Estimating the Impact of the San Diego Chargers to the Local Economy

A Presentation to the San Diego Citizens' Task Force 9 January 2003

by Dean Baim†

Recently, the San Diego Chargers of the National Football League (NFL) asserted that a triggering mechanism had been activated that would allow them to renegotiate their 1995 lease with the city, or allow the franchise to relocate if the lease was not sufficiently amended to permit the franchise to operate at a profit level the team feels adequate. In response to this, a citizens' task force was created to "determine whether the San Diego Chargers and the National Football League are important assets to the life and economy of San Diego..."

I have been invited by the task force to speak to this issue. My vita is attached to document my credentials in evaluating the impact the Chargers may have on the San Diego economy. Since I do lot live in San Diego, I am less qualified to address the contributions the Chargers make to the life of the city.

I feel that the task force should know that I am not an advocate for either side in this case. Instead, I consider myself to be a resource to provide analysis hopefully to help San Diego decision makers arrive at a more informed decision. To this end, the first section of the paper will review the estimates by academics regarding the economic impact made by major league franchises on local economies. The second section is devoted to research just recently undertaken by the author to attempt to identify the impact on specific industries of specific sports franchise relocations. The paper concludes with suggested guidelines should San Diego decide to provide additional subsidies to the Chargers.

Introduction

Few argue that professional sports teams pay enough in rent and concession income to reimburse municipal landlords for the use of the municipal stadiums they inhabit. A 1994 study concluded that of fourteen stadiums surveyed only one earned a positive return on municipal expenditures to secure or retain the franchise.[1] The only thing that changed

---

†Professor of Economics and Finance, Seaver College, Pepperdine University. The author may be contacted at dbaim@pepperdine.edu. The author would like to thank Stephanie May from Pepperdine University and Kerry Goletz and Jared Flagg from UCLA for their help in preparing this statement.

since the completion of the survey is that the costs of the stadium projects are much greater than those covered in the study. A recent presentation made to this task force indicated that over the past dozen years $12 billion was spent on major league facilities, with the average public sector contribution being approximately 2/3 of the amount. Indeed, most of these projects are so expensive that they exceed the resources of the host city and they have become county and state projects.

An indirect benefit often attributed to stadium projects is the effect a major league tenant of the stadium has upon the local commerce. Supporters of stadium subsidies argue that the stadium attracts or retains funds that would be spent outside the region and this infusion or retention of funds creates jobs.

Those who oppose municipal funding of stadiums argue that most expenditures by patrons of stadiums are just funds that would have been spent in the city on some other form of entertainment. What outside funds are attracted by a professional sports team are mostly likely spent at merchants who are headquartered outside the local area and as such, the bulk of the funds will leave the metropolitan area without multiplication. In this scenario, the presence of a sports team adds very little to a local economy.

If a franchise increases a community's quality of life, and/or spurs economic growth, a public subsidy of a stadium may be justified. Team owners who build their own stadiums incur all stadium construction costs but receive only a portion of the benefits. Since the owner receives only a portion of the benefits, but all the costs, an owner motivated by privately realized costs and benefits would invest less than the optimal amount (the point where the additional benefit of a team, including stadium operations, equals the additional costs of operating a team and the stadium) without a subsidy that allows the owner to capture some of the public good he has created.

The argument to offer a stadium at rents which do not cover fully the public sector's costs usually center on and the additional economic activity the franchise will bring to the

---

[1] Dean Baim, *The Sports Stadium as a Municipal Investment*, Westport, Connecticut, Greenwood Press (1994). In this book, fourteen stadiums are studied as to the direct funds received in operating the stadiums as related to the funds the municipal authorities

community.[2] This has generated a body of literature designed to identify the impact a sports franchise has on local economy.

Two approaches are used to measure the economic impact of a stadium. The first, is a technique that will be referred to as the "projection method.". The projection method of estimating these indirect benefits focuses on first estimating the number of dollars spent at the stadium and the surrounding area, and then applying some form of a multiplier to these amounts.

