it: "The mood in the City Museum's Great Hall was near-giddy. John Fogerty's stadium anthem, 'Centerfield,' blared over loudspeakers. A crowd of kids, some wearing baseball uniforms and carrying balls, hunted for autographs from former Washington Senators."[1] The press conference was the culmination of years of haggling with Major League Baseball to bring the first baseball team to D.C. since the Washington Senators left in 1971.

More hard work is to be done, however. Williams now has to convince a majority of the D.C. Council to approve his plan to use tax money and the power of city government to build a new state-of-the-art ballpark for the team. To win support and council votes, he has touted the perceived economic benefits that will come from having baseball in D.C. again. Unfortunately for Mayor Williams, his claims do not withstand scrutiny.

The practice of professional sports teams profiting at the expense of taxpayers is not new. The gambit routinely involves an individual franchise using its monopoly power to extract concessions from state and local governments. The Washington case differs because Major League Baseball, not the Expos, played the role of the monopolist pitting one potential suitor against another in search of the best deal. However, make no mistake: Major League Baseball's protracted decisionmaking process as it mulled over the relative merits of various locations—Washington; Northern Virginia; Portland, Oregon; Charlotte, North Carolina; San Juan, Puerto Rico; Monterrey, Mexico; and the other cities bidding for the franchise—was a classic exercise in concession extraction by a monopoly sports league.

Mayor Williams and others who wanted to lure the team to Washington and now want to build a new stadium claim that average D.C. taxpayers will not be burdened with the costs. Williams stated in his "Message from the Mayor" for October 1, 2004, that "the ballpark will be 100% financed by the team owners, those who use the ballpark, and by DC's largest businesses . . . our residents will not be asked to pay one dime of tax dollars toward this ballpark."[2]

According to Williams's proposed plan, the revenue to finance the construction of the baseball stadium will come from rent paid by the baseball team to use the new facility; taxes on tickets sales, concessions, parking, and merchandise sold within the stadium; and a "ballpark fee" (read: tax increase) on some of the District's largest corporations.

First, the team's share of financing the stadium is a 30-year lease committing the team to an initial rent of $3.5 million each year, increasing to $5 million by the fifth year, and then increasing by 2 percent minus $10,000 per year thereafter.[3] Of course, the conventional idea behind a lease is that a tenant pays rent for the use of a facility owned by somebody else. So the team will be renting the facility but will not be paying for its construction—despite the fact that the touted economic benefits that will follow in the wake of the team relocating to the District depend on the team being successful and profitable. Major league sports teams are certainly not mom-and-pop operations and can pay entirely for the construction of their own stadiums.

According to calculations of economist Scott Wallsten at the AEI-Brookings Joint Center for Regulatory Studies, the rent the baseball team will pay "is almost certain to decrease every year after 2009 when accounting for inflation. If inflation averages 3 percent over 30 years, the [team] will be paying about $3.3 million per year in today's dollars by 2035."[4] Thus, in just five years, D.C. taxpayers will be forced to provide another implicit concession—a de facto rent subsidy—to the baseball team.

Second, taxes will be collected on ticket sales, concessions, parking, and merchandise sold within the stadium. Concessions and merchandise are, in common parlance, food and beverages, T-shirts, hats, jerseys, and other souvenirs. It is likely that the D.C. residents who purchase food, beverages, and clothing while attending games would have chosen to eat and purchase clothes in D.C.—and pay taxes on those purchases—in the absence of the stadium and franchise. In other words, revenues generated inside the stadium may not be new revenues, even if they are dedicated specifically to paying for the new stadium.

Finally, a "ballpark fee" will be imposed on the largest corporations in D.C. Whether it is a surcharge or an increase in the corporate income tax rate, this so-called fee is a tax increase, pure and simple. Moreover, this tax will fall on D.C. residents if they happen to be owners or employees of the affected businesses, or if they purchase the goods or services produced by those businesses. Thus, claiming that D.C. residents will not feel the burden of this corporate tax increase is disingenuous. Corporations do not pay taxes, people do. Whether it is in the form of lower wages for workers, lower asset values for corporate owners, or higher prices for consumers of the goods and services those companies provide, this tax increase will touch D.C. residents in some way.

