

Paying to Play: An Analysis of Government Funding for the FedEx Forum

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I. Introduction

Having a major sports team often distinguishes major cities from mid-major cities. In order to attract such teams, cities often must offer to build new arenas to differentiate them from their competing cities. The construction of these new arenas is typically very expensive, and puts a huge strain on the entity that finances this construction. As Memphis grew, it realized the importance of bringing a major sports team to the city. In 2001, Memphis got the opportunity to boost its image when the Grizzlies franchise relocated to Memphis. With this relocation, came agreements to build a new \$200-\$250 million arena in downtown Memphis that would later become known as the FedEx Forum. In addition to this arena, Memphis also has AutoZone Park, which plays host to the minor league Memphis Redbirds baseball team; De Soto County Civic Center, which plays host to the minor league Memphis RiverKings hockey team; the Pyramid, which is currently unoccupied; as well as several other minor arenas. These main four arenas have all been built in the past fifteen years. The construction of so many arenas in such a short period of time has cost a significant amount of money.

While it is widely assumed that the construction of sports arenas has a significant positive impact on economic development, these figures are often overestimated in cities' impact studies. In this paper, I will focus on the economic impact of the construction of sports arenas from a budgetary standpoint. First, I will focus on whether or not a sports arena is the most effective expenditure from the city and county's perspective. Second, I will focus on whether or not sports arenas are the most effective way to boost economic development.

¹ I thank Marshall Gramm, Teresa Beckham Gramm, Tim Huebner, Nick McKinney, Lori Holyfield, and the participants in the 2005 Rhodes Institute for Regional Studies for their helpful guidance and suggestions.

II. Literature Review

Siegfried and Zimbalist highlight the recent boom in sports arena construction, but also acknowledge the lack of statistically significant empirical data showing a positive relationship between the construction of these arenas and economic development. This finding drastically contradicts promotional studies done by cities or chambers of commerce supporting the construction of these arenas. These promotional studies typically project grossly overestimated figures for local value added, new spending, and associated multipliers.² Bartik agrees that these promotional studies overestimate the true benefit of sports arenas.³ Despite these concerns, benefits certainly do exist such as development, new business, and job creation.

Siegfried and Zimbalist go on to highlight three main reasons for the typical overestimates from promotional studies: the substitution effect, leakages, and the negative effect on local governments.⁴ The theory behind the substitution effect is that people have a fixed leisure budget. Siegfried and Zimbalist would argue that people spend a certain amount of money on leisure activities despite the specific activities that are available to them. This theory implies that sports arenas simply “shift” spending as opposed to allegedly creating new spending. For example, if a city did not have a sports arena, the theory of a fixed leisure budget implies that people would spend the same amount of money on other “leisure” activities as they would at a

² John Siegfried and Andrew Zimbalist, “The Economics of Sports Facilities and Their Communities,” *Journal of Economic Perspectives*, Summer 2000, Vol. 14, No. 3 95-115.

³ Timothy Bartik, “Sports, Jobs, and Taxes: The Economic Impact of Sports Teams and Stadiums,” *National Tax Journal*, June 1998, Vol. 51, Iss. 2, 411-414.

⁴ Siegfried and Zimbalist, “The Economics of Sports Facilities and Their Communities.”

sports arena. Siegfried and Zimbalist suggest that people having a fixed leisure budget creates little to no net effect on spending.⁵

Promotional studies typically counter this argument with statistics about out-of-town fans attending sports events. In theory, sports arenas attract spending from outsiders that they would not normally be able to attract with their other “leisure” activities. Therefore, sports arenas could theoretically generate more spending in a city despite fixed leisure budgets. Despite this legitimate argument, Siegfried and Zimbalist claim that a majority of out-of-town attendees at sports events are not there for the actual sports event, but are there for other reasons. For example, an out-of-town person who attends a sports event is most likely not traveling for the sports event, but is traveling for another reason such as business. The theory of a fixed leisure budget emerges again because Siegfried and Zimbalist claim that if there were no sports arena, the traveling individual would spend their money on other “leisure activities.” For example, even if the person did not go to a sports event, they would still spend money on some other form of “leisure.” Just like a resident attending a sports event, Siegfried and Zimbalist argue that an out-of-town individual attending an event also creates little to no additional spending.⁶ In both of these situations, people do not increase their spending, but merely substitute spending at sports arenas in place of spending at movie theaters, restaurants, etc.

Siegfried and Zimbalist also suggest that huge amounts of revenue that promotional studies cite as beneficial to that economy, leak out of the local economy. First, a majority of revenue generated by a sports arena typically goes to players and owners. These players, owners, and other executives typically face the top tax bracket (39.6%). Thus, nearly 40% of the

⁵ Ibid.

⁶ Siegfried and Zimbalist, “The Economics of Sports Facilities and Their Communities.”

salaries of highly-paid individuals gets siphoned off by the federal government.⁷ The previously mentioned promotional studies report new revenue brought to a city, but typically report the gross numbers before taxes or other consideration are made.

After the federal government takes its nearly 40% of revenue, many of these high-paid individuals typically save and invest more of their money in the world's financial markets than the average individual. Saving or investing money in the world's financial market takes away from the money players would spend in the local economy. Next, not all players live in the city in which their team plays. Players who live outside of their team's city spend money in an economy that did not pay their salary. These two outlets for revenue are further sources of huge leakage of revenue from the local economy. Furthermore, even if players do live in the city in which their team plays, professional athletes typically travel more than the average individual and are also more likely to own multiple homes. The results of this are spending done outside the local economy. So from an initially huge salary base, Siegfried and Zimbalist suggest that very little of that money ends up back in the local economy.

In addition to leakages of player and executive revenue, concession revenues often face drastic leakage issues. Even if people have flexible leisure budgets and spend more while they were at sports arenas, facility concession are usually owned by national companies not based in that city. This foreign ownership again results in revenue generated by a sports arena not benefiting that local economy.⁸ Finally, promotional studies tend to overstate the benefits which brings to question public funding, which is a question this analysis will attempt to address for Memphis.

⁷ Ibid.

⁸ Siegfried and Zimbalist, "The Economics of Sports Facilities and Their Communities."

Before exploring the financing and lease terms of sports arenas, many people question the need to build a new arena in a city that already has a satisfactory arena. Rushin traces this need back to the team itself.⁹ Professional sports teams often find it necessary to play in the latest and greatest arenas regardless of what city that arena are in. Therefore, sports teams often threaten relocation if they do not get a new arena. For example, in 2000, the Denver Broncos football team threatened to move to Houston, if they did not get a new stadium. A Business Week article tracks the interaction between the Broncos franchise and the city of Denver.¹⁰ The Broncos now play in a \$400 million stadium, of which approximately three-quarters was funded by taxpayers. It is now commonplace for sports franchises to agree upon future arena construction before moving to a city.

The financing and lease terms of sports arenas also play a crucial role in determining the economic impact of a sports arena. These terms play such a crucial role because sports teams demanding extremely expensive sports arenas with the latest and greatest features. Much of the cost of these arenas typically fall on the local government and hence taxpayers, be it the city or the county. Local governments usually raise the money for these arenas through tax revenue from incremental revenue or through new taxes on specific entities. This new spending not only puts a huge burden on the local governments, but also often takes money from other more pertinent sources for spending. All things being considered, Siegfried and Zimbalist argue that the negative budgetary impact created by the construction of a sports arena cancels any positive impact created.¹¹

Keating suggest another major downside to governments building and owning sports arenas is that sports franchises no longer *own* the arenas in which they play, but instead they *rent*

⁹ Steve Rushin, "Curtains?," *Sports Illustrated*, Dec. 22, 1997, Vol. 87, Iss. 25, 136-142.

