

**Public Subsidization of Professional Sports Teams**

**by**

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A Thesis  
Submitted to the Faculty of Graduate Studies  
in Partial Fulfillment of the Requirements  
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**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University  
of Manitoba in partial fulfillment of the requirements of the degree**

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## **Abstract**

Professional sports teams have become very vocal, and often very successful, claimants for access to the public purse. Economics as a discipline usually relies on one of two possible explanations for government involvement in the economy: market failure and interest group theory. This thesis attempts to evaluate which of these two theories best explains the success of professional sports teams in attracting subsidies.

Proponents of subsidization argue that teams are a positive externality and, therefore, a transfer from government will actually increase efficiency. Although the empirical work in this paper follows a very different methodology from previous efforts, the results are consistent with the prevailing consensus that sports do little to improve a region's economy.

Interest group theory makes no claims about government intervention leading to increased efficiency, instead it argues that outcomes will be dependent on a political "market". While interest group theory has some explanatory power, it does not capture one crucial aspect of sports subsidization - team's ability to relocate.

In an effort to improve on existing interest group theory, this thesis incorporates capital mobility into more traditional interest group theory. This adjustment gives firms and their lobby groups more power in the political process than thus far admitted in interest group theory and fits the trends and evidence in sports subsidization quite well.

The conclusion is that sports subsidization should not be thought of in terms of welfare economic notions of a positive externality, but rather, as the result of a political outcome in which the teams are well placed to receive public support from the government.

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## **Introduction**

### **Chapter 1 Sports Subsidization: A Growing Trend**

Professional sports' prevalence in the media and the public imagination has, until recently, been largely ignored by economic scholars. This was quite understandable while sports remained a game in which the contest itself was supreme and economics had an insignificant role. However, over the last ten or twenty years professional sport has evolved from being a pleasant diversion, only tangentially connected to the world of business, to being operated very much as an important commercial enterprise. This transformation has led to increasing scrutiny from economists. The vast majority of economic inquiry thus far has concentrated on using economic theory to analyze the restrictions that abound in the sports labour market. However, even often insular economists have not failed to notice the quite remarkable success of professional sports teams in demanding access to the public purse in recent years.

Only a decade ago the subject of subsidization of sports teams was largely ignored by even those concentrating on the economics of sport. The 1986 issue of The Journal of Economic Studies was dedicated to the economics of professional sports. The seventy pages of the study were almost entirely devoted to the debate surrounding the impact of the various labour market controls imposed in North America and Europe. Only a few scant paragraphs at the end of the survey commented on the surprising prevalence of subsidies considering the absence of evidence of a positive externality. This is especially true in Europe, where

violence outside soccer stadiums could actually result in a net negative externality, justifying compensation from the soccer teams rather than subsidies. (Cairns, Jennett and Sloane, 1986, p. 68) However in the last decade this lack of attention has been remedied and this work was able to draw on several books and articles that were dedicated to sports team's increasing ability to attract public money.<sup>1</sup>

Government subsidization has become almost *de rigeur* for professional sports franchises. Obtaining precise numbers about the extent of subsidization is a rather daunting undertaking because the most prevalent form of support is below market rental deals on the use of publicly built facilities. Not only is it difficult to obtain information on these deals from the municipal agencies and corporations involved, but even if the information is available it is difficult to determine whether the fees charged by the municipal agency actually represent below market rates. Having said that, two studies have attempted the rather monumental task of doing just this in several U.S cities. The first study, by Quirk & Fort, examined twenty-one public stadiums for one year, 1989. Every single public stadium subsidized their professional sports tenants, although, admittedly, to dramatically different extents. The lowest reported subsidy was granted by the city of Green Bay's Lambeau Field, which only helped the Packers to the tune of \$189,000. At the other end of the spectrum, the NFL Saints were subsidized by the Superdome in Louisiana by a tidy \$42 million. (Quirk and Fort, 1992, p.170) The second study, by Deam Baim studied fifteen public stadium projects, of which only two stadiums, the Metrodome in Minneapolis, home of the baseball Twins and

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<sup>1</sup> For example, see Danielson, Michael, Home Team: Professional Sports and the American Metropolis, Princeton, New Jersey, Princeton University Press, 1997 and Euchner, Charles, Playing the Field, Baltimore, The Johns Hopkins University Press, 1993.

football Vikings, and the Los Angeles Dodger's creatively named Dodger Stadium seem to operate at anything approaching what Baim estimates are market rates. (Baim, 1994, p. 166) Therefore, in Baim's study, thirteen of fifteen stadiums, or eighty-seven percent, are subsidized. It is also worth noting that as this paper is being written the Minnesota Twins are threatening to leave the city because of dissatisfaction with their current, unsubsidized, home. The difficulty of determining the extent of subsidization is well illustrated by comparing the results of these two studies. The Metrodome in Minneapolis is considered by Baim to be one of the cases in which there was only a very limited subsidy to the tenants. However, Quirk & Fort estimated that the residents of the Metrodome were subsidized by almost \$3 million in 1989 alone. Despite the discrepancies between the two studies, they both amply demonstrate that almost all of the publically constructed facilities subsidize their tenants.

While concrete numbers are difficult to obtain, evidence seems to support the argument that the vast majority of professional sports teams in North America are subsidized. Eighty percent of all facilities used in the big four professional sports leagues (Major League Baseball (MLB), National Basketball Association (NBA), National Football League (NFL), National Hockey League (NHL)) were constructed using public money. (See table 1-1)

Of course, public construction does not necessarily mean subsidization, but if the subsidy rate for all of these publicly financed facilities is anything like that in the Baim and Quirk & Fort studies, then the vast majority of stadiums and arenas involve government aid. In addition, many of the privately constructed stadiums have been supported by government through free land donations, supporting infrastructure and tax holidays. For example, the

privately financed construction of the Corel Centre for the NHL Ottawa Senators was greatly facilitated by the construction of supporting roads and loans from the Province of Ontario.

**Table 1-1**  
**Public and Private Facilities to 1995**

	Public	Private	Percent Public
MLB	24	4	82.1
NFL	26	3	90.0
NBA	20	9	69.0
NHL	19	7	73.1
TOTAL	89	23	79.5

(Danielson, 1997, p. 225)

Anecdotal evidence seems to indicate that the only teams not receiving a subsidy are basketball and hockey teams playing in large markets. For example, while Chicago's Blackhawks and Bulls operate without a subsidy, owning and operating their own facilities, smaller markets in these leagues all subsidize their teams. In the NBA, for example, the Utah Jazz, based in Salt Lake City and the Charlotte Hornets play in subsidized arenas. In the NHL, both the Calgary Flames and the Edmonton Oilers are subsidized as are most small market U.S. teams like the St. Louis Blues.

It would appear that it is quite difficult to operate a football or baseball franchise without government help. The three largest markets in the U.S.: New York, Los Angeles and Chicago, all subsidize teams in these sports. Between 1950 and 1996, only one baseball stadium (Los Angeles Dodgers) and three football facilities (Miami Dolphins, New England

Patriots and Carolina Panthers) have been privately financed. Los Angeles provided considerable incentives to convince the NFL Oakland Raiders to relocate. New York subsidizes, to varying degrees, all four of its teams in these two sports. (Quirt and Fort, 1992) Chicago has recently constructed a new ballpark for the MLB White Sox and plans to build a new \$400 million dollar stadium boasting all the latest technological amenities, including a retractable roof, for the NFL Bears. In the face of these widespread subsidies in large markets, where more gate and media revenues are available, small market teams are in a very strong position when claiming that they, too, need government support. Indeed, it is very difficult to discover a smaller market team in these two sports that has not received government money in the recent past. Baseball's Baltimore Orioles, Cleveland Indians and Atlanta Braves have all received brand new publicly constructed stadiums with very attractive leasing arrangements, while the St. Louis Rams, Jacksonville Jaguars and Nashville Oilers are only a few of the teams receiving substantial sums from their host cities.