This exercise is fraught with difficulties. Naive estimates treat all dollars as new dollars to the local community. More realistic studies realize that many of those expenditures are merely redirected from other local entertainment and related ventures. Typically, multipliers are applied to the dollar expenditure estimates generated with the above techniques so that the franchise appears to be a major force in the local economy.

Such analysis is not performed uniformly. The process is loaded with judgment calls, that, not surprisingly, go in favor of the side commissioning the study. A comparison by Robert Baade and Richard Dye of several studies using the "projection" technique illustrates the diversity in approaches.

> A study on the impact of the Pirates on the Pittsburgh area uses a multiplier of only 1.2 for goods and services and 1.6 for wages and salaries. They are careful to include only wages paid to Pirate employees who actually live in Pittsburgh. A study commissioned by the Philadelphia Sports Consortium uses a multiplier of 1.7 obtained from independent research of the Wharton Econometrics model of Philadelphia. The author of a study of the impact of a Class A baseball stadium for South Bend, Indiana, represents as "conservative" a multiplier of 3.0. This, despite the well-established result that the

---

paid to build and operate the facility. Of the fourteen stadiums, only one had repaid the municipal investment back fully.

[2] As indicated earlier, a second argument made is the cultural contribution the franchise makes by allowing residents to enjoy a past time played at its highest level. This factor is subjective and therefore difficult, if not impossible, to quantify, so it will not be addressed explicitly in this paper.

> smaller the city, the smaller the portion of respending that stays inside the area. A team-financed study on the impact of Chicago baseball asserts a multiplier of 3.2.[3]

Many of these types of studies have been cited in presentations to the task force including some that estimate the economic benefits of the Superbowl on local economies.

The second, more promising, method uses statistical techniques to estimate the relationship between the presence of a stadium or franchise and relevant economic indicators. Using historical evidence, this approach, which for lack of a better term will be called a "retrospective technique", looks for any changes in employment or income that stadiums or franchises might cause.

The first of these studies to receive widespread recognition was by Rosentraub and Nunn.[4] In a model that they admit has limitations, the authors compared the economic impact of the stadiums in the suburban communities of Irving, and Arlington, Texas with the growth of surrounding communities to see if the two host suburbs grew substantially faster than their neighbors. The authors concluded that the two communities had difficulties "in capturing the economic benefits of an investment in professional sports,"[5] with the growth in the two suburbs spilling over into the different suburban cities within the regions.[6] This conclusion supports those who would use a low multiplier in such suburban situations (because of the leakage), but also supports those who look at stadiums as engines of economic growth.

Robert Baade has authored, or co–authored, four of the most frequently cited studies. All of the studies cast serious doubts on a major league franchise as an engine of

---

[3]Robert A. Baade, Richard F. Dye, "Sports Stadiums and Area Development: A Critical Review," *Economic Development Quarterly*, number 2 (August 1988) 270. Also see William Futon, "Desperately Seeking Sports Teams," *Governing*, I:6 (March 1988), for a discussion of the disparity in numbers used in these studies.

[4]Mark S. Rosentraub, Samuel R. Nunn, "Suburban City Investment in Professional Sports: Estimating the Fiscal Returns of the Dallas Cowboys and the Texas Rangers to Investor Communities," *American Behavioral Scientist*, 21 number 3 (February 1978).

[5]*Ibid*., 412.

economic growth. The Baade studies have shown a definitive evolution over time. The first, published in 1988, measured the impact of major league franchises on manufacturing activity for eight cities from 1965 to1978.[7] Baade concluded that except for San Diego, there was no evidence at the five percent confidence level that major league baseball or football teams boosted the manufacturing employment or income values. The results, however, were not convincing due to the small number of data points for each of the cities and the choice of variables.[8]

Professor Baade, alone, conducted another study that concludes a professional sports team precipitates a decline in the income growth rate in the host community.[9] Using similar techniques to the survey he conducted with Dye, Baade uses a ratio of income in the host city's SMSA to the level of income of the surrounding census region to see if a stadium or team creates economic growth relative to the surrounding area. Baade repeats the regression for retail sales in the same study.[10]

In both cases Baade found a low incidence of positive significant relationships. Indeed, the findings support the argument that a professional sport team or a stadium reduces SMSA income relative to that of the surrounding region. When adjusted for population, by taking the SMSA's population as a fraction of the region's population, thirteen non-zero possibilities existed. Of these, 6 significant (at the 95% confidence

---

[6]*Ibid*.