¹⁰ "Sports stadiums bring no economic boom," *USA Today*, New York, Dec. 1996, Vol. 125, Iss. 2619, 10.

¹¹ Siegfried and Zimbalist, "The Economics of Sports Facilities and Their Communities."

these arenas. Sports teams not having the burden of ownership makes it much easier for them to move or get a better deal. This means of leasing also puts a huge amount of bargaining power in the hands of the sports team as opposed to the providers of capital.¹²

Swindell and Rosentraub further explore the financing aspect of sports arenas that has become commonplace for both cities and counties. Local governments typically use two forms of taxation to generate revenue to build sports arenas. The first tax highlighted by Swindell and Rosentraub is a broad-based tax such as sales or property tax.¹³ The main criticism of this form of fund-raising is that it allegedly makes citizens pay for an arena that they do not necessarily use. Ward argues that sports arenas are an entity that are enjoyed by few people, but paid for by a majority of people. Governments justify broad taxes through the addition of positive externalities.¹⁴ Another form of taxation is through special taxes such as taxes on alcohol, tobacco, hotels, and rental cars. The idea behind this form of taxation is specifically targeting the users of sports arenas.

Evaluating government spending hinges on opportunity cost, or the next best way the money could have been spent. While the government may not lose money by investing in sports arenas, they must determine if it is indeed the best way to spend money. Ward also argues that sports arenas are not a good investment when its rate of return is weighed against other possible government projects. In the case of the government investing, it realizes returns in the form of tax revenue. Ward states the sports arenas typically yield relatively low return on investment for the inherent risk. She claims that very little sales tax revenue is generated and

¹² Raymond Keating, "It's time to get government out of the sports business," *USA Today*, Mar. 2000, Vol. 128, Iss. 2658, 28-31.

¹³ Mark Rosentraub and David Swindell, "Who Benefits from the Presence of Professional Sports Teams? The Implications for Public Funding of Stadiums and Arenas," *Public Administration Review*, Jan. /Feb. 1998, Vol. 58, No. 1, 11-20.

¹⁴ Externalities are defined as "the impact of one person's actions on the welfare of another. This concept will be further discussed later in the analysis.

that there is typically very little government profit generated by sports arenas. Ward further argues that local governments' spending money on sports arenas takes away from more important agencies such as libraries, fire departments, and police forces.¹⁵

Swindell and Rosentraub also analyze the claim by promotional studies that sports arenas create jobs. While sports arenas do typically create jobs, the majority of jobs are usually low-paying and are not year-round jobs. Furthermore, construction of sports arenas has proven to be an extremely expensive form of job creation. A Sports Illustrated article echoes this argument claiming that a huge burden is put on all taxpayers for the creation of very few jobs. Swindell and Rosentraub argue that government money could be much more effectively spent if job creation were the goal.¹⁶

Weiner and Catanoso further explore the notion of job creation citing several specific examples in Minnesota. First, the Minnesota Twins baseball team faced a \$10 million annual operating loss at the Metrodome. This taxpayer-financed arena has not provided the projected return on investment. Furthermore, Minnesota experienced no significant job creation with the construction of its sports arenas. This shortcoming eventually forced the city to give up its National Hockey League team, the North Stars.¹⁷

Bartik also suggests that even the gross revenue created by a sports team is usually very small compared the revenue generated by the economy as a whole.¹⁸ Therefore, sports teams have a relatively insignificant impact on the economy. This concern is shared by Siegfried and Zimbalist,¹⁹ Swindell and Rosentraub,²⁰ and Owen.²¹

¹⁵ Janet Ward, "Are Sports Teams Worth the Trouble?," *The American City and County*, Feb. 1991, Vol. 106, Iss. 2, 59-65.

¹⁶ Rosentraub and Swindell.

¹⁷ Justin Catanoso and Jay Weiner, "Saying 'Enough!' to Big League Demands," *Business Week*, Dec. 15, 1997, 102.

¹⁸ Bartik.

¹⁹ Siegfried and Zimbalist, "The Economics of Sports Facilities and Their Communities."

Sports multipliers attempt to measure new local spending due to a sports team through a series of calculations. Siegfried and Zimbalist also criticize the use of multipliers used in promotional studies to predict the impact of sports arenas.²² The use of these multipliers typically assumes that professional sports athletes spend, save, and invest like the average individual. This commonly accepted assumption is blatantly false. This implication is one major reason that promotional studies project much more significant economic impact than occurs in reality. Owen,²³ Rushin,²⁴ Zaretsky,²⁵ and Bartik²⁶ also question the use of these problematic multipliers.

In addition to these three main downfalls of sports arena construction, Siegfried and Zimbalist do suggest several potential realistic benefits from the construction of sports arenas. First, they claim that sports arenas can help initiate the process of core redevelopment. After the suburbanization trend since the 1950's, many downtown urban cores have been devastated, but sports arenas offer cities a chance to revitalize these urban cores. Sports arenas also offer cities a chance to reposition economic activity within a metropolitan area. Despite this opportunity to reposition economic activity, a sports team alone does not provide enough activity to attract major retailers. Siegfried and Zimbalist finally suggest that only a sports arena accompanied by a year-round business district or residential neighborhood will attract substantial independent investment.²⁷

²⁰ Rosentraub and Swindell.

²¹ Jeffrey Owen, "The Stadium Game," *Journal of Sports Economics*, Aug. 2003, Vol. 4, No. 3, 183-202.

²² John Siegfried and Andrew Zimbalist, "A Note on the Local Economic Impact of Sports Expenditures," *Journal of Sports Economic*, Nov. 2002, Vol. 3, No. 4, 361-366.

²³ Owen.

²⁴ Rushin.

²⁵ Adam Zaretsky, "Should Cities Pay for Sports Facilities," *Regional Economist*, <http://stlouisfed.org/publications/re/2001/b/pages/lead-article.html>.

²⁶ Bartik.

²⁷ Siegfried and Zimbalist, "The Economics of Sports Facilities and Their Communities."

Second, Siegfried and Zimbalist suggest that sports arenas generate the demonstration effect and have the potential to “put a city on the map.” For example, a city uses a sports arena to gain regional, national, or even international television coverage to increase tourism and business. The demonstration effect becomes particularly important when large companies consider relocation or where to locate their headquarters. In addition to large companies, the demonstration effect suggests that cities may also attract other appealing cultural resources such as theaters, operas, parks, etc. through the construction of sports arenas.²⁸

Owen agrees that any economic impact created by sports arenas is typically greatly exaggerated. However, he suggests that there is some sort of intangible public good element added to cities with sports arenas. He identifies this public good element as civic pride and nonmarket consumption. This intangible benefit would be benefits such as feeling better about living in a “big city” because it has a sports team. Owen goes on to argue that in addition to value added to the local economy, sports teams as well as leagues gain value when new arenas are built.²⁹

III. Memphis

Memphis is a very unique city in that it has four sports arenas that have been built within the past fifteen years. There is also a certain degree of controversy associated with those sports grounds, payment for their construction, and their current (mis)use. The construction of these facilities also plays a particularly interesting role in Memphis’s recent downtown redevelopment efforts.