One of the most interesting questions surrounding the professional sport industry is why governments are so often willing to provide public money for what many would consider a private business. This is especially curious in times of fiscal restraint, when governments are desperately attempting to reduce expenditures in an effort to balance budgets without increasing tax revenue. While governments cut back on what were once considered fundamental responsibilities such as health care and education and eliminate subsidies and tax breaks for other businesses, they seem more than eager to hand over large sums of money for what seems, at first glance, to be a rather frivolous industry.

The rest of this study will be dedicated to determining the effectiveness of two,

somewhat competing, theories that economists have devised to explain subsidies to businesses. The second section will examine the most prevalent theory, which argues that government subsidization occurs when the private benefits of an action are less than the social benefits creating a positive externality. In this situation, private markets will provide less than the optimal amount of the good and, therefore, the government needs to step in and augment private investment. This argument has been applied to professional sports teams in that they increase the amenities of a city, which attracts capital and labour to the region, increasing economic activity for existing businesses. However, for this theory to be an adequate explanation of the public subsidization of sports teams, this claim must be more than mere rhetoric, it should be demonstrably true. Chapter two will begin this task with a review of the literature that tests the validity of this claim. The third chapter will then make an attempt to further the empirical work on whether sports teams are indeed a positive externality. If professional sports teams do not constitute a positive externality then this explanation of subsidization is clearly deficient.

The second explanation, which falls under the broad banner of interest group theory, argues that much government intervention has little to do with economic efficiency or public welfare, but is instead, the result of interest groups attempting to attract government transfers through lobbying activity. To test this theory, therefore, involves actually determining the extent to which the theory of interest groups competing for government transfers explains the phenomenon of subsidies to sports teams. The third section of this work is divided up into several chapters. It is first necessary to thoroughly examine the specific branch of public choice literature that best explains state transfers to interest groups. The second task is to

make an assessment of how well the interest group theory explains the trend to sports subsidization. The third chapter in this section will suggest a slight modification of interest group theory that, hopefully, can improve its explanatory power. The last section will provide evidence that will attempt to prove that our modification of interest group theory can explain the trends in sports subsidization more accurately than the existing version.

## **Bright Lights, Big City: Are Professional Sports Teams a Positive Externality?**

### **Chapter 2 Review of Existing Literature**

The conviction that a professional sports team is essential to the continuing development of any North American city with pretensions of importance was well expressed by the lobby group dedicated to keeping the NHL Jets in Winnipeg. "It has become apparent that North American communities with any prospect of becoming or remaining first tier, will require a first-class sports, entertainment and convention facility. Winnipeg now has that opportunity."<sup>2</sup> With this hubris-tinged plea, the City of Winnipeg attempted to convince its citizens that spending over \$100 million dollars on a new arena, needed to retain its NHL Jets, was a wise public expenditure. Those who would defend this seemingly extravagant spending rely on an argument that should be quite familiar to those with a passing familiarity with economics. They claim that professional sports teams increase the economic base of a city in several ways. First, and most importantly, they attract business and labour to the city by adding to its entertainment amenities, which is claimed to be an important factor in corporate investment decisions. Second, the free advertising that comes with the media's obsession with professional sports increases the city's profile, potentially increasing both trade and tourism. In economic terms, professional sports teams are a positive externality. They help the other businesses in the city make money. Therefore, subsidization is warranted in order to equalize the public and private benefits from professional sports.

The logic of this argument is very much standard public welfare economics.

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Implementation Committee Position Paper, June 1994, City of Winnipeg, p.2.



Government involvement in the economy can be explained by cases of market failure, one of the most common of which is the presence of externalities. An externality is present when there is a divergence between public and private costs or benefits. Where the private benefit is less than the social benefit a positive externality exists and investment by the private sector will be less than is societally desired. The obvious solution to this is that the state can provide subsidies to encourage more private investment.

This is one possible explanation for the trend toward increasing subsidy incidence in professional sports. The question that must be answered is whether this is a valid explanation. In determining the extent to which professional sports are a positive externality, we are testing both the claims made by the sports teams in their subsidy requests and the economic theory that argues that government subsidy occurs because of a divergence between private and social benefits. We will start off our analysis with a look at the work already conducted in this area.

Before delving into any summary of empirical literature, it would, perhaps, be remiss not to provide at least a cursory overview of what passes for empiricism in the social sciences. The basis of empiricism in economics is determining correlation between explanatory, X, and dependent, Y, variables. The model is then assessed by determining the extent to which the variation in the independent variables explains the variation in the dependent variable. There are several different measures that are used to judge this, the most well known is probably the  $R^2$ .

The  $R^2$  is a measure of the goodness of fit of the explanatory variables. The actual value of the dependent variable will consist of two components, the estimated value of the

variable, which can be explained by the independent variables, and the residuals, the difference between the actual and estimated values ( $TSS=ESS+RSS$ ). The ordinary least squares regression technique estimates coefficients of the independent variables that will minimize the sum of the squared residuals. The  $R^2$  measure compares the estimated sum of squares to the total sum of squares:

$$R^2 = ESS/TSS.$$

The closer the estimated dependent variable comes to the actual observations, the closer the ESS comes to TSS. Therefore, the closer the  $R^2$  is to 1, the smaller the residuals, and the better the goodness of fit. The  $R^2$  does, unfortunately, have a serious drawback when estimating models with more than one independent variable. Adding an additional variable will usually increase the  $R^2$ , and will, at worst, never cause it to decrease. This is deemed a disadvantage in that it rewards the empiricist for simply throwing in every possible explanatory variable. If being concise has any merit, models should be penalized for adding on variables that contribute little additional explanatory power. Therefore, the adjusted  $R^2$  is often a preferred measure, since it will decrease if additional, insignificant explanatory variables are added. (Gujarati, 1988, p. 183)

While the  $R^2$  (or adjusted  $R^2$ ) measures the goodness of fit of the model as a whole, it is important to determine the impact of the individual variables. The first consideration is the magnitude of the impact of X on Y, which is measured by the coefficient of one of the independent X variables, let us call it  $X_1$ . The coefficient measures the mean change in Y from a unit change in  $X_1$ . While the coefficient provides a measure of magnitude, this is only meaningful if  $X_1$  is significant. Whether or not  $X_1$  can be said to have a significant

impact on Y is determined by the t-test. The t-test is set up to determine whether the null hypothesis, X1 has no impact on Y, should be accepted or rejected. To test this hypothesis, a t-ratio is calculated that should be compared to the t-distribution at a given confidence level (usually 90 or 95 percent).

$$t = b/SE(b)$$

This ratio compares the estimated coefficient, b, to the standard error of b. If the t-ratio is small then the estimated coefficient falls within the normal distribution around zero, and therefore, the null hypothesis should be accepted. If the t-ratio is above the critical value for the t-distribution the null hypothesis is rejected and we can conclude that the coefficient is significantly different from zero and, therefore, that X1 has a significant impact of Y.

It is also useful to determine whether all of the independent variables, X, taken as a whole, have a significant impact on the dependent variable, Y. This is measured by the analysis of variance (AOV) technique, which involves calculation of a F-value. The F-value uses the  $TSS=ESS+RSS$  identity to compare the estimated sum of squares to the residual sum of squares in the following formula:

$$F = (ESS/df):(RSS/df)$$

where df is degrees of freedom. If there is very little relationship between X and Y, then the sole source of variance in Y is the random forces of the residuals. On the other hand, if there is a relationship between X and Y, ESS/df will be larger than RSS/df. The F-value is used much like a t-ratio in that the value is compared to a critical value at a given level of significance. Also like the t-test the F-test is set up to prove or disprove the null hypothesis, that the true slope coefficients are simultaneously zero. If the F-value is greater than the

critical value, then the null hypothesis can be rejected, and the independent variables can be said to have a significant impact on the dependent variable. (Gujarati, 1988, p. 219)

When running a regression, the empiricist must be continually vigilant for potential pitfalls. The Gauss-Markov Theorem states that if the assumptions of the regression model are met, least squares estimators will be the best linear unbiased estimator (BLUE). However, this is only true if the assumptions hold. The assumptions necessary are discussed exhaustively in works dedicated to the art of econometrics and so will not be delved into in detail here. Instead, we will discuss the three common diagnostic checks that are commonly performed on regressions in order to determine their usefulness. The first test is for the problem of multicollinearity, which does not violate the conditions for the model to be BLUE. The last two tests are for difficulties that violate the assumptions necessary for the Gauss-Markov Theorem to hold.