[7]Robert A. Baade, and Richard F. Dye, "An Analysis of the Economic Rationale for Public Subsidization of Sports Stadiums," *The Annals of Regional Science*, 22 (July 1988), 37-47. The cities included in the survey were Buffalo, Cincinnati, Denver, Miami, New Orleans, San Diego, Seattle, and Tampa Bay.

[8] A complete critique of the Baade and Dye article appears in Baim, *The Sports Stadium as a Municipal Investment*, pages 179–181.

[9]Robert Baade, "Is There an Economic Rationale for Subsidizing Sports Stadiums," *Heartland Institute Policy Study* #13 (23 February 1987). The cities used in the income study were Cincinnati, Denver, Detroit, Kansas City, New Orleans, Pittsburgh, San Diego, Seattle, and Tampa Bay.

[10]Cities in retail sales study were Atlanta, Buffalo, Cincinnati, Denver, Miami, New Orleans, San Diego, Seattle, and Tampa Bay. Cities were substituted due to data availability.

level) outcomes were found. Five of the six were negative, indicating the presence of a team or a stadium was related to a decline in relative SMSA income.[11]

Baade infers from his findings that a stadium does not create jobs, instead, jobs are "diverted from the manufacturing economy to the service economy, or from higher-skilled to lower-skilled (and lower-paid) occupations."[12] Again, the methodological flaws and availability of data, some of which were beyond Baade's control, undermine some of the confidence in Baade's findings.[13]

The third article by Baade works to remedy some of the weaknesses of his earlier two articles.[14] Like the previous studies, the analysis consists of a time series, but for more cities and for a longer time period; thirty annual observations for forty–eight Metropolitan Statistical Areas (MSAs). Thirty–two of the forty–eight MSAs had a change in the number of major league franchises in baseball, football, basketball, and hockey, during survey period of 1958–1987, the remaining MSAs served as controls.

Although the analysis was expanded, the results remained unchanged; in only two out of thirty-two cases was the change in the number of franchises related to a statistically significant change in per–capita income rate of growth. Among the two cities with significant changes in the per–capita income related to the changes in the number of franchises, one change was a statistically significant increase, the other a statistically significant decrease.

While this study reduced some of the methodological problems regarding observations, it raises some new concerns. Using the total number of sports franchises as

---

[11]Baade reports that "In no instance did a positive, significant correlation surface among stadiums, professional sports, and city income as a fraction of regional income." (Baade, "Is There an Economic Rationale for Subsidizing Sports Stadiums?", 15). However, in reviewing the results of the equations in the appendix of the paper, there is a sufficiently strong relationship between the Padres and San Diego's relative income to warrant a significant relationship.

[12]Baade, "Is There an Economic Rationale for Subsidizing Sports Stadiums?", 18.

[13] A complete critique is again presented in Baim, *The Sports Stadium as a Municipal Investment*, pages 181 to 183.

[14] Robert Baade, "Stadiums, Professional Sports, and Economic Development: Assessing the Reality," *Heartland Institute Policy Study* #62 (28 March 1994).

the independent variable creates two problems. First, it is impossible to discern if a particular sport has an impact on per–capita income since Baade's model implies that the number of sports teams is the determining factor, not the type of sports team. The two significant coefficients reported by Baade provide an example. The positive significant impact belongs to Indianapolis, while the negative significant coefficient is Baltimore's. Since one of the more noteworthy franchise moves during the survey period was the move of the NFL Colts from Baltimore to Indianapolis, one might argue that an NFL franchise can affect materially the per–capita income of a city's residents. The aggregation of sports franchises, however, does not permit this conclusion since during the same period Indianapolis secured the Pacers, and Baltimore's NBA franchise vacillated between playing in Baltimore, the suburbs, and Washington D.C.

