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Economics of the Super Bowl

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Abstract

The Super Bowl is America's premier sporting event. This paper details basic economic facts about the game and examines the controversy surrounding the purported economic impact of the game on host communities. While the league and sports boosters claim that the game brings up to a \$500 million economic impact to host cities, a review of the literature suggests that the true economic impact is a fraction of this amount.

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Introduction

The Super Bowl, the season-ending championship game of the National Football League, is by most measures the most significant annual sporting event in the United States. The game routinely attracts a sellout audience willing to pay top dollar for seats. In 2008, the face value for a typical Super Bowl ticket averaged \$700, and ticket scalpers could expect to receive many times that figure in the secondary market. Table 1 shows the average price for a Super Bowl ticket sold on StubHub, a large secondary market dealer, between 2003 and 2009.

The Super Bowl's television viewing numbers are even more astounding. The Super Bowl is far and away the most watched television program in the United States every year. For example, 19 of the 40 most watched programs in U.S. television history are Super Bowls, and more recently, the last 10 Super Bowls are the 10 most watched programs of the past decade. Between 2000 and 2009, the average Super Bowl attracted just over 90 million viewers in the United States. By way of comparison, over the same period the National Basketball Association (NBA) finals drew 14.3 million per game, the World Series attracted an audience of just under 19 million per game, and the National Hockey League's (NHL) Stanley Cup drew a paltry 4.1 million viewers per game. The Super Bowl's television ratings also dwarf non-sports programming. The Academy Awards drew an average of 39.7 million viewers over the same time period, and even the top-rated non-football program of the entire decade, the series finale of *Friends*, attracted only 52.5 million fans, barely half that of the typical Super Bowl. See Table 2 for a comparison of television ratings for various sporting and non-sporting events.

Of course, sky-high television ratings also mean sky-high advertising revenues. A 30-second television spot during the Super Bowl is the single most valuable piece of real estate in all

of American broadcast television. In 2009, a 30-second commercial during the Super Bowl sold for \$3.0 million, an 11% increase over the previous year despite the turmoil affecting the national economy. As shown in Table 3, advertising rates at the Super Bowl have experienced a rapid increase over the past two decades, far outpacing inflation as well as advertising rates for other major television events.

Economic Impact of the Super Bowl

While the spectacle of the big game may be of the greatest interest to the media, marketing experts, and the general public, the economic impact of the Super Bowl on host cities has attracted the most interest from academic economists. Unlike championships in the NBA, NHL, and MLB, the Super Bowl takes place in a neutral site rather than being hosted by the participating teams. Furthermore, unlike the major bowl games played in college football, the location of the game changes from year to year. In this sense, the Super Bowl is most similar to major international competitions such as the Olympics or World Cup. The Union of European Football Association's (UEFA) annual Champions League final, arguably the biggest annual single day sporting event in Europe, also plays at rotating neutral sites in the same fashion.

The NFL and league boosters typically claim that the Super Bowl generates huge economic windfalls for the cities lucky enough to be selected as the host for the event. For example, a joint study conducted by the National Football League and the W.P. Carey MBA Sports Business Program estimated an economic impact of \$500.6 million from Super Bowl XLI on the greater Phoenix economy in 2008 (W.P. Carey Business School, 2008). As noted by Baade and Matheson (2006a), "If those (types of) numbers are accurate, 'Super' is an apt

adjective for the event.” Few other events outside of the Olympic Games or soccer’s World Cup can generate such lofty claims of an economic windfall from such a short-term event.

The W.P. Carey MBA Sports Business Program is not alone in their heady claims. Consulting firms, local visitor and tourism bureaus, as well teams and the league annually publish eye-popping estimates of the economic impact of the big game. For example, an NFL-Sports Management Research Institute (SMRI) study attributed a \$670 million (\$863 million in 2009 dollars) increase in taxable sales in South Florida (Miami-Dade, Broward, and Palm Beach counties) and an increase in economic activity of \$396 million (\$510.1 in 2009 dollars) to the 1999 event (NFL, 1999). As with other economic impact reports, this NFL-commissioned study predicted that a horde of affluent tourists would descend on the three-county area. The NFL-SMRI team reported that the average income of Super Bowl attendees is more than twice that of the average visitor to South Florida during the peak tourist months of January and February (\$144,500 compared to \$40,000-\$80,000), and they spend up to four times as much as the average visitor to South Florida (\$400.33 per day compared to \$99-\$199 per day). As noted by Jim Steeg, the NFL’s Vice President for special events from 1977-2005,