Do Professional Sports Produce Economic Benefits?

The proponents of new stadiums and franchises argue that there will be substantial economic benefits from proposed facilities and teams.[5] Indeed, a report from the District's Office of the Deputy Mayor for Planning and Economic Development claims that the team and ballpark will "create 360 jobs earning an annual total of $94 million."[6] That amounts to an astounding $261,111 per job. The wonder is that anyone finds such figures credible. Yet decade after decade, cities throughout the country have struggled to attract or keep professional sports teams, and the idea that a team brings with it large economic gains invariably arises. Part of this process is the commissioning of economic impact studies that purport to show just how much benefit the city or region will reap. As it turns out, claims of large tangible economic benefits do not withstand scrutiny. Careful analysis of past economic experience in cities that built new stadiums and attracted new teams does not bear out those claims.[7]

Impact studies rely on what economists call input-output models of local or regional economies into which the team and its new stadium are introduced to estimate the prospective economic impact. Those studies ask the question: what will happen if a new franchise and stadium enter this community? The results of those studies invariably reflect the desires of the people who commission them, and advocates of stadiums and franchises typically produce impact studies that find large economic benefits from building a stadium or enticing a team to relocate to the city.

All impact studies use multipliers to estimate the effect of each dollar spent directly on sports on the wider local economy. The multiplier effect implies that the dollars spent on sports entertainment will have ripple effects throughout the local economy. Critics argue that at best the multipliers used in prospective impact studies overstate the contribution that professional sports make to an area's economy because they fail to differentiate between net and gross spending.[8]

In computing the benefits of investment in a stadium, the appropriate focus is on net benefits, that is, benefits that would not have occurred in the absence of the stadium. Impact studies rarely consider what economists call the substitution effect. Indeed, not all the spending generated around and in the stadium is new spending, and not all the taxes on that spending are net new tax revenues. As sport- and stadium-related activities increase, other spending declines because people substitute spending on sports for other spending. That is called the substitution effect. If the stadium simply displaces dollar-for-dollar spending that would have occurred otherwise, there are no net benefits generated. To classify all consumer spending on stadium- and sport-related activities as a benefit without taking into account the sub-

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stitution effect greatly overstates the value of the investment.

Many fans attending the new team's games will come from the Maryland and Virginia suburbs. Those fans will bring their entertainment spending from the suburbs into the district—unless, of course, they would have frequented D.C. restaurants, bars, nightclubs, parking lots, and other businesses even without a baseball team in D.C. Put another way, suppose Joan Suburban has a season subscription to the National Symphony Orchestra. Every month or so, she leaves her Silver Spring condo, drives into the District for a few drinks and a meal in a Georgetown restaurant, and enjoys a concert. As she is also a baseball fan, Joan declines to renew her NSO subscription next year and instead buys a partial-season ticket plan for the new team. Every month or so, she leaves her Silver Spring condo, drives into the District for a few drinks and a meal in the revitalized area around the new ballpark, and enjoys a ball game. How much new economic benefit does the District gain? The mayor would have us believe that every dollar she spends should be counted as economic benefit attributable to the stadium. But what about the business lost by the Georgetown restaurant and parking lot?

The more suburban fans reduce their purchases at shops and eateries in other parts of D.C. and replace those purchases with ballgame spending, the lower the net impact of the stadium and franchise on the city's overall level of business development. It is anyone's guess how much of any new spending will flow into establishments outside the stadium and how much will be spent inside the stadium. Mayor Williams's case for building a stadium financed with tax revenue rests on the assumption that suburban residents of Maryland and Virginia who don't currently spend their entertainment dollars in the District will rush to do so once baseball season begins.

Previous studies have found this substitution effect in other cities. Economists Robert Baade and Alan Sanderson looked at the economic growth patterns of cities that hosted sports teams. On the basis of evidence from 10 metropolitan statistical areas over the period of 1958 to 1993, they found that leisure spending was realigned, not increased, and an insufficient number of fans were attracted from beyond the area to significantly contribute to the city's economy.[9]

In 10 metropolitan statistical areas over the period of 1958 to 1993, an insufficient number of fans were attracted from beyond the area to significantly contribute to the city's economy.