This leads to the second problem arising from using the total number of franchises rather than classifying sports by franchise. If a city gains a franchise in one sport coincidentally with the loss of a franchise in another sport, Baade's method would assume that even if there was an impact to be felt because of a sports team, there should be no difference in the economy. If, say, the Colorado Rockies MLB franchise, drawing close to four million fans a year, is founded the same year the Denver Nuggets (an NBA team that draws significantly less than four million) were to leave the city there should be no observable impact. This also creates problems with franchises leaving the city core to play in nearby communities. Since Baade does not have entries for Anaheim, the Meadowlands, or Nassau County, the observer is left to believe that moves out of Los Angeles by the Angels and the Rams, and relocations by the New York NFL franchises and the NBA Nets from Manhattan to New Jersey do not alter Baade's franchise count. However, it would appear reasonable that such relocations will reduce economic activity in the downtown areas vacated, and increase economic activity in the suburbs.

There were significant methodological problems, as well.

Most recently, Baade and co-author Allen Sanderson contributed a chapter in *Sports, Jobs & Taxes*.[15] The chapter follows the model of Baade's earlier work, looking at the impact of a professional sports team has on the ratio of a city's income generated in the amusement and recreation sector relative to the income generated in that state's amusement and recreation sector.[16] Ten cities were studied, most from 1958-1993. Explanatory variables included ratios of the city's value and the state value on such factors as real income and population, as well as the number of major league franchises present, the presence of a new sports facility, and the age of that facility.

Of the ten cities studied, the change in the number of franchises affected the city's share of the state's of amusement and recreation four times at a level of confidence of 95% or higher. Of those that were significant, three were positive relationships, one was negative. A new stadium had a significant impact on the city's share of amusement and recreation income in two of the ten cities studied. In both cases the impact of a new stadium was to reduce the city's share of amusement and recreation income.

Of the ten cities studied, the age of the facility seem to have the most significant impact of any of the sports related variables. Half of the ten cities studied showed a relationship between the aging of the facility and the city's share of the state's amusement and recreation generated income. Of these five cities, all but one showed that as the facility aged, the city's share of amusement and recreation income fell.

The bulk of Baade's work focuses on the short–term changes in economic growth due to a change in the number of franchises. The latter work, specifically focuses on the impact of the employment in the amusement and recreation sector. As will be argued later, the largest potential for economic growth comes from conventions business and

---

[15]Robert A. Baade and Allen Sanderson, "Employment Effect of Teams and Sports Facilities" in *Sports, Jobs and Taxes*, ed. Roger G. Noll and Andrew Zimblast (Washington, D.C.: Brookings Institute Press, 1997), 92–118. Unfortunately, the book is flawed by many errors of fact early in the book that cause the serious reader to question the veracity of the analysis contained in the articles.

[16] Amusement and recreation was defined as Standard Industrial Code 79. A separate analysis was done in the same article using income generated by the commercial sports industry (SIC 794).

business relocations that are prompted by an elevated perception of the city after a major league franchise. These may come some time after the location of the sports franchise in a city. But the nature of Baade's work is to look for the change only in the year during which the number of franchises changes. In some cases, such as Sacramento, the sole franchise was present only a few seasons during the end of the time series.

The focus of Baade's work narrows with each successive study. In the earlier articles, the job creation in the manufacturing sector was found not to occur. By the 1997 article, he and Sanderson concentrate only on employment in the amusement and recreation sector. In concentrating on manufacturing, or narrower, sectors, Baade and his co-authors assume that there can be no economic impact in other sectors. In the 1997 article, the assertion is made explicit, "It seems that the only mechanism through which sports would contribute to job creation in the manufacturing sector would be if they served as a magnet for enterprises engaged in manufacturing. Although this claim is sometimes made by subsidy advocates, no evidence has been found to support it."[17]

Baade and Sanderson's assertion fails to recognize a 1992 publication by this author that included analysis that had been conducted earlier as part of a dissertation, and was refined in a 1999 paper published in the University of Toledo Law Review.[18]

In 1999, the cities were grouped into one of three population categories; less than 500,000, 500,000–1,500,000, and more than 1,500,000. These will be referred to as small, medium, and large, respectively. This approach also has an advantage over the Baade-Sanderson technique, because it allows the observer to isolate the impact of each sport on the economies of different sized cities. Table 1 reviews the findings for the service industry, while Table 2 does the same work for the non–agricultural sector. The time series begins in 1958 and ends in 1984.