The Super Bowl is the most unique of all special events. Extensive studies by host cities, independent organizations and the NFL all try to predict the economic impact the big game will have on a community. They talk to tens of thousands of attendees, local businessmen, corporate planners, media and local fans -- looking to see how they are affected.

These studies have provided irrefutable evidence that a Super Bowl is the most dramatic event in the U.S. Super Bowl patrons are significantly more affluent, spend more and have more spent on them, and influence future business in the community more than attendees of any other event or convention held in the U.S. (Steeg, 1999).

Table 4 summarizes a variety of *ex ante* estimates of the impact of the Super Bowl on the host city's economy.

There are reasons to be skeptical of such claims, however, since the league has strong financial incentives to publicize studies that report a large financial windfall for host cities. The NFL explicitly uses the lure of the Super Bowl as a carrot to convince otherwise reluctant cities to provide public subsidies for the construction of new playing facilities. For example, just days before Arlington, Texas voters narrowly approved a \$325 million tax increase to fund a new stadium for the Dallas Cowboys, NFL commissioner Paul Tagliabue visited the area and suggested that the construction of a new stadium would put the city in a prime position to host an upcoming Super Bowl. Indeed, the new \$1.1 billion stadium will host the 2011 Super Bowl. If the Super Bowl really provides a \$400 or \$500 million boost to a local economy, then, in effect, the benefits of the game could completely cover the public outlay. Of course, this logical reasoning only holds if the big game does, in fact, generate substantial economic benefits. Given the fact that over \$5 billion in taxpayer money has been spent since 1995 on the construction or refurbishment of NFL stadiums, obtaining accurate measurements of the economic impact of NFL franchises and mega-events such as the Super Bowl is of significant public policy importance.

Table 5 shows the hosts of the Super Bowl from 1967 through 2013. It is interesting to note that during the early years of the game, it was common for the same city to host the game multiple times. Fourteen of the first fifteen games were held in either New Orleans, Miami, or the Los Angeles area. More recently, however, the clear tendency has been to spread out the game. Over the fifteen year period from 1999-2013, eleven different cities held games, and in at least 6 of these cases (Tampa, Dallas, Indianapolis, Glendale/Phoenix, Houston, and Detroit), the game was awarded immediately after the construction of a new publicly financed stadium. There can be little doubt that the NFL would not place its premier event in Detroit or Indianapolis except in exchange for a large public subsidy in the form of a new stadium for one of the league's franchises.

On the surface, measuring the economic impact of a large sporting event is a regularly straight-forward task. One simply needs to add up the number of attendees at the game and estimate the average fan's expenditures in connection with the game. For example, in assessing the impact of Super Bowl XXVIII on the City of Atlanta and the State of Georgia, Jeffrey Humphreys (1994) estimated that the event generated 306,680 - visitor days and that the average per diem expenditures per visitor was \$252 to arrive at a direct economic impact from the event of \$77 million. The indirect economic impact of an event is calculated by taking the direct impact and applying a multiplier to account for the initial round of expenditures recirculating in the economy. While the magnitude of the multiplier can be affected by a large number of variables including the sectors in which

the initial spending takes place and the size of the metropolitan area in which the event occurs, typically for major sporting events, the multiplier effect doubles the size of the initial round of spending. Humphreys estimated the indirect economic impact of the 1994 Super Bowl at \$89 million for a total impact from the game of \$166 million.

While this type of *ex ante* prediction of the economic impact of the Super Bowl appears straight-forward, in fact there are numerous theoretical difficulties with this method of estimation. Three prominent problems frequently cited by economists are the substitution effect, the crowding out effect, and leakages.