The first, and least damaging, of the problems is multicollinearity. Multicollinearity occurs when there is a correlation between one, or more, of the variables in the regression model. This creates a problem interpreting the influence of the independent variables on the dependent variable because the impact of the correlated variables cannot be properly isolated. As a result the coefficients and t-ratios of the correlated variables will be unreliable. The presence of multicollinearity is often given away if the t-ratios of individual variables are insignificant but the independent variables, as a whole have explanatory power. It can also be detected by examining the correlation coefficients of the variables or an examination of the  $R^2$  of one variable regressed against the remaining variables. While the presence of multicollinearity does create problems with interpreting the correlated variables, it does not

compromise the criteria necessary for a model to be BLUE. Because of this, it is sometimes argued that multicollinearity is not a particularly severe problem and so often goes uncorrected. Indeed, taking corrective action is somewhat problematic since the only real solution is to remove one of the correlated variables. However, if the variables in question are required in the model, then this cure can be worse than the original disease. In the presence of multicollinearity, then, it is sometimes better to leave the model as is and simply be quite cautious about interpreting the correlated variables.

Heteroscedasticity presents a problem of rather more weighty proportions. Homoscedasticity, the condition that each disturbance term have the same variance, is one of the criteria for an estimate to be BLUE. If the disturbance terms do not have the same variance the "best" criteria needed to minimize the summed squares will not hold. Detecting heteroscedasticity can be done either informally, by eyeballing a graph of the estimated residuals squared, or more formally, by choosing among the fairly numerous statistical tests. Informally, if a graph of the estimated squared residuals displays a systematic pattern, this would suggest that there is a relationship between the size of the variance and one of the variables, hinting that heteroscedasticity may be present. Alternatively, there are a number of more formal tests, including the Spearman's Rank, Harvey, Glejser and Goldfeld-Quandt tests, that calculate a statistic which will provide a probability of the presence of heteroscedasticity. For example, the Goldfeld-Quandt test examines whether the variance is positively related to one of the explanatory variables by comparing the residual sum of squares of the smaller X values (RSS1) with the residual sum of squares of the larger X values (RSS2) in the following formula:

$$f_{\alpha} = (RSS2/df)/(RSS1/df).$$

If the variances are constant, we would expect  $f$  to be low. If it is less than the F-distribution at the chosen level of significance we cannot reject the hypothesis of homoscedasticity. (Gujarati, 1988, p. 333) While this is just one example, all of the tests follow roughly the same methodology. If heteroscedasticity is suspected, this is a serious problem with the model, which will seriously compromise the F and t statistics.

Autocorrelation is also a most serious problem. Autocorrelation occurs when there is serial correlation among the disturbance terms. Like heteroscedasticity, the presence of autocorrelation compromises the assumptions necessary for a model to be BLUE. The most common method of detecting autocorrelation is the Durbin-Watson ( $d$ ) test. The value of  $d$  will fall between 0 and 4. In general, the closer  $d$  is to two the lower the probability that autocorrelation exists. The  $d$  test is remarkably convenient since it is automatically calculated in most statistical packages, but it has two important drawbacks. First, it should not be used with autoregressive models, in which a lagged dependent variable is used as one of the explanatory variables. Second, there is a zone of indecision, or region of ignorance, in which the  $d$  test cannot make a definite statement about the presence of autocorrelation. In these situations autocorrelation can be detected using alternative methods such as the runs test, or by plotting the residuals. (Gujarati, 1988, p. 376) If autocorrelation is detected, this presents a serious problem with the estimation and should be corrected.

The point of this foray into econometrics was to set out the rudimentary techniques for evaluating econometric models. The criteria for assessing a model laid out in the previous section provide a basis with which to judge all of the empirical efforts made to date

as well as the model which will be developed later in the paper. Armed with this brief guide to evaluating econometric models we can proceed to evaluate the work done on whether professional sports teams are economic catalysts.

This topic has been attempted by a few authors, but they have met with varying degrees of success. The most prominent author in this area has been Robert Baade and so we will begin a review of the existing evidence with his work. Baade attempts to empirically test the claim that professional sports teams make a city a more attractive location in which to live and invest. He argues that if this is the case, business activity should show a noticeable improvement after the construction of a stadium or the addition of a team. Baade has conducted several of these studies, each time further refining his methodology.

In his first study, with Richard Dye (BD), eight stadium projects and five expansion teams were examined between 1965 and 1978. The authors ran regressions in which they used three measures of manufacturing activity as the dependent variable in the following equation:

$$\text{manufacturing} = (\text{pop. trend. stadium. foot. base})$$

The independent variables in their equation are population, a trend measurement, new stadium construction, and the presence of a football or baseball team. The purpose of the trend variable is to weed out any growth that is due to other factors, besides sports teams and stadia, that could have contributed to growth. Only in two instances was there any significant positive connection between the presence of sports teams and manufacturing activity, leading BD to refute the claim that the presence of professional sports teams has a positive impact on economic activity. (Baade and Dye, 1988, p. 43).

In a later, but quite similar study, these same authors used the same independent variables to explain income growth in nine U.S. cities that had undertaken stadium construction. BD dropped Buffalo and Miami from their sample and added Pittsburgh, Kansas City and Detroit. In this study, only the arrival of the Seahawks and their massive domed stadium, The Kingdome, had a significant positive impact. Again, they feel justified in concluding that "there is an insignificant impact of the stadium or sports variables on the level of metropolitan area income". (Baade and Dye, 1990, p. 10 )

Using a quite different methodology, another study came to similar conclusions. Rosentraub et al. limit their study to determining the impact of Indianapolis' attempt to use professional and amateur sports as a cornerstone of a downtown revitalization program. While no urban renewal project can rely exclusively on sports offices and facilities, it was a surprisingly large component of the overall strategy for Indianapolis. The mayor of the city during this period, William Hudnut III, claimed that, "Sports represents a significant opportunity to generate economic development for a city. Leveraging sports to create jobs and expand business paid off handsomely for Indianapolis during the 1980s." (Rosentraub et al. 1994, p. 224) There was an undeniable boom of sports facilities and infrastructure in the city during this period. While Market Square Arena in 1974 for the basketball Pacers and the Hoosier Dome in 1984 which was used to attract the NFL Colts from Baltimore, were the most high profile projects, public funds were also spent on a tennis stadium, the National Institute for Fitness and Sports and several facilities at Indiana University. Although these investments totaled over 170 million dollars, it was only about 12% of the capital investment in the downtown area. An additional 15% can be attributed to sports



investment only if it can be assumed that the Circle Center Mall and Union Station could not function without the traffic from sports events. Although sports investments were large, it is virtually impossible for the authors to separate the effects of the investment in sports from the broader strategy of downtown investment.

The authors use three different measures to gauge the impact of this strategy. The most important is their measurement of the changes in employment and salary levels after the sports strategy was undertaken. The authors compared the growth of employment and salaries in Indianapolis with nine other U.S. cities, comparable in size and industrial structure, but with no investments in professional sports. The study found that Indianapolis experienced faster employment growth than all but two of the cities in the study, but many of these jobs were in the low-paying service sector. (Rosentraub et al., 1994, p. 233) The authors conclude that, despite the encouraging level of employment growth, "there were no significant or substantial shifts in economic development". (Rosentraub et. al., 1994, p. 236) The difficulty in comparing this study with Baade and Dye's is that Rosentraub et al. do not separate the subsidization of the NFL Colts from a broader downtown development strategy, but clearly the authors of both studies are less than optimistic about the positive externality argument.

However, work by other authors studying the same question have yielded quite different results. One study which refutes the negative impact of sports teams was conducted by Judith Friedman. Her study is an attempt to explain the geographical distribution of fast-growing small firms in the United States. Among the other explanatory variables used in her study was the presence of a professional sports franchise. She found that there was a strong

positive relationship between the presence of a team and the number of fast-growing companies. (Friedman, 1995, p. 874). It should be stressed that this is no more than a correlation. Cities with either professional sports teams or a large college team do have more fast growing firms, but Friedman made no attempt to establish a causal link between the two.