---

[17] *Ibid.* , page 99.

[18] . In both Baim studies two equations that were used were:

$$\text{Service Employment}_t = a\text{Population}_t + b\text{Football}_t + c\text{Baseball}_t$$

$$\text{Non-agricultural Employment}_t = a\text{Population}_t + b\text{Football}_t + c\text{Baseball}_t.$$

Estimating the Impact of the San Diego Chargers on the Local Economy

Table 1

Service Industry Employment by Population Class

Population Range	Number of Observations	R^2 F–ratio Significance of F Ratio	COEFFICIENTS Population (t–statistic) significance level	Football (t–statistic) significance level	Baseball (t–statistic) significance level
small less than 500,000	83	.279 10.43 7.2×10^{-06}	0.0019 (3.97) .00015	23.47 (1.36) .177	40.37 (2.91) 0.005
medium 500,000 to 1,500,000	129	.315 19.337 2.31×10^{-10}	.00012 (5.85) 3.81×10^{-08}	55.23 (3.10) 0.002	36.15 (2.77) .006
large more than 1,500,000	36	.83 54.78 1.052×10^{-12}	6.39×10^{-05} (10.11) 1.24×10^{11}	-211.65 (-5.22) 9.78×10^{-06}	398.59 (6.91) 6.63×10^{-08}

Table 2

Non–Agricultural Employment by Population Class

Population Range	Number of Observations	R^2 F–ratio Significance of F Ratio	COEFFICIENTS Population (t–statistic) significance level	Football (t–statistic) significance level	Baseball (t–statistic) significance level
small less than 500,000	98	.30 13.5 2.13×10^{-07}	0.0012 (7.58) 2.3×10^{-11}	72.98 (1.28) .204	150.16 (3.19) 0.002
medium 500,000 to 1,500,000	154	.313 22.92 2.86×10^{-12}	0.0007 (7.20) 2.64×10^{-11}	420.00 (5.28) 4.52×10^{-07}	57.17 (1.04) .30
large more than 1,500,000	52	.78 59.44 3.44×10^{-16}	0.0004 (12.52) 6.98×10^{-17}	-27.70 (-0.10) .917	92.43 (.27) .79

The interpretation of the tables is straightforward. The first column gives the population category, the second shows the number of observations, and the third shows the R^2, F–ratio, and the level of significance of the F–ratio. It should be noted that all of the equations had a high level of explanatory power, in each case, the chance that there

was no relationship between the dependent variables and the independent variables taken as a whole was less than 1 in 1,000,000.

Columns four, five, and six reflect the impact on the relevant employment measure for population, the presence of an NFL franchise, and the presence of a MLB franchise, respectively. In each of these the first entry is the coefficients, followed by the coefficient's t–statistic, and the chance that the true value of the coefficient is zero (which implies the variable has no affect on the employment measure). The coefficient shows the thousands of additional jobs in the relevant sector indicated when population increases by one person, or there is a sports franchise present. For example, in a city with a population less than 500,000, service employment is related to a 1.90 (=0.0019 x 1,000) increase for every unit increase in population; 23,470 increase for a football team; and a 40,370 increase in service employment is related to the presence of a baseball team.

Population While population has a declining influence on both categories of employment, the level of confidence that the true value of the population coefficient is greater than zero increases as the size of the city gets larger.

It also appears clear that the influence of sports on employment is more than redirection of employment. If indeed the increased employment in the service sector was offset by a decrease in the number of jobs in the manufacturing, or any other sector other than agricultural, there should be no change in the non–agricultural employment. In all cases except the large city MLB, the increase (decrease) in non–agricultural employment is greater (less) than the increase (decrease) in service sector employment, the belief that any increase in employment is a redirection of employment has to be treated with suspicion unless other new supporting evidence can be found.