Moreover, at least some of the redistribution in spending will be across neighborhoods within the district; a little less spending by D.C. residents in bars and restaurants in Georgetown or on Connecticut Avenue merely offset by a bit more spending in bars and restaurants that spring up around the ballpark is not obviously an improvement for the city of Washington.

In addition to the substitution effect, some economists have posited that there is a simultaneous effect at work. Dubbed by economists John Siegfried and Andrew Zimbalist as the "leakages and multipliers" effect, the theory suggests that—to the extent sport spending has a multiplier effect at all—spending on sports may have a much lower local multiplier than spending on other entertainment goods.[10] In other words, nonsports entertainment spending has a bigger ripple effect in the economy than sports-related entertainment spending. Therefore, the economic gains from sports-related spending will never be large enough to fully offset the economic loss from a decline in nonsports entertainment spending. This reduction in earnings for nonsports industries would lead to a reduction in the earnings of workers in non-sports-related occupational groups. As our study of the economic effects of sports teams in other cities indicates, those two influences could have the likely effect of dragging down net incomes in D.C. on the arrival of the baseball team.

Sports Teams and Stadiums as a Drag on Economic Growth: An Analysis of the Data

In stark contrast to the benefits claimed by most economic impact studies commissioned by teams or stadium advocates, the academic research overwhelmingly concludes that the presence of professional sports teams has no measurable positive impact on economic growth as measured by the level of real income in cities over a 35-year period. Our own research suggests that professional sports may actually be a drain on local economies rather than an engine of economic growth.

The difference between the impact studies commissioned by teams or cities and the academic literature is more than simply a matter of prospective estimates versus retrospective facts. Academic studies consider a large number of metropolitan areas with major league professional sports over a long period of time and examine a variety of factors that are likely to predict either aggregate economic activity or the vitality of specific sectors of the local economy. In other words, those studies look specifically for the net effect of the sports environment on the economic health of metropolitan areas.

Our research examines all 37 U.S. cities that had one or more professional football, basketball, or baseball franchises between 1969 and 1996. The data set contains a wide variety of franchise movement and new stadium and arena construction.

We focus on identifying factors that affected either the level or the growth of income per person. Although attracting a new football team or building a new basketball arena might have had some effect on those variables, other factors certainly played an important role. Our approach is to quantify the sports environment by taking into account the presence of franchises, franchise entry and departure, stadium construction and renovation, the location of new stadiums and arenas, and the "novelty effect" of a new stadium or arena for professional football, basketball, or baseball.[11] We then estimate econometric models of the level or growth rate of income in metropolitan areas and include the variables reflecting the sports environment.

Taking advantage of the time-series cross-sectional nature of our data, we are able to control for city-specific factors that affect income per person, or wages per worker and employment in each of several sectors, including factors such as the decline of rust-belt cities and booms in sun-belt cities, and the effect of the business cycle. The use of city-specific effects, and the other variables, means that we are able to make sure that the estimated effects of the sports environment variables are not contaminated with other historical or location-specific influences on the economic vitality of the cities.

The results of our analysis indicate the following:

- The presence of pro sports teams in the 37 metropolitan areas in our sample had no measurable positive impact on the overall growth rate of real per capita income in those areas.
- The presence of pro sports teams had a statistically significant negative impact on the level of real per capita income in our sample of metropolitan areas.
- The presence of pro sports teams had a statistically significant negative impact on the retail and services sectors of the local economy. The average effect on employment in the services sector of a city's economy was a net loss of 1,924 jobs as a result of the presence of a professional sports team.
- The presence of pro sports teams tended to raise wages in the hotels and other lodgings sector by about $10 per year. But it tended to reduce wages per worker in eating and drinking establishments by about $162 per year.
- The presence of pro sports teams tended to raise the wages of workers in the amusements and recreation sector by $490 per year. However, this sector includes the professional athletes whose annual salaries certainly raise the average salary in this sector by an enormous amount. As it turns out, those workers most closely connected with the sports environment who were not professional athletes saw little improvement in their

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Table 1
Average Change in Earnings by Sport and Industry

	Football	Basketball	Baseball
Earnings in eating and drinking establishments, per employee	$6	-$17	-$144
Earnings in amusements and recreation, per employee	$1,200	-$173	-$503
Earnings in hotels and other lodging establishments, per employee	-$75	$155	-$38

Source: Dennis Coates and Brad R. Humphreys, "The Effect of Professional Sports on Earnings and Employment in the Services and Retail Sectors in U.S. Cities," *Regional Science and Urban Economics* 33 (2003).

earnings as a result of the local professional sports environment.[12]

On average, professional baseball lowered the earnings of workers.