The substitution effect occurs when consumers spend money on a sporting event that would normally have been spent elsewhere in the economy. For example, if a parent buys a child a Pittsburgh Steelers 2009 Super Bowl Champions sweatshirt for Christmas, it is unlikely that this sweatshirt represents an additional gift but instead will be given instead of another present. In this case, the Super Bowl has not increased total expenditures on gifts but instead has simply rearranged spending patterns towards sports paraphernalia and away from, say, ugly holiday sweaters. In a broader sense, spending on the Super Bowl by residents of the host city reduces the money available for these consumers to spend elsewhere in the economy. For this reason, most honest practitioners of economic impact analysis exclude spending by local residents from final economic impact numbers.

Of course, for mega-events like the Super Bowl, the substitution effect is likely to be much lower than for a regular season game since a much larger percentage of the attendees are from out of town. On average the NFL distributes 75% of the available

tickets to individual teams. Each participating team receives 17.5% of the tickets while non-participating teams get 1.2% of the tickets and the host team receives 5% of the tickets. The remaining quarter of the available tickets are retained by the NFL and distributed to sponsors, the broadcast networks, media, VIPs and the host committee (Tampa Bay Super Bowl Host Committee, 2009). Since few of the attendees at the game are local residents, the substitution effect is likely to be low. On the other hand, the Super Bowl has become a week-long event with numerous open events for fans that are more accessible to the local population. Spending at these events by local residents must be factored out of expenditure estimates in order to obtain an accurate assessment of the net economic impact.

Crowding out occurs when the crowds and congestion associated with a sporting event displaces regular economic activity. While there is no doubt that the Super Bowl attracts large numbers of tourist, it is equally clear that others are dissuaded from visiting Super Bowl host cities during the time period around the game. Indeed, the situation is much like Yogi Berra's famous quote, "No one goes there anymore; it's too crowded." Traditionally, the Super Bowl has been held in warm weather cities that are popular vacation destinations even when the Super Bowl is not in town. Therefore, even if a city's hotels during a Super Bowl are full to capacity with sports fans, if the hotels would have been 80% occupied anyway, the net effect of the Super Bowl is the incremental 20% of additional rooms that are sold not the entire number of rooms sold to Super Bowl visitors.

A perfect example of this phenomenon occurred in January 2002 in the aftermath of the September 11 terrorist attacks. The attacks caused the NFL season to be pushed

back by one week. Unfortunately, the host city that year, New Orleans, was initially unable to accommodate the Super Bowl on the succeeding weekend because of the presence of a large national auto dealers convention the next week. Only when the convention was moved was it possible to host the Super Bowl on the desired week. Therefore, while the Super Bowl filled every hotel room in the city, a large number of these hotel rooms would have been full of auto dealers even in the absence of the Super Bowl. Therefore, the economic impact of the Super Bowl should only include any hotel rooms sold to sports fans over and above the number of rooms that would have been sold anyway. Of course, the recent decisions to hold Super Bowls in cold weather locations such as Detroit and Indianapolis are likely to reduce any potential crowding out effects.

The third major consideration is the problem with leakages. While a great deal of money may be spent within a city during a mega-event, much of the money may immediately leak out of the city and not end up in the pockets of local residents. In other words, the event may generate economic activity for the city but not generate income for its citizens. Of course, normal multiplier analysis as performed by software modeling packages such as the Bureau of Economic Analysis' Regional Input-Output Multiplier System (RIMS II) or IMPLAN (IMPact analysis for PLANing) does account for leakages in its modeling. However, the complex input-output matrices upon which these models rely are based on the normal inter-industry relationships that exist in local economies, and during a mega-event these relationships may be anything but normal.

For example, it is common practice for hotels to raise their rates to 3 or 4 times the normal level during the Super Bowl. Local hotel desk clerks and room cleaners,

however, don't see a 300% or 400% increase in their wages. It is not the local workers but instead shareholders back at corporate headquarters who benefit from the event. Since a smaller portion of visitor spending at hotels winds up in the hands of local residents during the Super Bowl, multipliers calculated using average spending patterns are likely to be biased upwards (Matheson, 2009).