More startlingly, Dean Baim, contradicts BD's findings despite virtually replicating their regression model. Baim starts his chapter on this topic by pointing out the rather serious limitations of BD's 1988 study. The most important criticism of the BD study is clearly its very limited sample size. With a sample of only eight stadiums constructed and five expansion teams, there is simply not enough data to run a reliable regression. Indeed, even the population independent variable, which one would expect to be quite closely related to employment, was insignificant in most cases. This may also be explained by BD's somewhat unusual choice of manufacturing employment as their specific measure of employment. In addition, the inclusion of closely related variables such as stadium construction and the presence of a professional sports team create a multicollinearity problem. If a stadium is constructed for an expansion team, precisely the situation in most of the cities in the BD study, then would additional employment be captured by the stadium or the professional team dummy variable? (Baim, 1994, p. 179) The only one of these criticisms addressed by the 1990 BD study is the problem of using manufacturing employment as their measure of economic welfare. While their switch to using personal income does represent an improvement on their 1988 study, the other problems identified by Baim still remain.

Baim attempted to correct for some of Baade's problems in his own empirical work

by running the regression.

$$\text{employment} = a(\text{pop}) + b(\text{football}) + c(\text{baseball})$$

on some twenty-five cities in the United States. Baim found that the presence of both professional football and baseball had substantial impacts on employment, especially in cities of over two million people. The model performs well with high R's and significant t-statistics for almost all variables. The coefficients are also impressively large. For example, in a city with over two million citizens, the presence of a professional football team increases employment by two hundred and twelve thousand. Professional baseball, not to be outdone as an economic engine, has a greater impact with an increase in employment of two hundred and thirty three thousand associated with the presence of a team. (Baim, 1994, p. 193) While even the author admits that the coefficients may be somewhat overly optimistic, he concludes that these two professional sports seem to have a profound positive impact on employment. This study clearly contradicts Baade and Dye's study. This is especially surprising since the only real difference between the two studies is the sample size and Baim's omission of the trend variable. Baim's empirical evidence lends credibility to cities' drive to subsidize professional sports teams since it appears that they actually do create a substantial positive externality.

Baim also argues that sports teams can be even more important for emerging cities. For these cities, sports teams can have an important advertising effect, signifying that they have reached "big time" status. Clearly, this is the logic behind the acquisition of professional teams by cities like Raleigh, North Carolina and Jacksonville, Florida. Baim argues that the positive externality of a city getting its first professional team is larger than

if a city already has a franchise. Therefore, professional franchises mean more to these cities than to cities already established, usually cities with more than one major league sport.

While Baim's criticisms of Baade's earlier work is quite valid, by virtually copying Baade's model he has failed to correct for one of Baade's more glaring errors. The remarkably simple model used by both authors fails to account for any other explanations of city growth. In both these models, the only explanatory variables are sports teams or stadiums. Surely, a slightly more complicated model is needed to capture the other, most likely more important, factors which contribute to the economic health of cities. In his latest study, Baade seeks to address this problem by altering the dependent variable to attempt to capture changes that are the result of trends that are not associated with changes in a city's professional sports industry. Baade's new model is:

$$(y_{it} - ay_t) - (y_{i,t-1} - ay_{t-1}) = b_0 + b_1NT_{it} + b_2NS_{it} + e_t$$

where  $y$  is real per capita income in city  $i$  at time  $t$ ,  $ay$  is average per capita income of the cities in the sample,  $NT$  is the number of professional teams and  $NS$  is the number of stadiums less than ten years old in the city. Subtracting the average income is supposed to "ensure that the professional sports contribution is not netted out". Using the first difference is designed to account for demographic changes, business cycle effects and the induced effects of tax changes or revenue sharing (Baade, 1996, p. 7). Basically, what Baade has done is to try to separate growth in a city's per capita income from broader income growth that has occurred in the rest of a sample as a whole. If a city's income growth between

periods is no different from the average growth in the sample, the independent variable will not change. This is supposed to isolate the change in a city's growth from broader causes of growth.

This model also corrects for another of the weaknesses of the previous BD studies by including many more cities and a longer time span. This study uses data from 1958 to 1987 for 30 U.S. cities, not all of which have either gained or lost teams. The results of this test are not terribly encouraging for the proponents of subsidization. When all the cities are combined both the stadium and team variables are insignificant. The study also isolates the effect on each individual city in the study and the team variable was only positively significant for Indianapolis. (Baade, 1996, p. 11). This study does go some way to improving on Baade's previous efforts and continues to support his contention that sports teams are rather impotent as economic catalysts.

Baade's new model does still fail to correct for one crucial flaw that is common to all of the empirical studies reviewed thus far. Regression models are not to be judged on  $R^2$ s and t-statistics alone. If statistically significant correlations, complete with a high  $R^2$ , can be found between which NFL division wins the Superbowl and stock performance, little has been achieved in advancing our understanding of the market. The problem with this type of random relationship is that there is no economic theory to explain the correlation. This is precisely the difficulty with the models used so far to test the impact of sports teams on local economies. They are backed by little, if any, economic theory. The various Baade and Baim models are basically set up to determine trends in either employment or income and then

capture any divergence from this trend with a sports team variable. There is little in these models that give the reasons for growth in either employment or income. A more satisfying empirical exercise would be to specify and test a theoretically appealing model of regional growth that would include the impact of sports teams.

From this review of the empirical literature, it is fairly obvious that, so far, there is little consensus on whether professional sports teams can legitimately claim to act as a business magnet. The most startling controversy surrounds the differences between the studies by Dean Baim and Robert Baade. Using very similar regressions, the two authors have arrived at diametrically opposite conclusions. This study will seek to contribute to this debate by employing a much different model, indeed a version of what Baade described as an "ideal" model, in an attempt to measure whether sports teams have a positive impact on a city's income and employment growth.

### Chapter 3 A New Empirical Test of the Positive Externality Theory

By relying on a trend variable to capture changes in employment and income, previous models have created a model devoid of economic theory. In contrast, this section will create a model that has at least some grounding in economic theories of regional development. While Baade agrees that this alternative is a more applicable test, he argues that it is not feasible because of limitations in both regional growth theory and data availability. (Baade, 1996, p. 8). While few urban economists would dispute the validity of this claim, there have been numerous studies that have attempted to specify precisely this type of model. This study will unabashedly borrow from this literature in an effort to develop precisely the type of model that Baade describes as ideal yet impractical. In order to do this we must first examine why Baade claimed that there are no urban growth models capable of such an analysis by examining three different types of models of regional growth.

We will start with models that assume that regional growth is caused by demand factors. The most widely applied demand style model of economic growth is the export base model, so called because of its insistence that local exports are the engine of growth. Exports are assumed to be exogenous, driven by national trends, outside the control of the local economy. While this model comes in numerous forms, the basic components remain quite consistent. Total income or employment comes from either the export sector, business which sell their goods outside the defined area, or the domestic sector.

$$N = X + D$$

where X is employment in the export sector and D is employment in the domestic sector.

Further, employment in the domestic sector is dependent on employment in the export sector, so the model can be reduced to:

$$N = a + bX$$

The precise method by which this relationship occurs depends on the specific author. One could assume, for example, that higher exports lead to higher employment in the export sector, in turn leading to higher spending by workers in the export sector on goods and services produced for the domestic market. Using this logic, the  $b$  coefficient is the propensity to consume on local goods. (Blair, 1991, p. 153)

Blair provides an example of how a simple model such as this can be operationalized. Weiss and Gooding used an export base model such as this to examine the effect of a change in Portsmouth's leading export industries. His model specified three main export sectors in the Portsmouth economy:

$$N = a + bX1 + cX2 + dX3$$

$X1$  is employment in private sector export businesses.  $X2$  is civilian employment at the Portsmouth shipyard.  $X3$  is employment at Pease Air Force Base. Each of the variables in this test were significant, yielding a  $t$ -stat of over 2 and an  $R^2$  of .78. (Blair, 1991, p. 193)

While this specific example works quite well, most export based models have been less successful.