Football The football influence on both service and non–agricultural employment starts out positive, although not statistically significant, for the small cities, more than doubles (in size and statistical significance) for medium size cities, and then has a negative impact (statistically significant for the service, statistically not significantly for non–agricultural employment). The result supports the hypothesis that the presence of an NFL franchise elevates the image of medium sized cities and attracts employers in both service and non–agricultural sectors of the economy, while adding nothing to the

employment opportunities in larger cities that already have national and international reputations.

These findings may also support the findings of Rosentraub and Nunn. The small cities may be too small to capture all the increased economic activity in small suburban locations. But with increased size comes the ability to retain any of the additional commerce inspired by a football franchise within the larger city boundaries.

Baseball The impact of baseball on the number of jobs in a city is a mirror image of football influence. Small cities realize a larger employment impact through baseball than do the medium cities. In the large cities, however, a larger increase in both service and non–agricultural employment is related to a baseball franchise than in the medium size cities.

The strongest support for service employment replacement comes in the form of the statistical significance of baseball's coefficients related to service and non–agricultural employment and the level of service employment relative to non–agricultural employment for the large cities. In all three city sizes, the chances that baseball's coefficient in the service equation actually would be zero, implying no impact on employment is less than six chances out of 1,000. For non–agricultural employment the coefficients are less statistically significant in the medium and large cities. Indeed, there appears to be an inverse relationship between the city's population size and the statistical significance of the baseball coefficient.

The lack of significance in the large cities may be due to multicollinearity. Only seven of large city observations did not have at least one NFL and a MLB franchise simultaneously (out of thirty–six for service and fifty–two for non–service employment). In these seven cases, the city had a baseball franchise, but did not have an NFL franchise. Such lack of variance (one dummy variable always having the same value, while the second has the same value the vast majority of the time) is not conducive to statistically significant results, and may be causing population to appear as more significant than it really is as a determinant of non–agricultural and service sector employment.

All of this, however, will make it even harder to isolate the impact of a sports team on a local economy. Thus the cost–benefit arguments about subsidizing professional sports teams may become even less objective than they are now.

Relevant to the task force's duty is the fact that San Diego is a large city, and as such the Chargers would not have any statistically significant impact on non-agricultural employment and a negative impact on service sector employment.

Recent Research

In an attempt to reproduce the findings of the earlier studies, and to determine in what sectors do major league franchises generate employment or payroll changes, this author has initiated a study that looks at specific industries in counties that have experienced a gain or a loss of a franchise. The data used are the County Business Patterns (CBP) published each year by the US Census Bureau. CBP reports the employment in March of each year and the annual payroll by industry in each county.[19]

The impact of the NFL Rams' 1995 departure from Anaheim is the first county to be analyzed. Employment and payroll data were gathered for Orange County starting, in most cases, with 1986 and running through 2000. This gives 10 years of data in which the Rams were located in Orange County and 5 years after they moved to St. Louis.

A non-trivial problem arose in that the Census Bureau changed its form of classifying industries from the Standard Industrial Code (SIC) to the North America Industrial Classification System (NAICS) in 1997. Only about 416 of a possible 883 (47%) industries have a perfect transformation from SIC to NAICS at the national level. To accommodate this change, and to keep the study manageable, the top twenty employment industries for which there was perfect or near perfect (97% or better) transformation were identified. Unfortunately, there were no close transformation for amusement industries. Any change in either employment or payroll in these "top

---

[19] In cases where there are too few firms, the data are suppressed to protect the firm's and employees' confidentiality.

twenty" industries related to the Rams was estimated using regression analysis.[20] These top 20 industries, out of 883, represented on average 16.4% and 13.5% of all employment and payroll, respectively, over the study period.

Table 3 summarizes the findings of the Rams' impact on employment in the twenty industries and overall. Table 4 summarizes the Rams' impact on payroll in the twenty industries and overall. Those industries signified with a "D" are those for which the transformation for SIC to NAICS was not perfect but at least 97% of the SIC value was captured by its NAICS counterpart.

---

[20] Specifically, the formula for employment impacts was:

$$EMPLOYMENT_t = a + bTIME + cRAMS$$

Where time increased in value by one each year, while a dummy variable of 1 was used in those years the Rams were in Anaheim, and 0 when they were not.