Capacity constraints in cities also lead to leakages. The Super Bowl is a large enough event that many services demanded by visitors, ranging from high-end catering to exotic dancing, cannot be fulfilled solely by local providers. Therefore, labor and capital must often be imported into the host city to meet the excess demand. Of course, payments to these imported factors of production do not represent income for the city but instead increase incomes of the guest workers.

An obvious illustration of this situation occurred in Jacksonville in 2005. Jacksonville was a significantly smaller and less popular tourist destination than Super Bowl venues such as New Orleans or Miami, and the city, therefore, had significantly fewer hotel rooms available than most other host cities. To alleviate the shortage of hotel rooms, the Super Bowl host committee arranged for six large cruise ships to dock in the area, providing housing for up to 7,600 guests (Donovan, 2005).

Of course, after the big weekend, the ships pulled up anchor and sailed away, taking any revenues they generated with them. In effect, all spending that occurred on these ships was subject to nearly 100% leakage from the Jacksonville economy.

Other issues that may affect the true net economic impact of an event include casual visitors and time switching. Casual visitors are tourists who attend a sporting event

while traveling but whose primary purpose for traveling is not sports related. For example, a professor at a conference who attends a baseball game during his or her stay would get counted into a typical economic impact study. However, the sporting event had no influence on whether the individual visited the city, and the spending done at the ballpark simply substitutes away from spending that would have taken place elsewhere in the economy in the absence of the game. Of course, with a huge event like the Super Bowl, casual spending is unlikely to play a significant role since crowding will preclude large numbers of non-sports fans from being in the city during Super Bowl week anyway.

Time switching, however, may be an important factor when considering the economic impact of the Super Bowl. Time switching occurs when an individual is planning to visit a city but rearranges his or her schedule to coincide with a sporting event. The sporting event does not influence whether the person visits the city but instead only influences the timing. This factor can certainly be important for the Super Bowl. A person may have long desired to visit a tourist destination like New Orleans, and the Super Bowl is what finally prompts the individual to take that trip. But once the sports fan has seen the city, the tourist has crossed the city off of his or her future vacation destinations.

Empirical Studies of the Super Bowl

Given the theoretical shortcomings of traditional economic impact analysis as well as public policy implications of publishing potentially inflated economic benefit numbers, numerous independent scholars not connected with the NFL or any Super Bowl

host committees have examined the *ex post* impact of hosting the Super Bowl on a wide variety of economic variables including employment, personal income, per capita income, taxable sales, tax revenues, and visitor statistics. In general, these studies have all come to the same conclusion: the Super Bowl generates a fraction the economic impact claimed by boosters.

Porter (1999) examines short-term data on sales receipts for several Super Bowls concluding,

Investigator bias, data measurement error, changing production relationships, diminishing returns to both scale and variable inputs, and capacity constraints anywhere along the chain of sales relations lead to lower multipliers. Crowding out and price increases by input suppliers in response to higher levels of demand and the tendency of suppliers to lower prices to stimulate sales when demand is weak lead to overestimates of net new sales due to the event. These characteristics alone would suggest that the estimated impact of the mega-sporting event will be lower than the impact analysis predicts.

Baade and Matheson (2000) examine twenty-five Super Bowls from 1973 to 1997 and find that the game is associated with an increase in employment in the host metropolitan area of 537 jobs. Based on simple assumptions regarding the value of a job to a community, they estimate an average economic impact of roughly \$30 million or approximately one-tenth the figures touted by the NFL.

Baade and Matheson (2006a) update their previous results by directly examining personal income in host cities. They find that for Super Bowls held between 1970 and 2001, the host city experienced an average increase in personal income of \$91.9 million. While this amount is not statistically significant at any generally accepted level, Baade and Matheson also calculate confidence intervals for their point estimate and conclude

that there is less than a 5% probability that the true impact of the Super Bowl on personal incomes in host metropolitan statistical areas exceeds \$300 million, and the chance that the true impact exceeds \$400 million is less than 1%.