²⁸ Ibid.

²⁹ Owen.

The Pyramid

In the mid 1980's, people in Memphis began to rally support for the construction of a sports arena downtown. As of 1986, reports lingered of a \$50-\$75 million Pyramid downtown to host a sports team sometime in the future.³⁰ By May of 1987, financing for the Pyramid had been settled for the construction of the 20,000 seat arena. The agreement on construction called for \$19 million each from the city and county as well as \$10 million from private investors.³¹ Just a few months later, in August, Memphis State University pledged its support of the Pyramid in the form of a contribution of at least \$7 million.³² By mid 1988, the City Council of Memphis approved construction of the \$49.7 million Pyramid. At this meeting, the city appropriated \$21.3 million towards construction costs.³³ After many construction delays, the Pyramid finally opened to the public on September 7, 1991 for public tours. When it finally opened, the Pyramid had a final cost of \$62 million.³⁴ Several months later, the Pyramid hosted its first major concert. On November 9, 1991, the Pyramid hosted The Judds.³⁵ The opening of such a major arena downtown has been a very significant event in the history of Memphis.³⁶

The Pyramid is very unique in that it was not constructed with a particular major sports franchise in mind as many arenas of that time were. The Pyramid was built to attract concerts as well as host Memphis State University's home basketball games. The revenue generated by

³⁰ Wayne Risher, "Pyramid backers building momentum," *The Commercial Appeal* (Memphis, TN), Jun. 1, 1986, B1.

³¹ James Kingsley, "Pyramid financing 'worked out'," *The Commercial Appeal* (Memphis, TN), May 15, 1987, A16.

³² John Branston and Jimmie Covington, "Covington sees savings across board," *The Commercial Appeal* (Memphis, TN), Aug. 22, 1987, A1.

³³ Jimmie Covington and Thomas Jordan, "County vote is due today for pyramid," *The Commercial Appeal* (Memphis, TN), A1.

³⁴ William Thomas, "First public tours prove pyramid a crowd-pleaser," *The Commercial Appeal* (Memphis, TN), Sep. 7, 1991, A1.

³⁵ "Open at last/ The Pyramid enters a positive mode," *The Commercial Appeal* (Memphis, TN), Nov. 9, 1991, A12.

³⁶ Memphis Area Guide, *Memphis History: A Chronology*, <http://www.memphisite.com/about/memphishistory.htm>.

concerts and college basketball games is typically much less than the revenue generated by a professional sports team.

This would all change in March of 2001 when then Vancouver Grizzlies franchise owner Michael Heisley chose to move his team to Memphis. Memphis beat out competition such as Louisville, Anaheim and New Orleans thanks to talks of a new arena. Memphis's bid for the Grizzlies included plans for a \$200-\$250 million downtown arena to be built after approximately two years of playing in the Pyramid.³⁷

DeSoto County Civic Center

The Memphis area would add another sports arena in 1996, but still did not have a major sports team in the city. In June of 1996, the DeSoto County Civic Center Commission approved plans for a multipurpose facility just south of Memphis. The estimated cost of the arena at that time was between \$26 and \$28 million, a majority of which was to be publicly funded through a tax on hotel and restaurants.³⁸ The thought behind this tax was to tax the people who use the arena instead of a broad tax. By December of 1997, DeSoto County accepted thirteen bids on the construction of their civic center. Construction costs had increased to an estimated \$30 million on the arena that was scheduled to open January 1, 2000.³⁹

Reports in 1998 showed that the 2% tax on hotel, motel, and restaurant bills was generating more revenue than was initially expected. During the 1998 calendar year, the tax generated nearly \$2 million in revenue, an average of nearly \$160,000 per month. These funds

³⁷ David Williams, "It's Memphis, says report on Grizzlies' pick for relocation," *The Commercial Appeal* (Memphis, TN), Mar. 25, 2001, A1.

³⁸ William Bayne, "Vote planned for tax on arena complex," *The Commercial Appeal* (Memphis, TN), Jun. 6, 1986, 1DS.

³⁹ William Bayne, "DeSoto center's site work bids accepted," *The Commercial Appeal* (Memphis, TN), Dec. 12, 1997, A21.

would be used to make the \$145,000 monthly payment of principal and interest on the \$27.8 million bond issued to finance the civic center.⁴⁰

The arena was still not open in April of 2000 and the county was searching for a \$5 million sponsor. With the National Hockey League preseason approaching rapidly, DeSoto County approved the additional expenditure and puts its name on the arena. The arena finally opened in September 2000 with minor league hockey games and a number of concerts on the docket.⁴¹

AutoZone Park

With plans already underway in January of 1998, AutoZone pledged \$4.3 million to put its name on the planned baseball stadium in downtown Memphis for 25 years. At this time, the stadium was estimated to cost \$46 million.⁴² The summer of 1999 brought several questions about financing arrangements as plans for the arena developed. The IRS questioned the tax-free nature of the \$72 million bond used to finance AutoZone Park.⁴³ The tax-free nature was in question because the Redbirds minor league baseball franchise is owned by a non-profit organization, the Redbirds Foundation, as opposed to an individual or group.⁴⁴

After its opening in 2000, AutoZone Park has been a popular concert venue as well as played host to the Redbirds. AutoZone Park has a capacity of 14,320, making it one of the biggest minor league stadiums. AutoZone Park has been so successful that in 2002, the Redbirds

⁴⁰ William Bayne, "Funds from special tax exceed goals for DeSoto Civic Center," *The Commercial Appeal* (Memphis, TN), Dec. 31, 1998, DS1.

⁴¹ Jean Purdy, "Supervisors ok additional funding for civic center," *The Commercial Appeal* (Memphis, TN), Apr. 4, 2000, DS1.

⁴² Rob Johnson, "\$4.3 million to put name of AutoZone on stadium," *The Commercial Appeal* (Memphis, TN), Jan. 6, 1998, A1.

⁴³ Deborah Clubb, "Park bonds' interest may be taxable," *The Commercial Appeal* (Memphis, TN), Jun. 9, 1999, A1.

⁴⁴ Deborah Clubb, "Building a foundation; Redbirds plan is about more than baseball," *The Commercial Appeal* (Memphis, TN), Aug. 13, 1999, A1.

drew more fans on average than the Montreal Expos and Florida Marlins, both Major League Baseball teams.⁴⁵ AutoZone Park also features the largest video board in minor league baseball.⁴⁶ The construction of AutoZone Park and the franchising rights were mostly funded through private investment.

FedEx Forum

The \$200-\$250 million arena that would replace the Pyramid as home to the Grizzlies is the FedEx Forum. When the Grizzlies franchise moved to Memphis in 2001, FedEx already had its eye on the new arena. Other than the contribution from FedEx for naming rights, the arena was almost entirely publicly funded.⁴⁷ The city is raising funds for the arena through a 2% rental car surcharge, a hotel and motel tax, as well as an added fee to local utility customers.⁴⁸ Additionally, FedEx negotiated a 20 year, \$90 million naming rights agreement with the Grizzlies. As of 2002, there were also discussions of the University of Memphis moving from the Pyramid to the FedEx Forum.⁴⁹

In May of 2002, design development was completed on the FedEx Forum. Just one month later, the groundbreaking took place. The first public events took place in September of 2004 with final completion occurring one month thereafter.⁵⁰ The FedEx Forum is the largest capital work in Shelby County history.⁵¹ Part of the benefit of the FedEx Forum is its location,

⁴⁵ Ball Park Watch, *AutoZone Park/Memphis Redbirds*, <http://www.ballparkwatch.com/visits/memphis.htm>.