Similarly, the formula for payroll impacts was:

$$PAYROLLt = a + bTIME + cRAMS$$

With time and Rams being interpreted the same as in the employment equation.

Estimating the Impact of the San Diego Chargers on the Local Economy

Table 3
Impact of Rams on Employment in Orange County by Twenty Largest Employment Industries

Industry	Years	Sign	Significance
Carpentry	1986–2000	–	21%
Lithographic Printing	1986–2000	+	53%
Pharmaceuticals, Prep (D)	1986–2000	–	44%
Electronic Computers	1988–1999	–	50%
Printed Circuit Boards	1988-2000	–	10.5%
Electronic Semiconductors	1988-2000	–	85%
Surgical and Medical Instruments (D)	1986–2000	+	28%
Telephone Other (D)	1991-2000	+	59%
Motor Vehicle Parts & Supplies (wholesale)	1986-2000	–	80%
Other Electronic Parts and Equipment	1986-2000	–	8%
Other Groceries & Related Products (wholesale)	1986–2000	+	24%
Eating Places (D)	1986–2000	+	76%
Drinking Places (alcohol)	1988–2000	–	3%
Help Supply Services	1988–2000	–	56%
Software Publishers	1986–2000	–	7%
Data Processing Services	1986–2000	+	87%
Detective Services	1988–2000	–	26%
Automotive Repair Shops	1986–2000	–	72%
Medical Labs	1986–2000	–	28%
Engineering Services	1988–2000	–	97%
Total	1986–2000	–	42%

The first two columns of Table 3 give the industry and the years in the study. The third column indicates if the Rams' presence in Orange County was related to an increase in employment in that industry (signified by a "+" sign) or was related to a decrease in employment in the industry ("–"). The last column indicates the probability that there is no (either positive or negative) relationship between employment in the industry and the presence of the Rams. In this case, a smaller number indicates a greater likelihood that the real relationship is described by the sign in column three.

Out of the twenty industries and one total employment equation, the Rams presence in Orange County was positively related with only six industries, and none of those were

reached any level of statistical significance. The remaining fifteen regressions showed the presence of the Rams was related negatively to the industry (and overall employment). Three of these fifteen were significant to the 10% confidence level, with one being significant below the 5% confidence level.

Table 4
Impact of Rams on Payroll in Orange County by Twenty Largest Employment Industries

Industry	Years	Sign	Significance
Carpentry	1986–2000	–	18%
Lithographic Printing	1986–2000	–	77%
Pharmaceuticals, Prep (D)	1986–2000	–	33%
Electronic Computers	1988–1999	–	19%
Printed Circuit Boards	1988-2000	–	20%
Electronic Semiconductors	1988-2000	–	48%
Surgical and Medical Instruments (D)	1986–2000	+	15%
Telephone Other (D)	1991-2000	+	50%
Motor Vehicle Parts & Supplies (wholesale)	1986-2000	–	51%
Other Electronic Parts and Equipment	1986-2000	–	18%
Other Groceries & Related Products (wholesale)	1986–2000	–	19%
Eating Places (D)	1986–2000	–	98%
Drinking Places (alcohol)	1988–2000	–	18%
Help Supply Services	1988–2000	–	78%
Software Publishers	1986–2000	–	3%
Data Processing Services	1986–2000	–	61%
Detective Services	1988–2000	–	55%
Automotive Repair Shops	1986–2000	–	51%
Medical Labs	1986–2000	–	21%
Engineering Services	1988–2000	+	89%
Total	1986–2000	–	19%

The pattern for employment is repeated in the payroll table. Again, the only industries with strong levels of statistical confidence had negative signs.

The conclusion to be drawn from both tables is that the Rams presence was not related to higher levels of employment overall, or in most important industries. Nor was the franchise related to a significant increase in incomes overall or in individual

industries that were studied. Given that the total income and employment figures have a negative coefficient it is unlikely that the Rams generated a material increase in either employment or payroll in one of the omitted industries.