Even a simple example of an export base model is fraught with difficulty. The most obvious problem in testing this model is simply separating those industries that produce for export from those that produce for the domestic market. To complicate matters further there will inevitably be firms that produce for both markets. While there are techniques for



estimating whether regions are net exporters on an industry by industry basis. these are, at best, very rough estimates. (Hansen, 1975, p. 35)

Another demand based model relies on the macroeconomic income identities made popular by Keynesian economists. These models use an identity well known to students of economics:

$$Y = C - I + G + X - M$$

The model is further simplified by assuming that consumption and imports are linear functions of income, so the model can be reduced to:

$$Y = a + bI + cG + dX.$$

This model was tested by Ghali and al. (1981). Again, the difficulty of defining a region's exports forced the authors to use each region's international exports as a quite unsatisfactory proxy. They found that the model tested quite well, with only the export variable being insignificant and an  $R^2$  of .86. The F-statistic was 138.2, allowing the authors to safely reject the hypothesis that income growth is independent of demand conditions. (Ghali & al., 1981, p. 179)

These models have been criticized on a theoretical level by those who dislike their reliance on demand factors as the engine of growth. Many argue that this ignores gains that can be made from other sources: productivity, for example. Further, exports may not be exogenous at all, but may, in fact, very much depend on the structure of the local economy.

In response to this criticism, several authors have attempted to define a more supply-side approach to urban growth. These studies attempt to relate the growth of a region, in terms of either output, population or employment, to the resources available in the region.

Explanatory variables such as intermediate inputs, capital, land, labour and the quality of entrepreneurs are used to explain urban growth. Clearly, this approach relies heavily on the assumption that demand for a cities' goods and services will respond to changes in its supply. In fact, the implied assumption is that the region is a quite small player in the world market, so an increase in the region's supply will have no appreciable impact on the total supply. In this case, the demand curve facing the region's products is analogous to the horizontal demand curve facing a firm in a perfectly competitive industry. So, for example, an increase in the supply of a cities' products because of a productivity increase must result in reduced prices and, in turn, increased demand.

The tremendous variety of explanatory variables employed in these studies makes them look, at first glance, rather random, relying less on any consistent economic theory than on a catch-all of desirable regional characteristics as specified according to the whims of the particular author. However, closer examination reveals that these studies are largely based on the eminently respectable economic notion that employment and income growth are driven by job creation through increases in investment. Investment, in turn, can be explained by firms weighing the costs and benefits of different locations.

Despite the seemingly endless number of variables that could potentially be specified as possible explanations for firm location decisions, authors have largely constrained themselves to a remarkably consistent set of determinants. The attractiveness of a given locality has been measured repeatedly by variables representing market size, climate, amenities and the education level of the residents. The costs of a region are almost invariably captured through variables measuring tax levels, labour costs and energy prices.

**Table 2-1**  
**Regional Growth Studies**

<b>Study</b>	<b>Market Size</b>	<b>Labour</b>	<b>Climate</b>	<b>Education</b>	<b>Taxes</b>	<b>Energy</b>	<b>Industry Mix</b>
<b>Duffy (1994)</b>							
tested	*	*	*	2	*	*	
significant	*	*					
<b>Mills &amp; Lubueie (1995)</b>							
tested		*					
significant		*1					
<b>Terkla &amp; Doeringer (1991)</b>							
tested		*	*		*	*	*
significant		*2				*	*
<b>Mullen &amp; Williams (1994)</b>							
tested	*				3		
significant	*3				4		
<b>Wasylenko &amp; McGuire (1985)</b>							
tested	*	*		2	*	*	
significant	*4	*		*		*	
<b>Goss &amp; Phillips (1994)</b>							
tested		*		*	*	*	
significant				*	*	5	

1 Relationship is positive and significant

2 Work stoppages were found to be more significant than labour costs

3 Per capita income found to be negatively related

4 Marginal tax rates were significant

5 Per capita income found to be positively related

As is the case so often in repeated econometric studies, different studies have arrived at very different conclusions about the significance of each of these variables. This is not a damning

criticism of the state of empirical work in this area, but is more a randomness that is rather to be expected given the different methodologies and data used in the various studies. A summary of the results of six recent studies is presented in table 2-1.

On the benefit side, most of the explanatory variables have not been consistently significant. For example, in their survey of the literature, in their literature review, Terkla and Doeringer claim that while previous studies have found climate measures to have some explanatory power, their own study found it to be unimportant. (Terkla and Doeringer, 1991, p 332). Of the six papers surveyed for this study, only one other besides the Terkla and Doeringer study deemed the climate variable worthy of testing, and it also found climate to be insignificant as an explanatory variable. (Duffy, 1994, p. 160) The only variable that seems to yield anything approaching consistent significance among the surveyed studies is measures of education which were found to be significant in two of the three studies in which it was tested as an explanatory variable.<sup>3</sup>

The size of a city's market was also tested in three of six studies. Economic theory predicts that the size of a city's market will have two, opposing effects, on future income or employment growth. High personal incomes create a large market for locally provided services contributing to employment growth. However, high incomes also mean high labour costs and therefore, should act as a disincentive to future investors, slowing employment creation. The dilemma revolves around which of these effects dominates. This theoretical dilemma is mirrored in empirical work. While all of the studies claim that market size is a

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<sup>3</sup> See for example the studies conducted by Wasylenko & McGuire (1994) and Goss & Phillips (1994) which both find education levels to be significant in explaining regional growth.

significant factor affecting regional growth, the direction of its influence remains controversial. Two studies find that larger markets have higher rates of employment growth. In contrast, the lone study that argued for a negative relationship did, indeed, discover that states with higher initial per capita incomes have much lower rates of growth as measured by Gross State Product.<sup>4</sup>

Cost factors seem to wield more explanatory power. Of the previously mentioned cost variables, labour was found to be significant in several of the studies. However, the direction of the impact has been the subject of some controversy for the very same reasons that the impact of market size is debated. Neoclassical economic theory would predict that companies, seeking to reduce labour costs, would opt for low wage regions so employment growth would be highest in low wage areas. While several studies find evidence to support this assertion, one of the studies surveyed found that high wages had a positive effect on employment growth. The authors' argued that high wages attract migrants to a region, which has a positive effect on employment by bidding up demand for home goods.<sup>5</sup>

The empirical evidence on energy prices is much less ambiguous. Usually using electricity as the specific variable, energy prices have been tested in several models of this type on the assumption that high prices would discourage firms from investing in the region, thus reducing employment creation. This has found considerable empirical support. Of the four models to use energy as an explanatory variable investigated in this survey, three found

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See Duffy (1994) and Wasylenko & McGuire (1994) who find it positive while Mullen & Williams (1994) find it negative.

For example, see Duffy (1994), Wasylenko & McGuire (1994) for evidence on wages' negative impact and Mills and Lubuele (1995) to support wages' positive impact on population.

energy prices to be significant and negatively related to regional growth.<sup>6</sup>

Taxation, on the other hand, seems to be much more controversial. Terkla and Doeringer's reading of the literature leads them to the conclusion that the impact of taxation could either be described as uncertain or dismissed as insignificant. (Terkla and Doeringer, 1991, p 332) On the other hand, Mullen and Williams are confident in pronouncing that recent literature supports the contention that regions can exert considerable influence on firms' locational decisions through fiscal policy. (Mullen and Williams, 1994, p 688). Consistent with this mixed evidence, some of the empirical studies surveyed for this research found taxation was a significant deterrent to investment while others found that it was unimportant.<sup>7</sup>

The third category of urban growth models are those tailored to individual cities. While there have been numerous models designed for specific cities, these are often much too complex to apply to a wide variety of urban areas. For example, Blair cites a model of Milwaukee formulated by Rubin and Erickson that involves no less than 97 statistical equations and identities that purport to predict the behavior of that city's economy. Separate equations were used to forecast employment, output and wages across 16 different sectors of the economy. (Blair, 1991, p. 195) Applying a model this detailed across our sample of seventeen cities would require information and data collection efforts that would dwarf the labours of Hercules.

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<sup>6</sup> Goss and Phillips (1994), Wasylenko & McGuire (1994), and Terkla and Doeringer (1991) all find energy prices to be significant.