⁴⁶ http://www.minorleagueballparks.com/auto_tn.html.

⁴⁷ David Williams, A21.

⁴⁸ Sport Venue Technology, *Memphis Grizzlies NBA Franchise Relocation, TN, USA*, <http://www.sportsvenue-technology.com/projects/grizzlies/>.

⁴⁹ Ron Tillery, "Arena will be FedEx Forum- Announcement expected today at press conference," *The Commercial Appeal* (Memphis, TN), Oct. 16, 2002, D1.

⁵⁰ FedEx Forum, *FedEx Forum Construction Timeline*, http://www.fedexforum.com/pages/fedexforum_information/construction.aspx.

⁵¹ FedEx Forum, *New Memphis Arena P.B.A.*, http://www.fedexforum.com/pages/fedexforum_information/construction.aspx.

just one block south of Beale St., a concentrated area of clubs, bars, and restaurants that has played a major role in the redevelopment of downtown.

As the opening of the FedEx Forum approached, the University of Memphis began to show interest in moving its home basketball games from the Pyramid. By February of 2004, negotiations were underway between the University and the Forum. In order to successfully make the move to the Forum, the city of Memphis as well as the Shelby County Commission would each have to pay the University \$125,000 in public funds per year for the next 20 years. While this figure may sound steep, \$250,000 is much less than the estimated \$1.3 million per year that would be required to maintain the Pyramid as a basketball facility. The major argument against the university's move was that it abandoned the Pyramid, a thirteen year-old arena that still carried \$35 million in public debt.⁵² Despite that concern, the move did indeed happen and the Pyramid still lies vacant. The debt to pay for the Pyramid has already been incurred by the public. In hindsight, it seems that building the Pyramid was a poor decision. However, using the Pyramid for basketball specifically to justify that decision would only compound the initial poor choice.

By the end of summer of 2005, plans are supposed to be released for the future of the Pyramid. The public discussions revolve around some sort of tourist attraction such as a theme park or aquarium. The city and county are more interested in attracting a major destination retailer. Specific ideas that keep coming up are Bass Pro, Cabela's, or premium factory outlets.⁵³ It is very important for both the city of Memphis as well as Shelby County to find a profitable use for the Pyramid due to the huge amount of outstanding public debt.

⁵² "Edging toward a deal on Tigers' move," *The Commercial Appeal* (Memphis, TN), Feb. 15, 2005, B4.

⁵³ David Williams, "Memphis, Tenn., area hopes to attract retail entity to Pyramid arena," *The Commercial Appeal* (Memphis, TN), Jul. 1, 2005.

IV. Theoretical Background

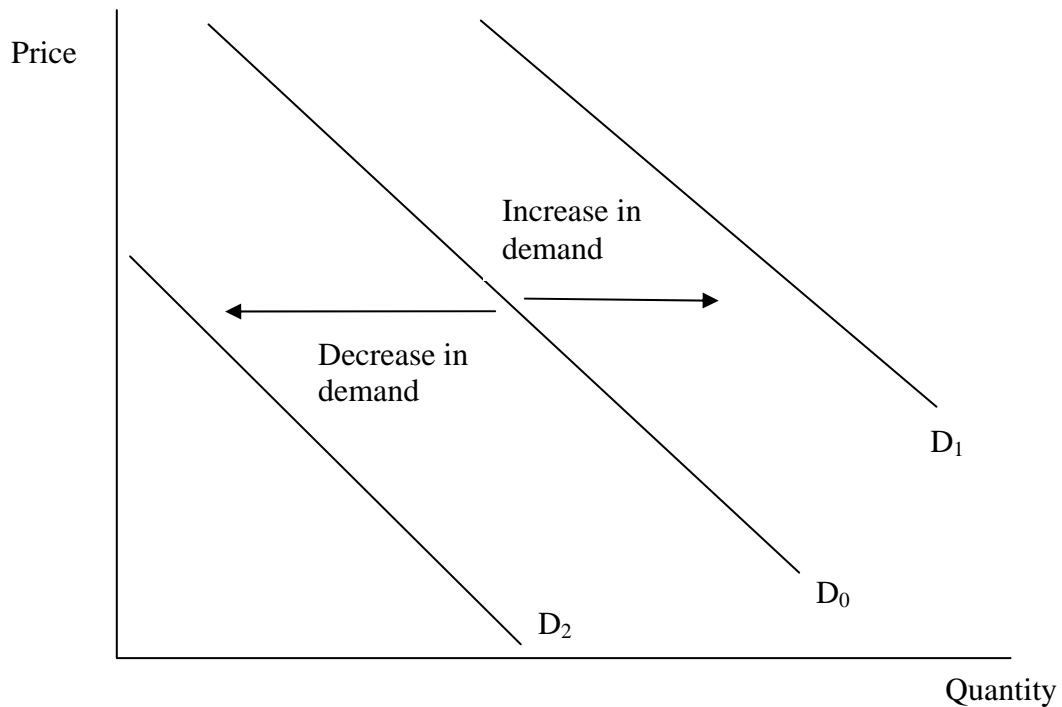
Supply and Demand

In analyzing the justification for government spending on sports arenas, supply and demand must be used to determine the effects of externalities. The laws of supply and demand are the underlying principles of competitive markets. Quantity demanded is defined as the quantity of any good that consumers are willing and able to purchase. As price falls, quantity demanded increases. Thus, quantity demanded is negatively related to price. This law of demand holds for *most* goods. Quantity demanded depends of factors such as income, taste, expectations, price and the price of related goods. Applying the law of demand graphically yields a downward sloping curve relating price and quantity: the demand curve.⁵⁴

The summation of every individual's demand curve yields the market demand curve. Market demand also incorporates the number of buyers. Changes in the determinants of demand cause the demand curve to shift. Any change that causes an increase in quantity demanded at every price causes the demand curve to shift right. Likewise, any change that causes a decrease in quantity demanded at every price causes the demand curve to shift left. A change in price will cause movement along the demand curve.⁵⁵ The demand curve represents the price consumers are willing to pay, which implies a measure of total benefit from the purchase and consumption of a good.

⁵⁴ N. Gregory Mankiw, *Principles of Economics*, The Dryden Press, 1998, 61-84.