Coates and Humphreys (2002) look at all post-season play in American professional sports, not just the Super Bowl, and find that hosting the Super Bowl had no statistically significant effect on per capita income in the host city. Interestingly, however, they do find that the city of the winner of the Super Bowl experiences statistically significant increase of roughly \$140 in per capita income. They attribute this finding to possible higher labor efficiency due to a “feel-good” effect although they concede that the most likely answer is simply spurious correlation. Matheson (2005), on the other hand, arrives at a figure of between a \$50 and \$60 increase in per capita income for winning cities, a figure that is not statistically significantly different from zero at the 5% significance level.

Davis and End (2009) extend the results of both of the previous papers. While their paper focuses on the effects of team winning percentage on citywide wages and income per capita, they include variables for both hosting and winning the Super Bowl. Under various estimation methods the coefficient on winning the Super Bowl is nearly always positive and is statistically significant at the 5% level in roughly half of the estimations. Interestingly, the coefficient on hosting the Super Bowl is nearly always negative and is again statistically significant at the 5% level in roughly half of the regression models suggesting that there is evidence that hosting the Super Bowl may actually have a significant negative impact on income per capita in host cities.

As noted previously, a major difficulty of measuring the economic impact of events like the Super Bowl is that even the effect of largest sporting events may be hard to isolate within the large, diverse metropolitan economies in which they take place. For example, even if the Super Bowl does result in a \$500 million boost to the host city, this is less than 0.2 percent of the annual GDP of a large metropolitan area like Miami, the most frequent Super Bowl host. Any income gains as a result of the big game would likely be obscured by normal fluctuations in the region's economy. This problem is further compounded by the fact that the Super Bowl, even with its surrounding activities, lasts for only a few days. Even if the effects of the event are large in the time period immediately surrounding the Super Bowl, this impact is likely to be obscured in annual data. All of the *ex post* studies described previously utilize annual data.

If a data source that covers a smaller geographical area or a shorter time-frame can be uncovered, however, any potential impact is more likely to be identified. For example, while the presence of the Super Bowl might have a large effect on neighborhood businesses, the overall effect on a state or country's economy will be minuscule and hard to identify. Furthermore, these same economic effects may be large for the time period immediately surrounding the event, but over the course of an entire year, the impact of a single week-long period is not likely to show up as an important change.

For this reason, several researchers have turned to taxable sales which are often available monthly and frequently cover areas as small as individual cities and counties instead of entire metropolitan areas. Furthermore, general sales tax collections or specific increases in the sales tax rate have been used to finance many publicly funded sports facilities making an examination

of taxable sales especially relevant from a public policy standpoint. For example, of the 23 new stadiums constructed for NFL franchises between 1992 and 2009, 7 were funded, at least in part, through increases in the local general sales tax rate while another 8 were funded through increased excise taxes, i.e. sales taxes on specific goods and services such as rental cars or hotel rooms (Baade and Matheson 2006b). In addition, the single largest component of gross domestic product is consumer spending, much of which is captured by taxable sales, and therefore taxable sales are a good proxy for overall economic activity.

Baade, Baumann and Matheson (2008) examine monthly taxable sales in Florida counties between 1980 and 2005. Three Florida cities (Miami, Tampa, and Jacksonville) hosted seven Super Bowls during this period. Six of the seven Super Bowls show no significant increase in taxable sales during the event, and the authors calculate that a typical game increased taxable sales by roughly \$99 million.

Coates (2006) performs a similar analysis on monthly sales tax collections for the city of Houston finding that the Super Bowl increases tax revenues by roughly \$5 million. Given a tax rate of 5%, this approximates an increase in taxable sales of roughly \$100 million, confirming the results of Baade, Baumann and Matheson (2008). Coates and Depken (2006) extend this analysis to cover multiple cities in Texas again finding a significant increase in taxable sales associated with hosting the Super Bowl although the estimated increase is only roughly half that estimated by Coates (2006).