<sup>7</sup> Those that found it had little impact were: Duffy (1994), Terkla & Doeringer (1991), and Wasylenko & McGuire (1994). Those that found it significant were: Goss & Phillips (1994) (income but not corporate), and Mullen & Williams (1994).

Taylor (1982) compared the predictive capabilities of three types of export-based models, one example of a supply-side model and complex region specific models for six U.S. regions and municipalities. According to her studies, the export based models predicted growth less accurately than a simultaneous model involving labour supply and the detailed area specific models. The results of this study suggest that export based models are not sufficiently reliable to use as a base for this study. However, the surprising result was the failure of the detailed models to outperform the simple supply-side model. (Taylor, 1982, p. 439)

This brief survey of the literature on urban growth models has yielded some possibilities for models that would be suitable for this study. The most widely used model, export based growth, has been justly criticized for being overly simplistic and ignoring supply factors. In addition, the need to distinguish exporting firms from domestic firms presents a practical difficulty of rather weighty proportions. Although the supply-side literature appears quite hit and miss, there have been enough studies conducted to provide a reasonable foundation on which to build a model of regional growth. Based on the previous studies of this type, it is possible to construct what should be a reasonably acceptable model by using the explanatory variables that have proved to be most consistently significant. In the recent literature, the most influential variables are clearly market size, labour, energy prices and education level. Taxation will also be included, for despite its somewhat inconsistent performance as a significant explanatory variable, it was certainly consistently included in the models surveyed, indicating that almost all of the sample studies found it worthy of testing.

After much deliberation we have a general model culled from the empirical work on regional and urban growth. Basically, employment in a region will depend on certain important economic characteristics. The final specification of the model is:

$$\text{emp} = f(\text{ms, lab, ed, en, tax})$$

where the dependent variable is employment, which is determined by the independent variables: market size, labour costs, education levels, energy prices and tax levels. In this model it is not the absolute value of the variable that is measured but the growth rate.

This, then, is the general formulation of the model. The next task is the always delightful one of identifying and defending the specific measurements used to represent the variables. The ideal measure would be one that could encompass all of the relevant labour costs, from wages and salaries to health and other benefits, that a profit maximizing firm would strive to minimize. Since this is not available, this study has opted for as wide a definition of wages as possible. Labour costs in the United States will be represented by average yearly wages and salaries in each metropolitan area. Wages and salaries are the most broad measure of labour costs. Salaries as well as wages have been included because a profit maximizing firm should certainly not distinguish between the costs of wage and salary workers.

Market size is approximated by total personal income in the city. This is justified primarily through expediency. In the United States this is the only consistently collected measure of overall municipal market potential, since nothing resembling gross national



product is available at the municipal level.

Education levels are measured by post-secondary enrollment as a percentage of the population between 18 and 24 years of age. The perfect measure of the skills of the region would reach beyond formal enrollment by a specific age group in university and college courses. It would include a much broader measure that would include the entire population and the litany of additional courses that people take while working to upgrade their skills. Like any Platonic ideal this does not exist in reality, so we have to settle for our proxy measure of a city's skills. This is the only state wide variable in the model. State level data were used for two reasons. First, and most importantly, this data is unavailable on an annual basis at a municipal level. Conveniently, state data may be more desirable from a theoretical standpoint. If labour is mobile, then the labour force from which firms can draw is not limited to the immediate municipality. For example, it would seem unrealistic to assume that Minneapolis, for example, does not attract workers from the rest of the state. Therefore, the whole state's educational level, not just Minneapolis' should be the relevant scope of the variable. Thus, since cities can be viewed as drawing areas for labour in the surrounding area, the state is a better area of reference than the city itself.

An ideal measure of energy prices would not only represent the price of different energy sources, from fuel to electricity, but would also weight these prices by the amount that firms used these energy sources. Even the most dedicated search of city level data will fail to yield a measure approaching this level of detail. Instead, we have to settle for a much less

satisfactory but much more available measure. Energy prices are represented using municipal electricity prices. Electricity has been chosen for the practical reason that it is readily available, but also because it shows the most variation among different energy types. It has also been selected in order to conform with previous studies which have almost all used electricity prices as a proxy for energy.

The indicator for the tax variable is somewhat more complicated than the previous measures. To develop as broad as possible a measure of taxation, this model has added the total municipal tax revenue to income ratio to the total state tax revenue to gross state product (municipal tax revenue/municipal income + state tax revenue/Gross State Product). This provides a measure of the amount of taxes collected compared to the level of economic activity. This somewhat indirect measure is made necessary because of the lack of data on municipal tax burden. It is, of course, necessary to combine both state and local taxation when comparing taxation costs between cities. Since no single measure is available that does this, a proxy will have to suffice. It is also important to explain why the model uses such a broad indicator of taxation. While the measure selected clearly includes taxes that will not directly impact corporations, this was deemed to be more appropriate than choosing a more narrow measurement that would have neglected some of the more hidden taxes on corporations. If the model had used corporate taxation this would have been an incomplete measure of tax costs in many areas.

Therefore, the specific model to be estimated is:

$$\text{empl}_t = a_0 + a_1 W_t + a_2 ED_t + a_3 T_t + a_4 EL_t + a_5 INC_t + a_6 PT_t$$

where

W = growth of municipal average wage and salary per employee

ED = growth of % of population 18-24 in post secondary education

T = growth of (municipal tax revenue/municipal income) ÷ (state tax revenue/Gross State Product)

EL = growth of municipal electricity prices

INC = growth of total personal income

PT = number of professional sports teams

This data was collected for seventeen cities in the United States. The cities were not chosen at random, but were rather chosen by dint of being metropolitan centers of sufficient size to be worthy of data collection by various statistical agencies on a continuous basis. Of the cities in the sample, fourteen have either gained or lost professional sports franchises in one of the big four North American professional sports leagues, the NFL, MLB, NHL or the NBA. Only teams which remained in the same location for a minimum of five years were considered as having a possible economic impact in order to ensure that the team was given time to become a fixture in the community. Clearly, some fly-by-night organization that is only going to be in town for a brief and inglorious period will have little ability to act as a magnet for business. A quite acceptable of mix of city size is found in the sample, from the smaller markets of Atlanta and Indianapolis to the largest markets in the continent like

Chicago and Los Angeles.<sup>8</sup>

Having, with hopefully some success, justified the model used in this study, we can now proceed to an analysis of the regression results. The Shazam econometrics package has the capacity to pool time-series and cross-sectional data by performing a generalized least squares procedure. The default is a cross-sectionally heteroskedastic and time-wise autoregressive model. In addition, to correct for an unstable rho, Shazam's CORCOEF option was used to confine the estimate. In order to account for city specific "fixed" effects, the dummy variable approach was used following the procedure outlined in Green (1997). The regression was first run without the sports team variable to determine the usefulness of the urban growth model on its own. Then, the pro sports team variable was added to see if it contributed to the model's ability to explain growth in employment. There are 340 observations for seventeen cities over twenty years in the United States. The results are provided below:

$$1) \quad \text{EMPL}_t = -.002 - .8 W_t + .01 \text{ED}_t + .01 T_t - .02 \text{EL}_t + .8 \text{INC}_t$$

$$\quad \quad \quad (-1.0) \quad (-18.7) \quad (1.8) \quad (0.8) \quad (-2.6) \quad (27.8)$$

$R^2 \quad .76$   
F distribution 47.8

$$2) \quad \text{EMPL}_t = -.002 - .8 W_t + .005 \text{ED}_t + .01 T_t - .02 \text{EL}_t + .8 \text{INC}_t - .004 \text{PT}_t$$

$$\quad \quad \quad (-0.5) \quad (-18.6) \quad (1.7) \quad (0.7) \quad (-2.5) \quad (27.6) \quad (-.28)$$

$R^2 \quad .76$   
F distribution 47.9

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<sup>8</sup> The U.S. cities in the sample are: Atlanta, Baltimore, Buffalo, Dallas, Denver, Indianapolis, Kansas City, Los Angeles, Miami, Minneapolis, Oakland, Sacramento, St. Louis, Boston, Chicago, Cleveland and San Diego.