The tables summarize the findings relevant to a discussion of the potential economic impact of baseball in Washington, D.C. They show the overall effect of the presence of professional football, basketball, and baseball teams on earnings and employment in each of several sectors of the economy.

Our calculations also accounted for the effects of a variety of other local economic conditions on earnings and employment. On the basis of the estimated relationships, we computed the average effect of a professional baseball team and stadium on earnings, holding constant all other pertinent economic factors. The results are given in Table 1. We found that, on average, professional baseball lowered the earnings of workers in eating and drinking

Table 2
Average Change in Employment by Metropolitan Statistical Area (MSA) and Sector

MSA	Services	Retail	MSA	Services	Retail
Atlanta	-4,499	-2,351	New Orleans	869	-444
Baltimore	-1,796	-2,983	New York	13,930	-2,551
Boston	-6,409	110	Oakland	-2,512	-910
Buffalo	-509	-714	Orange Co	-2,234	-3,996
Charlotte	1,035	268	Orlando	556	193
Chicago	1,213	-5,107	Philadelphia	-4,495	-3,956
Cincinnati	-4,732	-3,307	Phoenix	987	1,087
Cleveland	-3,199	-4,907	Pittsburgh	-4,294	-4,384
Dallas	-6,245	-2,752	Portland	-96	907
Denver	-2,956	-4,744	Sacramento	809	346
Detroit	-5,224	-3,347	St. Louis	-801	-2,947
Green Bay	1,245	-579	Salt Lake City	443	537
Houston	-2,454	-2,599	San Antonio	961	722
Indianapolis	3,049	1,456	San Diego	-4,496	-3,908
Kansas City	-12,211	-3,266	San Francisco	-3,709	-4,408
Los Angeles	-3,490	-3,224	Seattle	-2,384	-1,789
Miami	-1,092	-905	Tampa	742	-67
Milwaukee	-7,851	-2,405	Washington	-1,274	-902
Minneapolis	-4,292	-3,367			

Source: Dennis Coates and Brad R. Humphreys, "The Effect of Professional Sports on Earnings and Employment in the Services and Retail Sectors in U.S. Cities," *Regional Science and Urban Economics* 33 (2003).

Table 3
Average Change in Earnings by Metropolitan Statistical Area (MSA) and Sector

MSA	Food/Drink	Amusements	Hotels	MSA	Food/Drink	Amusements	Hotels
Atlanta	-$199	$1,077	-	New Orleans	$0	$2,217	-$110
Baltimore	-$182	$353	-	New York	-$594	-$3,993	-$843
Boston	-$153	-$500	-	Oakland	-$171	$47	-
Buffalo	-$17	$2,037	-	Orange Co	-$284	$103	-$683
Charlotte	$6	$160	$205	Orlando	-$6	-	-
Chicago	-$515	-$1,553	-$715	Philadelphia	-$265	$890	-
Cincinnati	-$143	-	$568	Phoenix	-$38	$330	$170
Cleveland	-$393	-	-$798	Pittsburgh	-$189	$1,063	-
Dallas	-$197	$1,470	$1,370	Portland	-$42	-$390	$28
Denver	-$448	$160	-	Sacramento	-$12	-$3	-
Detroit	-$209	$1,873	-	St. Louis	-$165	$267	-
Green Bay	-$20	$1,350	-	Salt Lake City	-$21	-$143	$123
Houston	-$189	$430	$538	San Antonio	-$30	-$213	$273
Indianapolis	-$19	$140	-	San Diego	-$223	$710	$173
Kansas City	-$157	-	-	San Francisco	-$241	$977	-$303
Los Angeles	-$214	$2,077	-$373	Seattle	-$180	$877	$1,088
Miami	-$46	$2,237	-	Tampa	-$1	$1,550	$43
Milwaukee	-$239	-$3,057	$445	Washington	-$54	-$33	-
Minneapolis	-$127	-	-				

Source: Dennis Coates and Brad R. Humphreys, "The Effect of Professional Sports on Earnings and Employment in the Services and Retail Sectors in U.S. Cities," *Regional Science and Urban Economics* 33 (2003).