Interestingly, the NFL itself has also examined the effect of the Super Bowl on taxable sales. In one of the few examples of a league-sponsored *ex post* study, the NFL reported that, “Thanks to Super Bowl XXXIII, there was a \$670 million increase in taxable sales in South

Florida compared to the equivalent January-February period in 1998.” (NFL Report, 1999)

Indeed, a cursory examination of the data shows that the three county region of Miami-Dade, Broward, and Palm Beach counties did experience an increase in taxable sales roughly the size of that claimed by the league. Unfortunately for the NFL, their study is woefully inept as the league neglected to account for factors besides the Super Bowl, such as inflation, population growth, and routine economic expansion, that could account for the rise in taxable sales. As noted as by Baade and Matheson (2000), over 90% of the increase can be accounted for by these variables.

Of further interest is the fact that if taxable sales are further broken down by county, both Broward and Palm Beach counties actually experienced lower than expected taxable sales in 1999 (by \$14 and \$16 million respectively) despite the presence of the Super Bowl. Only Miami-Dade county (the actual location of the Super Bowl) experienced an increase in taxable sales (of \$67 million) beyond expectations. This is further evidence that mega-events merely tend to shift resources from one area to another rather than generating new economic activity.

Finally, it is worth noting that taxable sales in the area during January-February 2000, the year after the game, were \$1.26 billion higher than in the same months during the Super Bowl year. Strangely, the NFL never publicized a story announcing, “Thanks to the lack of a Super Bowl, there was a \$1.26 billion increase in taxable sales in South Florida compared to the equivalent January- February period in 1999.”

Non-monetary Benefits

If the monetary benefits of the Super Bowl generally fail to materialize at the level predicted by *ex ante* estimates, it is often claimed that the Super Bowl brings indirect or non-

pecuniary benefits to host cities that add substantially to the direct monetary benefits. For example, in assessing the impact Super Bowl XLII in Glendale, Arizona, Michael Mokwa, chairman of the marketing department at the W. P Carey School of Business stated, ““The money is just the tip of the iceberg. Thousands and thousands of people who came here for the Super Bowl, of whom many had never been to the Valley before, took away powerful memories and good feeling about Arizona.’ This translates, he said, into coveted return visits, family and business relocations, and word-of-mouth marketing throughout the country. Priceless, as MasterCard is fond of saying.” (W.P. Carey School of Business, 2008)

Alan Sanderson, a University of Chicago economist counters, however, that anyone who claims that the intangible benefits of an event like the Super Bowl are “priceless” or “immeasurable” either are “too lazy to go find the correct answer or are afraid of what the true answer might be.”

Certainly the game brings potential intangible benefits to the host city. The game can serve to advertise the city to future conventions, businesses, and individual tourists. But here too, estimates of potential benefits can be inflated by the league. Overhead television shots broadcast during the game are often assigned a value at the same rate as commercial during the game. Thus, a 30-second shot of downtown Miami is valued at the same rate as a 30-second commercial spot, which sold for \$3 million in 2009. Given the large number of times the stadium or the city is shown during the game, such advertising can easily add up to tens or hundreds of millions of dollars of imputed value. But such calculations must be flatly incorrect.

First, this technique implies that a simple 30-second overhead shot has the same effect on the consumer as a targeted and professionally-designed commercial. Such an implication is both

unlikely and would invalidate the *raison d'être* of the entire advertising industry. Next, this technique assumes that advertising the city is not subject to diminishing marginal returns. While the first shot of the city may have an advertising effect, it is almost certainly not the case that the thirtieth panoramic scene would have the same impact. Finally, when city tourism bureaus state that the Super Bowl provides more advertising for a city than the city would be able to purchase on its own, in fact revealed preference suggests that the game provides more advertising than the city would willing to purchase on its own. The very fact that cities rarely have tourism advertising budgets in the hundreds of millions of dollars suggests that cities typically don't value such advertising very highly.

There are several other considerations that should be mentioned. First, while the Super Bowl may generate some repeat visitors, if time switching is occurring, as discussed previously the Super Bowl may actually lead to less future tourism. Next, while it is frequently claimed that mega-events like the Super Bowl serve to "put a city on the map," most Super Bowl hosts are large, popular tourist destinations that are already homes to multiple Fortune 500 corporate headquarters and are frequent convention sites. By any definition, cities like Miami, New Orleans, and Los Angeles are already on everyone's map. Furthermore, not every host city comes away from the game with an enhanced reputation. Many visitors left Jacksonville, the host of Super Bowl XXXIX, with the impression that the city had little to offer in the way of excitement or cultural amenities. Finally, while it is possible that a company could decide to locate its corporate headquarters and production facilities to a new city based on the favorable impressions its CEO had while in town for the Super Bowl, there isn't even anecdotal evidence of any major corporate relocations associated with this or any other mega-sporting event. While there is no

denying that intangible benefits from the Super Bowl may exist, there does not appear to be much empirical evidence that they are very large.