The model appears to perform reasonably well. The  $R^2$  of both models is high, with the independent variables explaining 76% of the variation of the dependent variable. The F-statistic is well above that required for significance at either the 5% or 1% level of significance. Since the Durbin-Watson statistic is unreliable for autoregressive models, a runs test was performed which indicated that there was no autocorrelation. There is, however, one difficulty with the model. A correlation matrix of the variables reveals that there is considerable correlation between the income and wage variables, indicating a multicollinearity problem. The only cure for this complication is to remove one of the correlated variables. Unfortunately, throwing away one of the variables harms the overall performance of the model as measured by the F-distribution indicating that both variables contribute to the explanatory power of the model. The multicollinearity problem is not damaging in the fashion of error term misspecification, instead it creates problems interpreting the t statistics, making variables that may be significant appear insignificant. Since both of the variables in question are significant, the correlation between the variables is not a serious difficulty.

The t-statistics are provided in brackets under each equation and show that the wage, electricity and income variables are significant at the 5 percent level. The coefficient of the electricity variable also has the predicted negative sign, indicating the inverse relationship between costs to firms and employment. Education is significant, although only at the 10 percent level and has the predicted positive sign, demonstrating, to the extent that the variable is deemed significant, that employment is positively related to educational attainment in a city. The tax variable has no significant effect on employment. This model

also has something to contribute to the debate about how wages and market size influence city growth. Keeping in mind the difficulty of interpreting correlated variables, according to these regressions, wage increases are negatively related to employment growth, while market size has the opposite effect. This does have some intuitive appeal as it would seem advantageous to have access to a large market while still keeping a low wage bill.

Of course, for the purposes of this study the most important variable is the number of professional sports teams. When we include the professional sports variable in the second equation, it was found to be negative and insignificant. This means that the impact of sports teams on employment growth is not significantly different from zero and that, further, if it were significant, the impact would be negative. This seems to indicate that the supporters of subsidization may well be overly optimistic in their claims about sports teams being a magnet for other businesses.

In an effort to ensure that one particularly influential league is not being dragged down by the miserable performance of its sporting colleagues, this study also ran a regression that divided the professional team variable into individual leagues. In contrast to lumping all of the teams in a city together under the professional sports banner, this regression specified the number of teams in each city for each of the four major leagues. Using the same methodology as the previous two regressions, the results are:

$$3) \quad \text{EMPI} = -.002 - .8W + .005ED + .01E - .01EL - .8INC - .0001MLB - .002NFL - .001NHL + .001NBA$$

$$\quad \quad \quad (-0.5) (-16.7) \quad (1.8) \quad (0.6) \quad (-2.1) \quad (26.3) \quad (-0.07) \quad (0.8) \quad (-0.7) \quad (0.6)$$

$$R^2 = .75$$

$$F \text{ distribution } 47.3$$

The purpose of doing this is to determine if any particular league was more influential than

its fellows at influencing economic activity, then the gain or loss of a team in that particular league should have an effect on the employment variable. The results of this regression do nothing to change our earlier conclusion. The t statistics for MLB, NFL, NBA and NHL were all less than one, indicating that changes in the number of teams in a city, in any of these leagues, has no significant effect on employment.

In conclusion, the results of this study could hardly have been more discouraging for the proponents of subsidization. The professional sports variable fails to perform as it should if sports teams can be considered a positive externality. In the United States the number of sports teams in a city has no statistical relationship to changes in employment. It is at this point that economists usually include a disclaimer with their empirical findings. While economists have endeavored mightily, perhaps even obsessively, to perfect their scientific techniques, there is still considerable debate about the reliability of the conclusions reached through econometrics. However, while this effort at empiricism will never be confused with an experiment in the physical sciences, it certainly casts substantial doubt on the ability of a professional sports team to act as an economic engine.

The purpose of the preceding section was to demonstrate that there is very little evidence, in this study or in most of the previous work in this area, to suggest that sports teams are capable of acting as an economic catalyst. Therefore, this justification for access to public money does not stand up to close scrutiny. If the subsidization of sports franchises cannot be explained as a solution to market failure, another alternative must be explored. One branch of economics, public choice, has developed a theory which purports to explain why certain groups are able to obtain transfers from the government. The remainder of this

paper will be dedicated to determining how well the existing theory of interest groups can explain the trend of increased sports subsidization. Of course, to do this we must first go through the rudiments of interest group theory itself.



## **All Groups Are Not Created Equal: Public Choice and Interest Groups**

### **Chapter 4 Interest Group Theory: A Review of the Literature**

#### **A brief introduction to interest group theory**

Public choice theory is the current favorite approach for many economists attempting to venture into the political realm. Much of the reason for this must surely be that public choice theory plays very much to an economist's analytic strengths. The starting premise of what is broadly defined as public choice theory is that the tools of microeconomic analysis can be usefully applied to the political system. Therefore, the starting assumptions of microeconomics are also the starting assumptions of public choice. Actors in the political system are assumed to have the exact same motivation as actors in the economic system, namely maximizing their self interest given their institutional constraints. Notions as quaint and idealistic as "serving the public interest" are met with derision. Instead, politicians and bureaucrats are assumed, like any other actor, to be maximizing some personally desired goal. The public sector, then, differs from the private sector not in terms of individual motivation, but in terms of the institutional constraints that face the individual. In the private sector, managers' individual utility is related to maximizing profits, since their income will depend on the profit making record of the company. In the public sector, however, the constraints are different. There is no corresponding institutional objective similar to the profit motive. Therefore, actors are assigned other goals. For example, much paper has been dedicated to explaining the growth of government budgets by assuming that bureaucrats maximize their own utility by maximizing the size of their particular branch of government, since this results in increased power and prestige. (Mueller, 1989, p. 251) This is seen as

the most realistic goal for bureaucrats given the different constraints that exist in the public sector. Politicians have also been ascribed various self-serving motives, the most common (and probably most realistic) of which is to maximize votes or to stay in office. However, some public choice authors have argued that politicians merely appear to pander to the wishes of the majority while enhancing their own wealth. (Kaplan, 1994, p.123) The important point here is not the debate about the constraints facing the bureaucrats and politicians, but that they obey the standard economic assumptions about individuals maximizing their own utility.

The natural extension of this assumption is that all individuals enter the political process only in order to maximize their utility. So, for example, people vote in a manner which will, given the current information and appropriate assumptions about the actions of other voters, maximize their utility. Similarly, people will join political organizations and lobby groups only when it positively affects them personally. A quite telling quotation from Garry Becker will illustrate the general assumptions public choice writers impose on the political system. "Political equilibrium has the property that all groups maximize their incomes by spending their optimal amount on political pressure, given the productivity of their expenditures, and the behavior of other groups." (Becker, 1983, p. 372)

The particular branch of public choice theory which seems most applicable to this study is the theory of interest groups, which developed out of the rent-seeking literature. Broadly speaking, in rent-seeking theories governments are seen as brokers that are responsible for the transfer of resources between competing interest groups in society. Since governments are in a position to transfer resources, either conspicuously through subsidies

or grants, or less obviously through market protection and regulation, considerable time and effort are spent to convince government to favour a particular group. While the market protecting regulation itself is merely a transfer from consumers to producers, and is not welfare decreasing, the lobbying activities dedicated to acquiring the regulation do represent a loss to society since they are diverted from other, actually productive activities. (Mueller, 1989, p. 230) The rent-seeking literature that is of specific interest for this study focuses not on the costs of rent-seeking but rather on understanding why it is that certain sectors of the economy are more likely to successfully convince the government that they are worthy recipients of financial assistance.

This leap to the study of how the government determines transfers in society has been attempted by what can very loosely be termed interest group theory. In keeping with the starting assumptions of public choice theory, governments will provide transfers to specific interest groups only when it is somehow to their benefit. Interest groups seeking transfers must be able to pay by providing the two things that every self interested political organization needs: votes and money. Both of these will increase the supporting party's chances in the next struggle to obtain a mandate from the people. (Coate and Morris, 1995, p. 1210) While it is entirely possible to influence a self interested politician through various forms of bribery, this work will concentrate on legal methods to sway the government. In interest group theory, the ability to extract transfers from the government very much depends on the group's ability to either influence the voting turnout or provide the cash to allow the political parties to sway the public, based on the assumption that politicians maximize their utility by gaining votes in an election. The transfer seeking lobby group can either convince

a political party that implementing a transfer is a savvy political manoeuver by generating support for the policy, or it can support a party that agrees to the transfer by providing it with campaign financing and delivering voters. In both cases, opposition to the transfer from those negatively impacted will have to be overcome. In the case of subsidies, those who bear the burden of increased taxation are likely to be less than overjoyed about financing the operations of an industry or firm. In the case of protective regulation, consumers may well be upset about the increased prices they are forced to pay.