⁵⁵ *Ibid.*

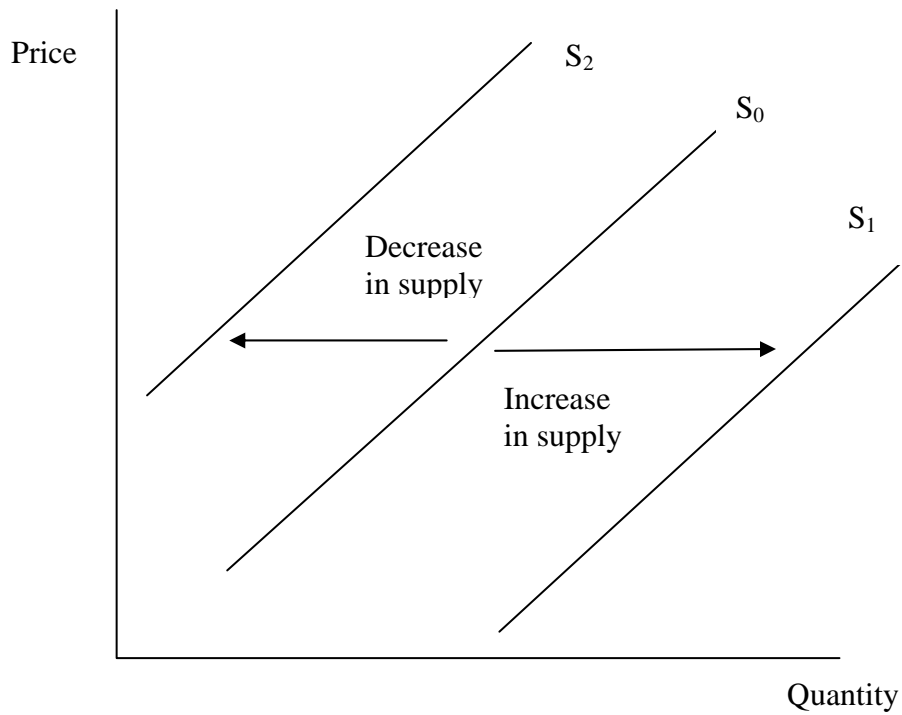


From the seller's side, quantity supplied is the amount that sellers are willing and able to sell at all prices. As price increases, quantity supplied increases. Therefore, quantity supplied is positively related to price. Thus, the supply curve is upward sloping. Quantity supplied is determined by the prices of inputs, technology, and expectations.⁵⁶

Just like with the demand curve, the summation of each seller's supply curve yields the market supply curve. Changes in input prices, technology, expectations, and the number of sellers will result in shifts of the supply curve. A change in price will represent movement along the supply curve. A decrease in supply is a shift to the left, while an increase in supply is a shift right.⁵⁷ The price inferred from the supply curve shows the total cost of producing and supplying a good.

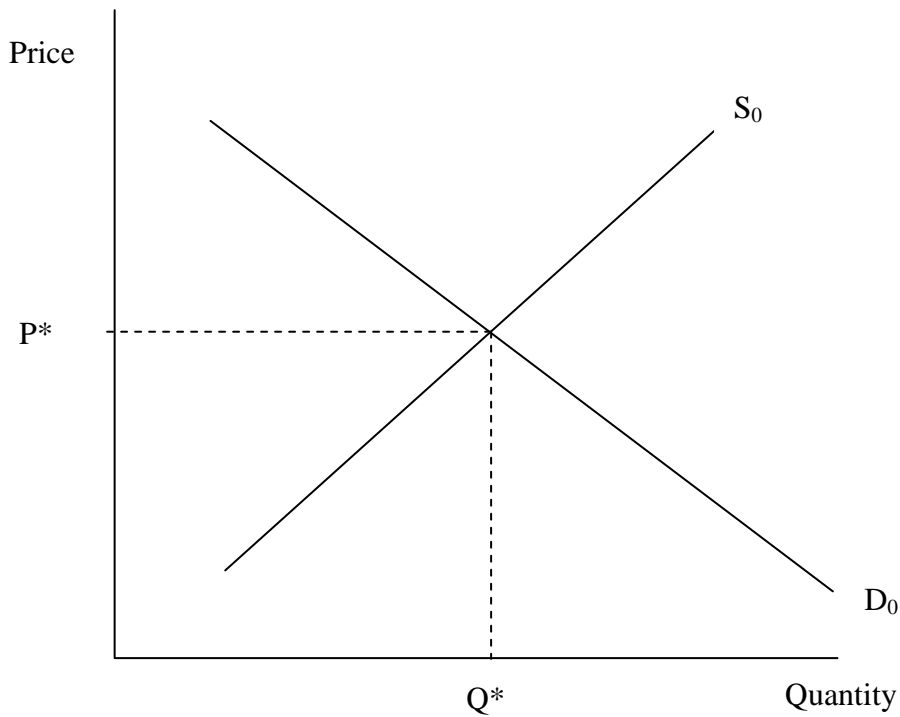
⁵⁶ Ibid.

⁵⁷ Ibid.



At the price where $Q^D=Q^S$, equilibrium arises. Equilibrium is the point representing price and quantity where quantity supplied and quantity demanded are equal, or where the supply and demand curves intersect (Q^* and P^* represent equilibrium quantity and price respectively). If a price other than the equilibrium price is charged, the result is either excess supply or excess demand. If the equilibrium price is not charged, market forces will drive the price towards the equilibrium price.⁵⁸

⁵⁸ Ibid.



Externalities and Public Goods

When a sports arena is built, its benefit and cost can extend beyond those who paid for it and those who use it in the form of externalities. An externality is defined as “the impact of one person’s actions on the well-being of a bystander.” Externalities can be both positive and negative, but either way are difficult to measure. Some examples of positive externalities are restored historic buildings because of the beauty and sense of history enjoyed by passers by and research into new technologies because it creates knowledge that other people can use. These positive externalities cause the optimal quantity observed in the market to be greater than the equilibrium quantity. Exhaust from automobiles and barking dogs are examples of negative externalities. These negative externalities cause the optimal quantity to be less than the equilibrium quantity. Externalities can be both beneficial and harmful to the economy. When private entities do not capture all of the benefits and costs of consumption and production of a

good, it may become necessary for the government to intervene in order to achieve the welfare-maximizing quantity. In the case of sports arenas, it is often difficult to specify an exact dollar figure benefit. Therefore, positive externalities, while not easy to measure, can still add to the benefit of a sports arena by individuals who do not pay for it through the purchase of tickets. Governments often justify spends huge sums of money simply to benefit from positive externalities associated with a sports arena.⁵⁹

Public goods are those goods that people can not be prevented from using and one person's use of these goods does not diminish another person's enjoyment of it. For example, national defense cannot be shared by only certain people within a defended nation and when more people enjoy nation defense, it does not reduce others' consumption of it. Other examples include knowledge, programs to fight poverty, and uncongested nontoll roads. Goods can switch between being public and private goods depending on the audience that enjoys that good.⁶⁰