- Indicates that this effect could not be estimated because the relevant data were not available for that MSA.

establishments by about $144 per employee per year. Baseball also lowered the per employee annual earnings of workers in the hotel and lodging sector by about $38. Most striking of all, baseball lowered the annual earnings of workers in the amusements and recreation sector by $503. The last result is impressive in part because it includes the salaries of the baseball players themselves.

Those results suggest that there is a great deal of substitution of economic activity related to professional baseball for other amusement and recreation activities in cities that host teams. That substitution harms workers employed in alternative entertainment and recreation activities. This evidence stands in stark contrast to the pie-in-the-sky forecasts used to justify subsidizing a professional baseball team.

The results we have just reported are based on the actual experience of U.S. cities with professional baseball over a period of nearly 30 years. The economic benefits touted by Mayor Williams are predictions about future economic impacts based on a flawed methodology.

Table 2 shows the effects of the presence of professional football, baseball, and basketball teams on employment in various sectors in each city. Table 3 shows the effect on earnings.

Rather than use average values of stadium capacity, for example, we use the exact values of the variables for each of the 37 cities. In this way we are able to compute the effect of sports on earnings and employment in each of the cities. The clear implication of Table 2 is that the presence of professional sports in the Washington metropolitan area has, on average, sapped some strength from the service and retail sectors. Admittedly, the data do not include the completion of the MCI Center. Yet the effects of the center's presence in D.C. probably included a

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substitution effect similar to the ones we see elsewhere. Our results do, however, reflect the long presence of the Redskins, the arrival of the Bullets (Wizards) from Baltimore in 1973, and the departure of the Senators for Texas in 1971. These figures, like those in Table 1, should give pause to even the staunchest believer in the claim that bringing professional baseball to Washington will lead to significant positive economic benefits on net.

Because we developed a wide variety of measures of the sports environment in metropolitan areas, many of the individual elements have a positive impact in one sector that is offset by a negative impact in another sector. For example, on average, the arrival of a new basketball franchise in a metropolitan area increases real per capita income by about $67. But building a new arena for that basketball team reduces real per capita income by almost $73 in each of the 10 years following the construction of the arena, leading to a net loss of about $6 per person.

Similarly, in cities that have baseball franchises, the net effect of an existing baseball team playing in a 37,000-seat baseball-only stadium (the average capacity of the baseball stadiums in our data set) is a $10 reduction of real per capita income. This last point is particularly relevant for the D.C. situation. Although the proposed stadium undoubtedly will be larger than the average in our data set, the net effect will not likely be smaller than the $10 we estimated.

Note also that the waiters, waitresses, cooks, busboys, and other workers in the eating and drinking establishments that will arise will largely be D.C. residents. They are, presumably, precisely the people whom the stadium proponents argue will benefit from building the ballpark. But our estimates reveal that those people are harmed or experience, at best, only a very modest increase in incomes.

Conclusion

The policy implications of our results are no different from those of the previous studies that found no positive relationship between the presence of pro sports teams and growth in local economies. The evidence suggests that attracting a professional sports franchise to a city and building that franchise a new stadium or arena will have no effect on the growth rate of real per capita income and may actually reduce the level of real per capita income in that city. Moreover, specific sectors of the economy that are frequently predicted to be the big winners from stadium construction are likely to benefit very little or even be harmed by it. Yet government decisionmakers and politicians continue to try to attract professional sports franchises to cities or to use public funds to construct elaborate new facilities to woo them. One thing is clear from the evidence: pro sports team owners are reaping substantial benefits for their teams by touting sports as an effective tool for economic development.