Supporters of subsidies to sports franchises often argue that the presence of a team spurs spending at eating and drinking establishments as the fans go to and from the game. This assertion is not supported by this evidence. While employment at eating establishments is positively related to the Rams' tenure, it is not significant. Employment at drinking establishments is negatively related with the Rams, with a high degree of statistical significance. Payroll at both eating and drinking establishments is negatively related, but neither is statistically significant from zero with any degree of confidence. What this means is that there is no evidence that the real value for these coefficients is positive. At best, the presence of an NFL franchise in Orange County had no impact on employment or payroll in eating or drinking establishments. Any eating and drinking done before or after a game most likely was substitute expenditures for similar activities at locations in the county not on the way to the stadium.

The conclusions from this preliminary study seem to support the previous research conducted by the author. The population of Orange County exceeds 1.5 million. Tables 1 and 2 show that the presence of an NFL franchise would not be related to significant increases in employment, and that finding is replicated in the newer study. What makes this congruence of the new conclusions and the older conclusions more compelling is that the studies covered two different periods (1958-1984 for the early study, 1986 through 2000 for most of the later study) and the data come from two different sources.

The relevance of this to the San Diego Task Force is that it provides empirical evidence about a franchise that is very close to San Diego geographically, and in many important respects, demographically as well. The 2000 census puts the population of Orange County less than 28,000 more than that of San Diego County, out of more than 2.8 million each. With the exception of some ethnic breakdowns, the populations are

similar with respect to age and wealth. Both counties have large, internationally known tourist attractions. Looking at census data it is not a stretch to argue that the Orange County experience might be expected to repeat itself in San Diego.

The conclusion to be drawn from this section is straightforward. Empirical studies from several sources, using different techniques, all agree that there is little evidence that a NFL franchise generates any substantial economic activity in a city with the population and reputation of San Diego.

The Question of Incentives.

While there is no evidence to support the assertion that the Chargers contribute to the overall economic vitality of the community, that does not mean concessions are not warranted. If the task force concludes that the Charges are an asset to the "life" of San Diego, an argument can be made to grant concessions. However, it is not clear such a mandate exists.[21] I would suggest that the decision makers take a very hard, and skeptical, look before accepting any claim of contributions to civic pride, etc.[22]

The lack of economic contribution, however, should frame the types of revenue streams offered to the Chargers. Since it is clear that the Chargers are not an economic engine in San Diego, it is not justifiable to increase or institute broad based taxes, such as a sales tax increase, to lessen the Chargers financial burden, or to provide them with a new or renovated stadium. It should be remembered that since the direct beneficiaries of these tax are franchise owners and players, and perhaps fans (if they are able to see a

---

[21] From a poll on the task force's own web page, 57% responded that it was somewhat unimportant, very unimportant, or not important at all for the Chargers to stay in San Diego.

[22] This includes adopting a certain degree of calmness when one is told that funding of some category is "below average." It is mathematically impossible for more than half of the franchises to be above average. These arguments are made to encourage cities to engage in the same type of bidding wars that franchises are guilty of when bidding for players.

game instead of not seeing a game if the team relocates in another city), any broad based tax used for a subsidy will be regressive in nature.

Similarly, a tax on visitors who are not attending a Chargers' game (a general hotel tax or car rental tax) could be counter productive by forcing those who are visiting San Diego to see Sea World or the Animal Park to pay for the construction of a stadium. This might in the long run reduce the number of tourists, thus reducing the income, and employment, generated from those who visit San Diego and bring in "outside money".

Finally, I would suggest the city or county does not get into a bidding war for the Chargers. After the relevant body has determined the value of the franchise to the community (whatever that value is) I would suggest that the concessions that the city are willing to make be announced publicly (and honestly), and the Chargers be made aware that this is the best offer the city can make. After some period for examination, explanation, and discussions on the margin, if the deal is not acceptable to the Chargers, then they will be free to go with the city's blessing. This will avoid a hold-up situation where the city is bidding against other cities.

If the concessions that will be offered to the Chargers need to go before the voters, resist the temptation to "bundle' as many infrastructure needs as possible in respective comprehensive initiatives," as one of your presenters suggested. Such a policy of "burying" the stadium project in the midst of other popular items is ethically challenged at best. A subsidy referendum should stand or fall on its own merits.