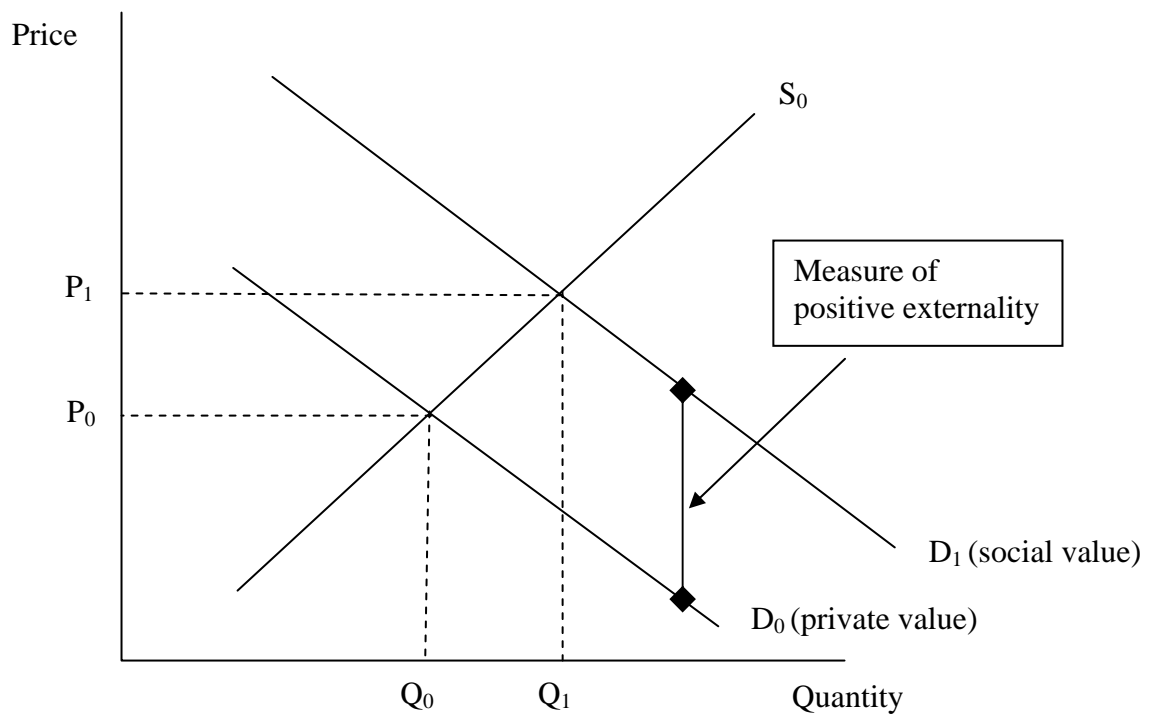
As the provider of many public goods, the government must decide which goods to provide. In the decision making process, government officials may use a cost-benefit analysis. The goal of such an analysis is to estimate the total costs and benefits of the project to society as a whole. The difficult part of this analysis is quantifying the benefits. Costs are normally express in terms of dollars, but how much does a highway benefit a city or how much is one life worth?

The following graph depicts the benefits of positive externalities in a supply and demand graph of the market for sports teams. P_0 and Q_0 represent market equilibrium. Because of the positive externalities associated with sport teams, a demand curve reflecting the true benefits to the society would be D_1 , lying beyond D_0 . The higher social value would justify a higher market

⁵⁹ Mankiw, 199-234.

⁶⁰ Ibid.

price and quantity. The increase in demand represents the benefits of having the sports arena downtown which accrue to others than those who attend games (purchase tickets). Q_0 is the actually observed quantity, while Q_1 is the new optimal welfare-maximizing quantity. We would observe Q_1 if private individuals captured all of the benefits associated with the sports arena. Furthermore, the government intervenes to shift (increase) demand by paying for the stadium itself.



The Club Model

In economics, cities are often modeled after “clubs.” This form of analysis can explain the decision-making of the city, as well as its residents. People choose cities based on what that city offers them, but more importantly can move to satisfy their own needs. A club is a voluntary group of individuals who join to share some benefit. The goal of a club is to maximize

the welfare of its citizens. Marginal cost is the incremental cost of producing one more unit of output. Marginal benefit is the incremental benefits of consuming one more unit. In order to maximize welfare, marginal cost must equal marginal benefit. This equality explains how community size depends on the type of public goods the people want, the extent to which these goods are subject to crowding, and the cost of obtaining those goods. Although the relationship between a club and real-world community is questionable, some would say there is a very close relationship.⁶¹

If people do not like the public goods, or the costs or benefits associated with those goods, they have the ability to leave or go somewhere else. The Tiebout Model suggests that the ability of individuals to move among communities creates a market-like environment in regards to public goods. He goes on to suggest that people choose which communities to be members of based on where they locate. For example, an individual satisfies his needs for public goods and services by the appropriate selection of a community in which to live and pay taxes. Sports arenas serve not only as a benefit to the “club”, but also serve as a means of attracting new members to the “club” who want to enjoy watching sports⁶².

Now I’ll apply these concepts to analyze the FedEx Forum expenditures.

V. Analysis

Using a cost benefit analysis as a means of making decisions, this analysis will focus on the Grizzlies since they are the only major sports team in Memphis, and subject to much controversy. Some of the costs and benefits are able to be measured, while others are impossible to measure. The benefits include new business from out-of-town fans, additional revenue for

⁶¹ Harvey Rosen, *Public Finance: Sixth Edition*, McGraw-Hill Irwin, 2002, 473-505.

⁶² Rosen, 473-505.

area businesses, decreases in unemployment, creation of civic pride, and an increased number of entertainment opportunities. In evaluating the decision to build sports arenas in Memphis, one must inquire as to the government's justification for spending huge sums of public money.