Conclusion

There is little doubt that the Super Bowl is at the center of the American sports universe. It is the most watched sporting event, or any event for that matter, in the country every year. The game also has the highest priced tickets and the most expensive sponsorships among spectator sports. If one believes the *ex ante* estimates of economic impact provided by the NFL and civic boosters, the event also generates many hundreds of millions of dollars in benefits for the host city, and the league uses these promises of riches to convince cities that the construction of a new NFL stadium at significant public expense is a profitable investment, especially if it includes the promise of a future Super Bowl.

Because lure of the Super Bowl is used to extract public financing from cities, however, this creates ample reason to be skeptical of any claims made about the reported economic impact since the sponsors of the impact studies have a financial interest in results that show large economic benefits from the game. Aside from the inherent incentive problem associated with impact assessments, there are numerous theoretical reasons to be wary of economic impact statements. Such reports do a notoriously poor job of accounting for the substitution effect and the crowding out effect. In short, while *ex ante* economic impact studies often do a good job measuring activity that *does* occur because of an event, they do a poor job at measuring any economic activity that *does not* occur because of an event. In other words, economic impact studies typically measure gross economic activity when what is really desired is a measure of net

economic activity. Furthermore, standard multiplier analysis may give misleading and inflated results when applied during mega-events.

Ex post economic analyses of the Super Bowl by scholars not financially connected with the game have typically found that the observed effects of the game on real economic variables such as employment, government revenues, taxable sales, GDP, and personal income, while generally positive, are a fraction of those claimed by the league and sports boosters. When considering optimal public policy with respect to sports infrastructure, it would be wise to take any claims of super benefits from the Super Bowl with a grain of salt. It appears that most economic impact reports are “padded” at least as well as the players on the field.

Table 1: Secondary market price for Super Bowl Tickets

Date	Teams	Average Price
2/1/09	Pittsburgh Steelers v. Arizona Cardinals	\$2,790
2/3/08	New England Patriots v. New York Giants	\$3,536
2/4/07	Indianapolis Colts v. Chicago Bears	\$4,004
2/5/06	Pittsburgh Steelers v. Seattle Seahawks	\$3,009
2/6/05	Philadelphia Eagles v. New England Patriots	\$2,659
2/1/04	New England Patriots v. Carolina Panthers	\$2,290
1/26/03	Oakland Raiders v. Tampa Bay Buccaneers	\$2,767

Source: Darren Rovell, CNBC.com

Table 2: Average television audiences for various programming

Event	Years	Rating	Share	Households	Viewers
Super Bowl	2000-09	41.7	62.6	45,115,000	90,421,000
World Series	2000-09	12.1	20.3	13,161,000	19,053,000
NBA Finals	2000-09	8.4	17	9,957,000	14,320,000
Stanley Cup	2000-09	2.6	4.9	2,778,000	4,081,000
BCS Championship	2000-09	16.4	26	17,385,000	26,448,000
Academy Awards	2000-09	23.9	37.4	25,753,000	39,719,000
American Idol Finale	2002-09	n.a.	n.a.	n.a.	30,938,000