The impact study commissioned by Mayor Williams's office contains most of the flaws that have led economists to criticize such studies for decades. The pronouncements that no local tax dollars will go to stadium construction amount to economic hand waving.

If the actual economic impact of the proposed new baseball stadium in D.C. ends up resembling the economic impact of professional sports teams on other U.S. cities in the past, then at best this stadium will have no effect on the local economy. At worst, some sectors of the economy—businesses located near the new stadium and workers in closely related occupations—will benefit while others will lose, and the overall impact on the economy will be zero or negative.

A baseball team in D.C. might produce intangible benefits. Residents might have an enhanced sense of community pride and another opportunity to engage in a shared experience of civic expression. Perhaps some people will think that D.C.'s image as a "world-class city" will be further burnished. Rooting for the team will provide satisfaction to many local baseball fans. Yet those intangible benefits largely accrue to people interested in being fans of the baseball team and showing their support by purchasing tickets to games and team paraphernalia. That is hardly a reason for the city government to subsidize construction of a ballpark, or for the baseball team to avoid paying the cost to build it. District policymakers should not be mesmerized by the faulty impact studies that claim a baseball team and new stadium can be an engine of economic growth.

Notes

1. Paul Schwartzman and Manny Fernandez, "After 33 Joyless Years, Fans Counting the Days," *Washington Post*, September 30, 2004, p. A1.

2. Executive Office of the Mayor, "In the News," October 1, 2004, http://dc.gov/mayor/newsletter/2004/oct/v3_issue20_1.shtm.

3. See Baseball Stadium Agreement Exhibits, Exhibit E, "Rent Schedule," http://www.dcwatch.com/govern/sports040929b.htm .

4. Scott Wallsten, "Paying for Baseball in D.C.," October 3, 2004, http://www.wallsten.net/papers/Wallsten_Paying_for_baseball_in_DC.pdf.

5. For examples of arguments used in favor of subsidizing major league sports in other cities and the subsequent experiences of those cities, see Raymond J. Keating, "Sports Pork: The Costly Relationship between Major League Sports and Government," Cato Institute Policy Analysis no. 339, April 5, 1999.

6. Office of the Deputy Mayor for Planning and Economic Development, "Mayor's Major League Baseball Briefing," October 2004, http://dcbiz.dc.gov/dmped/frames.asp?doc=/dmped/lib/dmped/100504baseballbriefing.pdf.

7. See Robert A. Baade, "Professional Sports and Catalysts for Metropolitan Economic Development," *Journal of Urban Affairs* 18 (1996): 1–17; Robert A. Baade and Richard F. Dye, "The Impact of Stadiums and Professional Sports on Metropolitan Area Development," *Growth and Change* 12 (1990): 1–14; John L. Crompton, "Analysis of Sports Facilities and Events: Eleven Sources of Misapplication," *Journal of Sports Management* 9 (1995): 14–35; *Sports, Jobs, and Taxes: The Economic Impact of Professional Sports Teams and Stadiums*, ed. Roger G. Noll and Andrew Zimbalist (Washington: Brookings Institution, 1997); Mark S. Rosentraub et al., "Sports and Downtown Development Strategy: If You Build It, Will Jobs Come?" *Journal of Urban Affairs* 16 (1994): 221–39.

8. Crompton; and *Sports, Jobs, and Taxes*.

9. Robert Baade and Allen Sanderson, "The Employment Effect of Teams and Sports Facilities," in *Sports, Jobs and Taxes*, pp. 92–118.

10. John Siegfried and Andrew Zimbalist, "The Economics of Sports Facilities and their Communities," *Journal of Economic Perspectives* 14, no. 2 (2000): 115–34.

11. "Novelty effect" refers to the burst of interest in and attendance at professional sports events that accompanies the opening of a new stadium.

12. For further technical discussion of these results, see Dennis Coates and Brad R. Humphreys, "The Growth Effects of Sport Franchises, Stadia and Arenas," *Journal of Policy Analysis and Management* 18 (1999): 601–24; and Dennis Coates and Brad R. Humphreys, "The Effect of Professional Sports on Earnings and Employment in the Services and Retail Sectors in U.S. Cities," *Regional Science and Urban Economics* 33 (2003): 175–98.

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