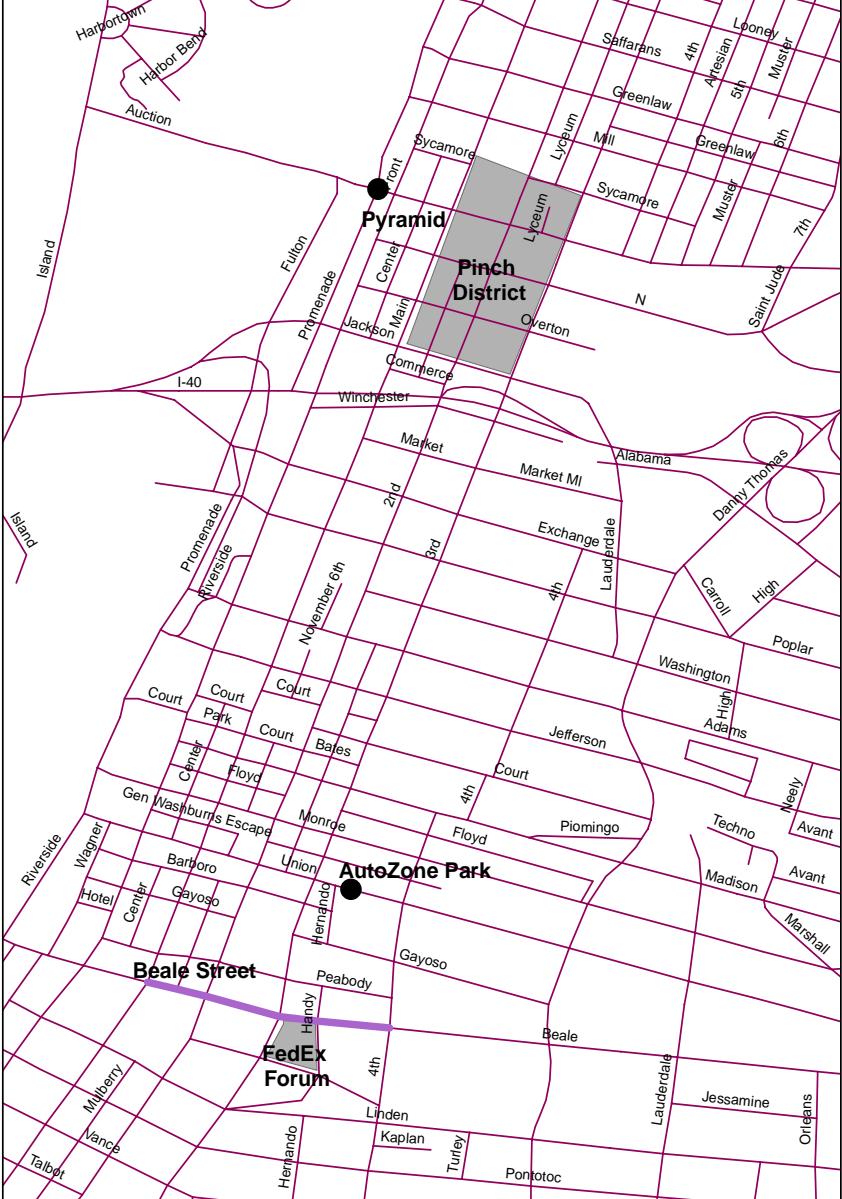
Benefits

New ticket sales generated from out-of-town fans is a benefit that *can* be measured. Ticket sales figures are available in both number of tickets sold as well as dollars generated from ticket sales. However, it would be very difficult and prohibitively expensive to measure the number of out-of-town fans the Grizzlies attract. Attracting new out-of-town spending is the only certain way to measure benefit because increased spending by locals is not applicable due to the substitution effect. According to the substitution effect, changes in attendance patterns for locals would represent transfers in spending as opposed to creation of new spending. For example, local people coming to Grizzlies games is typically offset by decreases in other leisure spending at venues such as movie theaters, bowling alleys, etc. This is a common misconception in regards to the benefits of sports arenas. However, having more choices in entertainment opportunities is a benefit to the community. Regardless of how spending is distributed among them, having more outlets for spending is a benefit, but it can not be measured because it is not quantifiable. .

The substitution effect also applies to attracting concerts to Memphis. Many would argue that Memphis has not been able to attract any *more* concerts to the city since the FedEx Forum opened. Essentially, the FedEx Forum has just diverted concerts from the Pyramid, further drowning it in the wake of the new arena.

Another benefit that *can* be measured is additional revenue for area businesses, but this benefit would also be very difficult and costly to measure. Many proponents for sports arenas argue that they attract new business to areas surrounding the sports arena. The key to measuring this potential benefit is focusing on a broader area, as opposed to business immediately surrounding the sports arena. In the case of Memphis, when the Grizzlies moved from the Pyramid to the FedEx Forum, revenues for businesses on Beale St. went up, but were offset by decreases in spending in other business districts such as the Pinch District (see map below). The problem here is there is no identifiable *creation* of spending. Instead, spending is transferred from the area surrounding the Pyramid to the area surrounding the FedEx Forum. This spending pattern also supports the substitution effect, and represents yet another common misconception about the benefits of investment in sports arenas.

Downtown Memphis



The final truly measurable potential benefit is job creation. When the new business comes to town, this benefit may be measured by decreases in the unemployment rate.⁶³ Many people count ushers and other arena workers in these figures, but those jobs are typically only part-time. Moreover, these are typically minimum wage jobs and thus have little to no effect on the economy as a whole. Furthermore, while jobs may be created, it is typically at a huge expense. Job creation more accurately refers to players, owners, and other high-paid executives. Without a sports team, Memphis would not so many high dollar individuals spending money in the city.

Note that promotional studies typically count new revenue brought to a city via players' salaries as well as their increased spending. Put simply, this is double counting, an act of which many promotional studies are guilty. This practice counts the money as it moves from the team to the player and then again when it moves from the player back into the community. Counting either change is accurate, but counting both shows a significantly inflated benefit to the community.

One major benefit of having a sports arena is the creation or inflation of civic pride. There is no way to measure this benefit. How much does having a major sports team benefit the pride of the community? There is no way to answer this question, but the concept also can not be denied. There is a certain emotional benefit to the community with addition of a major sports team. Additionally, there is the concept that having a major sports team "puts a city on the map." Many people argue that the addition of the Grizzlies has put Memphis on the level of cities like St. Louis, Atlanta, and New Orleans as opposed to smaller cities such as Birmingham or Little Rock. The degree to which this is true is questionable, but again there is no doubt that

⁶³ This is a net measure of total impact, which is difficult to specifically associate with a certain arena. Simply looking at the new jobs associated with the FedEx Forum is a much simpler approach, but may not capture the full economic effect.

having a major sports team certainly helps in establishing a city's "name recognition." Possible evidence of this is national and even international coverage that Memphis gets because of the Grizzlies. For example, this past fall, ESPN hosted College Game Day outside of the FedEx Forum. This single event brought a huge amount of media attention to Memphis. This media attention is an example of the positive externalities associated with the Forum (see externalities graph). The media attention combined with the civic pride created by having the Grizzlies adds to the cities benefit of investing in a sports arena. Benefit accrues to people who do not buy tickets. The government makes these people pay for those benefits by implementing taxes. This allows the government to "buy" the arena with all associated benefits for the arena.

Major consideration was also given to the wants and needs of Memphis's major corporation, FedEx, whose annual revenue is just over \$29 billion.⁶⁴ Memphis aims to please FedEx and will typically take any measure necessary to keep this huge corporation happy. Executives at FedEx argued that the addition of a major sports team would attract a more talented pool of workers. This claim again falls into the "unable to be measured" category. While this may be a simple benefit to measure, cities are such dynamic entities that it would be far-fetched to attribute an increase in education levels of a city to the addition of a sports team.

Yet another potential benefit to the city that cannot be measured is the increased ability to attract new investment to the area. Most notably, there has recently been an effort to revitalize an area of downtown Memphis along Main St. This effort has brought a large amount of investment to the downtown area. Some would argue that without the activity brought by Memphis's sports teams, these redevelopment efforts would not have taken place. Therefore, that is new money brought to the city that it would not have gotten without sports arenas.

⁶⁴ FedEx Forum, *About FedEx*, http://www.fedexforum.com/pages/fedexforum_information/construction.aspx.

One definite benefit to Memphis of having the Grizzlies is their charitable efforts. The Grizzlies participate in many community service programs such as community outreach programs, educational programs, sports programs, fan services and appearance requests, in-kind donations, as well as NBA programs.⁶⁵ While this is certainly a benefit to the city, it would be difficult to quantify in dollars the hours of service that the Grizzlies do each year.

Costs

On the cost side of the analysis, there are several costs that can be measure and also several costs that cannot be measured. The primary cost of the FedEx Forum is the \$250 million expenditure, most of which was provided by the city and county. In examining this cost, other outlets of spending for the city must by considered. The FedEx Forum is clearly beneficial, but could the city have gotten more benefit by investing its money in another way such as spending on schools, parks, or other public goods? Because there is no concrete way of measuring the benefits of the FedEx Forum, it is impossible to evaluate the effectiveness of city spending.

Evaluating the government's spending is particularly interesting because the government gets its money from citizens' taxes. In the case of the FedEx Forum, the city and county have raised and are raising funds through a 2% rental car surcharge, a hotel and motel tax, as well as an added fee to local utility customers.⁶⁶ This is certainly a monetary cost to all citizens, but some would argue that the benefits do not extend to all the citizens that pay the costs.

Furthermore there is a cost in the form of revenue transferred out of the local economy. This transfer occurs from concession spending inside the FedEx Forum. The concessions inside the Forum are operated by Aramark, a corporation out of Los Angeles. Therefore money spent

⁶⁵ Memphis Grizzlies, *Community Programs*, <http://www.nba.com/grizzlies/community/programs.html>.