Source: TVbythenumbers.com, 2009

Table 3: Super Bowl 30-second advertising spot prices

Year	Super Bowl ad price	Real price	% change	Academy Awards ad price	Real price	% change
1990	\$ 700,000	\$1,164,882	n.a.	n.a.	n.a.	n.a.
1991	\$ 800,000	\$1,264,136	8.5%	n.a.	n.a.	n.a.
1992	\$ 800,000	\$1,229,478	-2.7%	n.a.	n.a.	n.a.
1993	\$ 850,000	\$1,265,241	2.9%	n.a.	n.a.	n.a.
1994	\$ 900,000	\$1,306,791	3.3%	n.a.	n.a.	n.a.
1995	\$ 1,000,000	\$1,411,577	8.0%	n.a.	n.a.	n.a.
1996	\$ 1,100,000	\$1,511,663	7.1%	n.a.	n.a.	n.a.
1997	\$ 1,200,000	\$1,600,554	5.9%	n.a.	n.a.	n.a.
1998	\$ 1,300,000	\$1,709,315	6.8%	n.a.	n.a.	n.a.
1999	\$ 1,600,000	\$2,069,285	21.1%	\$ 1,000,000	\$ 1,293,303	n.a.
2000	\$ 2,100,000	\$2,631,263	27.2%	\$ 1,305,000	\$ 1,635,142	26.4%
2001	\$ 2,050,000	\$2,481,047	-5.7%	\$ 1,450,000	\$ 1,754,887	7.3%
2002	\$ 1,900,000	\$2,273,670	-8.4%	\$ 1,290,000	\$ 1,543,702	-12.0%
2003	\$ 2,100,000	\$2,436,355	7.2%	\$ 1,355,000	\$ 1,572,029	1.8%
2004	\$ 2,250,000	\$2,567,037	5.4%	\$ 1,503,000	\$ 1,714,781	9.1%
2005	\$ 2,400,000	\$2,657,052	3.5%	\$ 1,503,000	\$ 1,663,979	-3.0%
2006	\$ 2,500,000	\$2,669,261	0.5%	\$ 1,647,000	\$ 1,758,509	5.7%
2007	\$ 2,600,000	\$2,710,053	1.5%	\$ 1,666,000	\$ 1,736,518	-1.3%
2008	\$ 2,700,000	\$2,701,865	-0.3%	\$ 1,689,000	\$ 1,690,166	-2.7%
2009	\$ 3,000,000	\$3,000,000	11.0%	\$ 1,400,000	\$ 1,400,000	-17.2%

Source: Advertising Age online, 2007 and TNS Media Intelligence, 2009.

Table 4: Estimates of *ex ante* economic impact of Super Bowl

Year	Author	City	Estimate in millions of \$ and (millions of 2009 \$)
1994	Jeffrey Humphreys, Georgia State University	Atlanta	\$166 (\$240.7)
1995	NFL and Kathleen Davis, Sports Management Research Institute	Miami	\$365 (\$515.2)
1998	PriceWaterhouseCoopers	San Diego	\$295 (\$387.9)
1999	NFL and Kathleen Davis, Sports Management Research Institute	Miami	\$396 (\$510.1)
2000	Jason Ader, Bear Stearns	Atlanta	\$410 (\$513.7)
2000	Jeffrey Humphreys, Georgia State University	Atlanta	\$292 (\$365.9)
2003	Super Bowl Host Committee	San Diego	\$375 (\$435.1)
2006	David Allardice, Lawrence Technological University	Detroit	\$302 (\$322.4)
2007	PriceWaterhouseCoopers	Miami	\$390 (\$406.5)
2008	W.P. Carey MBA Sports Business Program	Phoenix	\$500.6 (\$500.9)
2009	PriceWaterhouseCoopers	Tampa	\$290 (\$290.0)

Source: various news sources

Table 5: Super Bowl Locations 1968-2013

City	Number	Years
Miami	10	1968, 1969, 1971, 1976, 1979, 1989, 1995, 1999, 2007, 2010
New Orleans	10	1970, 1972, 1975, 1978, 1981, 1986, 1990, 1997, 2002, 2013
Los Angeles/Pasadena	7	1967, 1973, 1977, 1980, 1983, 1987, 1993
Tampa	4	1984, 1991, 2001, 2009
San Diego	3	1988, 1998, 2003
Houston	2	1974, 2004
Detroit/Pontiac	2	1982, 2006
Atlanta	2	1994, 2000
Phoenix/Tempe/Glendale	2	1996, 2008
Palo Alto	1	1985
Minneapolis	1	1992
Jacksonville	1	2005
Dallas/Arlington	1	2011
Indianapolis	1	2012

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