⁶⁶ <http://www.sportsvenue-technology.com/projects/grizzlies/>.

inside the Forum leaves the local economy as opposed to money spent at a locally owned restaurant in Memphis recirculating through the economy. This flight of spending is potentially harmful to the economy of Memphis.

One cost that cannot be measured in dollars is the traffic and congestion that Grizzlies games bring to downtown. Congestion is certainly a cost because it has a negative impact on the citizens of Memphis, but there is no way to quantify that cost. This is an example of a negative externalities associated with the FedEx Forum.

In addition to the costs and benefits of the two sports arenas, there are also several transfers that occur within the Memphis economy. As mentioned above, spending transfers frequently occur within a city whenever a team changes arena. This undoubtedly holds true for Memphis. With the transfer in spending comes a transfer of business revenue to those areas where the new spending is. Furthermore, there are often transfers in crime and police location that people falsely call a benefit or cost. If these transfers occur within a city, they have no net effect on its economy, which is often the case.

Benefits	Transfers	Costs
New spending by out-of-towners	Spending relocation	\$250 million
Additional revenue for surrounding businesses	Crime relocation	congestion
Job creation/decreased unemployment	Police relocation	
Civic pride		
Attraction of area investment		
Increased number of entertainment choices		

Multipliers

Sports multipliers represent an estimate of new local spending due to a sports team through a series of calculations. If the sports multiplier is greater than one, estimates show increases in new local spending. Sports multipliers less than one represent a forecasted decrease

in new local spending. The higher the sports multiplier, the higher the estimated magnitude of the increase in new local spending.

Of the Grizzlies 2004 revenue of \$63 million, \$54 million went towards player expenses.⁶⁷ With average player salaries above \$1 million, most players face the top tax bracket (39.6%) plus an additional 1.45 % Medicare tax. Therefore over 40% of players earnings are taken from the local economy as the Federal government takes its piece of the pie. This reduces players' revenues from \$54 to just under \$32 million. Furthermore, high incomes typically lead to higher than normal savings rates. Assuming a savings rate of 33%, this reduces player spending power from \$32 million to approximately \$21 million. Before any spending is actually done, players' spending power is reduced from their gross salary of \$54 million to only \$21 million.

Assuming that all Grizzlies players have a residence in Memphis, it is safe to assume that they do not live here year-round. With the NBA season being about eight or nine months from preseason training through the playoffs, this still leaves three to four months that the players are not in Memphis. This alone is a huge leakage of spending. Assuming players equally spend their post-savings salaries all year, only about \$16 million of the \$21 million available to be spent actually gets spent in Memphis. Further leakages occur due to the importing of goods to the Memphis economy. This further reduces local spending from \$16 million to less than \$11 million. Given these assumptions, more than half of the Grizzlies' original salaries are not spent in the economy of Memphis, yet Memphians either directly by buying tickets or indirectly by losing out-of-town business that now goes to the Grizzlies instead of Beale St., are paying those salaries.

⁶⁷ Forbes, *Memphis Grizzlies*, http://www.forbes.com/free_forbes/2004/0216/nba_21.html.

Contrasting the Grizzlies' salary breakdown with that of an average individual yields much different results. First, the average individual does not face the top tax bracket, but instead faces a Federal government tax of approximately 30%. This reduced marginal tax rate shows a savings of over \$5 million assuming an initial total revenue equal to that of the Grizzlies. Furthermore, the average individual saves less than do millionaire NBA players. Assuming a savings rate of 10%, this gives an additional savings of nearly \$4 million. Additionally, the average individual spends a majority of their time in the city in which they live. Therefore, they spend a majority of their money in that city. However, some of this money is spent importing goods to the city. This reduces local spending from \$34 million to \$24 million. This is an additional savings of almost \$6 million. In total, of the \$54 million in the hands of average individuals, \$24 million would theoretically be spent in the city of Memphis as opposed to just \$11 million from the Grizzlies. A breakdown of these results can be seen in the following table.

John Doe		Grizzlies
\$ 100	Revenue	\$ 100
(30) 30%	Less Tax	40% (40)
70		60
(7) 10%	Less savings	33% (20)
63		40
(19) 30%	Less out-of-town spending	50% (20)
\$ 44		\$ 20

The difference in these two breakdowns is easily represented as a sports multiplier.

The sports multiplier is defined as: $1/[1 - MPC(1 - MPI)(1 - t)]$.

This table shows the differences in the sports multiplier for the average individual and a Grizzlies player.

John Doe		Grizzlies
0.9	MPC	0.67
0.3	MPI	0.5
0.3	Tax rate	0.4
1.79	Sports Multiplier	1.25

Using the previously assumed savings rates for NBA players and average individuals of 40% and 30% respectively provides one significant difference. We also assume that they have a higher marginal propensity to import (MPI of 0.5) than the average individual because professional athletes are more likely to import goods.⁶⁸ For the Grizzlies, we also assume a marginal propensity to consume (MPC) of two thirds (MPC + marginal propensity to save =1 assuming money is either saved or spent after taxes). Using these numbers, the sports multiplier for the Grizzlies is 1.25; the sports multiplier for the average individual is 1.46. The multiplier represents the degree to which salary money is spent in the local economy. The higher multiplier for the average individual shows that they are more likely to spend more of their money in the local economy. Using the sports multipliers, average individuals would result in 16.8% more spending in the local economy than the Grizzlies. That being known, it is very easy to question the government's justification for spending so much public money on a sports arena.

VI. Conclusion

After examining both the costs and benefits of sports arenas, it may well be the case that the benefits outweigh the cost. However, the degree to which this is true is unknown due to externalities. It should be noted that the actual benefit of sports arenas typically is far less than the benefit estimated in promotional studies. While the construction of sports arenas typically place a huge financial burden on the public, it gives the government a unique opportunity to market this city as well as relocate business within a city.

In the case of Memphis, the city has used sports arenas to direct its downtown redevelopment efforts. AutoZone Park has been one of the most successful minor league

⁶⁸ MPI is the marginal propensity to import goods into the local economy rather than producing and consuming them locally.

baseball stadiums in history. Furthermore, this arena redirects commerce to downtown Memphis. The Memphis Redbirds are also the most major baseball team within 250 miles of Memphis. This increases the likelihood of the Redbirds attracting out-of-town fans to their games. This ability to attract gives Memphis a unique chance at bringing spending to downtown.

The FedEx Forum has also been a very beneficial arena to Memphis. First, without the Grizzlies, Memphis would fall short of qualifying as a “big city.” Second, in just its first year, the Forum has brought huge amounts of national publicity to Memphis that the city did not get with the Pyramid. If the city can find a retailer to use the Pyramid, there would be not doubt as to the greatness of the Forum. The addition of this new arena has fortified Memphis’ stance as a big and upcoming city.

As the multiplier analysis showed, public money could be more effectively spent spread across many people as opposed to concentrating the spending on a sports arena. The benefits of sports arenas come through new and more goods and services being available to consumers; and those goods and services generating new and more spending within the economy. However, there is no way to put a price on the boost in the city’s image as well as significant increases in media attention. Also, while the construction of these arenas has created jobs, the government should not rely on the construction of sports arenas as a method for job creation due to the huge public cost. Finally, as long as Memphis did not expect to see the alleged results published in promotional studies, it should be very pleased with the results from all of these sports arenas.

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