An early attempt to explain why firms and industries were able to gain transfers from government at the expense of individuals was called capture theory. This theory attempted to explain policies like Canada's supply side agriculture programs where small groups of producers receive protective legislation that augments their incomes at the expense of consumers. According to this theory, it is very worthwhile for producers to lobby government for protection since, as a small group the benefits are divided among few hands, while the costs of organization are limited. Of course, this transfer comes at the expense of consumers forced to pay higher prices, but because consumer groups are large and widely dispersed, they face very high organizing costs to resist the price increasing regulations. Since the costs of the transfer fall on many individuals, the negative impact on any one person is quite small. (McCormick and Tollison, 1981, p. 8) Here we have a theory which uses widely accepted economic ideas to explain why some groups will organize and lobby the government while for others it is not worth the effort. It is worth noting here that the effectiveness of the lobby group, that is their ability to transform their lobbying efforts into transfers, depends on their ability to provide either votes or money to the utility maximizing

politician.

The pioneering work beyond capture theory was done by George Stigler in a 1971 article entitled "The theory of economic regulation", in which he argued that economic regulations were, for the most part, actually sought by the regulated industry and that the regulation operated to the industry's benefit. Stigler argued that a "market" for legislation existed which would be determined by the demand from industries and supply by governments. On the demand side, Stigler cited four types of benefits that industries can seek from government: direct subsidies of money, barriers to entry, influencing substitutes or compliments and price fixing. (Stigler, 1971, p. 4) Stigler, and most of his successors have focused on legislated price fixing and barriers to entry while they have given subsidies little attention. This is because only lobby groups with quite limited membership will apply for a direct cash transfer since the benefits would be quickly dissipated among a group with many members. Larger groups lobby for broader regulatory changes such as barriers to entry, price fixing or tariffs. (Stigler, 1971, p. 6) Importantly, Stigler's formulation of costs and benefits made it entirely possible for consumer groups, or labour groups for that matter, to become active lobbyists. Therefore, it is purely the relative costs and benefits of organizing and influencing the government that explains the presence and effectiveness of political pressure groups. This created an avenue for researchers to depart from capture theory since groups other than firms or industries could now conceivably win transfers from the political system.

Stigler also attempted to outline how the supply side of the market for regulation functions. According to Stigler, since the benefits to industry of the regulation are inevitably

less than the cost to the rest of society, a direct and informed vote would reject the transfer. However, in Stigler's theory, votes are neither direct nor informed. They are not direct because we elect representatives to make a wide range of collective decisions over a given time span. They are not informed, because the costs of obtaining information on specific policies is quite high and the benefits fairly low. The result of these two voting characteristics is that if a minority group strongly wants a policy that slightly injures the majority, it will not pay the majority to inform itself and act against the passionate minority (Stigler, 1971, p. 11)

In this context, it is possible for interest groups to obtain favourable transfers from the government by contributing either votes or resources. The amount that has to be paid to the politician in order to obtain legislation will increase with the size of the industry since transfers to larger industries will generate more opposition and the industry itself will have more of its own members to convince. However, Stigler argues that the cost rises less rapidly than industry size, effectively precluding small industries from transfer seeking in most cases. (Stigler, 1971, p. 11) He concludes his work by providing empirical evidence from occupational licensing and trucking which demonstrate that public policy very much reflects the economic interests of the industry. While Stigler's ideas were not formalized in the rigorous mathematical sense, his ideas stimulated a tremendous amount of theoretical and empirical work attempting to formalize and verify his "economic theory of regulation".

This groundbreaking work by Stigler opened up a whole new arena for economists who rushed to follow his lead in applying economic-style analysis to the political world. The following review of interest group literature will not be as concerned with examining the conclusions of the various authors as determining the assumptions used to formulate their

models. In doing so we hope to uncover the fundamental assumptions and hypothesis that comprise interest group theory. The review will be divided up into the three main components of interest group theory: the motivation of politicians, interest group formation, and voting behaviour.

### **Motivation of politicians**

Let us first turn to how interest group theory has treated politicians and political parties. There are two quite separate controversies that have emerged in this area. Many authors have taken umbrage with the fundamental tenet of public choice - that politicians are actually self interested. They argue, instead, that politicians behaviour can be best explained by assuming that they act according to their ideological beliefs. Before turning to this debate, however, we will first deal with a debate within public choice, interest group theorists. While these authors hold in common the belief that politicians are maximizing individuals, there is considerable debate about just what it is that they maximize.

Sam Peltzman made an important contribution to public choice theory when he formalized and extended Stigler's original ideas. While Peltzman sets out to determine the factors that affect the equilibrium interest group size, which is not of direct application to this study, the manner in which he arrives at his conclusions are worth noting. In formalizing what he called "a Stiglerian Model of Regulation", Peltzman had to make some important starting assumptions. First, regulators/politicians responsible for administering regulations will maximize their utility by maximizing votes. Specifically,

$$M = (n)(t) - (N-n)(h)$$

where

$n$  = the number of voters in the group that benefits from the subsidy

$f$  = the probability that a beneficiary will garner support

$N$  = the total number of voters

$h$  = the probability that the taxed group will vote against.

The probability of support,  $f$ , is dependent on the size of the net benefit to the gaining group which is determined by the regulator. (Peltzman, 1976, pp. 214)

Peltzman's assumption about regulatory (political) motivation highlights the first controversy within the public choice literature that will be reviewed. Indeed, in a commentary immediately following Peltzman's article Jack Hirshleifer argues that the regulators, themselves are an interest group, and should, therefore, have wealth maximization as their ascribed goal. (Hirshleifer, 1976, p. 241) This would, of course, dramatically change the model formulated by Peltzman, as regulators would be willing to implement unpopular policies, even if they resulted in electoral defeat, in exchange for personal wealth. There is little reason to reject the Peltzman vote maximizing assumption for the Hirshleifer alternative. Economic theory does not specify that individuals seek to maximize wealth, they seek to maximize utility. While wealth is clearly an important component of utility, and has the important benefit of being readily measurable, it should not be used as the only motivation for individuals. This is, perhaps, especially true of those entering the political realm where power and prestige, which are dependent on being elected, must surely enter into the utility function.

The Peltzman version of the politician awarding legislation in exchange for votes and



money also has to be criticized for giving the politician a passive role. McChesney argues that the Peltzman version of politicians maximizing votes by allocating transfers between competing groups is incomplete because it ignores the politician's ability to extort rent from interest groups. In this theory there is no reason that politicians need to sit passively, waiting for interest groups to ask for transfers, instead they will deliberately seek out those interest groups they feel they can extort. They do this not by imposing unwanted regulation, but merely by threatening to do so. The politician need only pass sufficient negative legislation to make the threat credible. This will elicit payments from the threatened interest groups to the politician to avoid the unwanted negative transfer. (McChesney, 1997, p. 26) The politician in this model does not merely act as a broker, to transfer income between competing groups in the political process, but instead is an active participant in the transfer process in order to maximize their personal welfare. (McChesney, 1997, p. 3)

While this seems a fairly logical extension of any theory in which politicians follow maximizing behaviour, there are some important questions about McChesney's theory that must be answered before his vision of an extorting politician can be more credible than the transferring politician stipulated by Stigler and Peltzman. The most important difficulty, as far as the theory of politician's behaviour is concerned, is the lack of proof that the politicians who threaten legislation are those that benefit. McChesney does provide evidence from other studies that suggests that private rent is extracted when damaging legislation is proposed and then withdrawn. The first piece of evidence in support of his proposition is drawn from a 1992 study by Beck, Hoskins and Connolly. These authors studied the stock prices of companies that were threatened with negative legislation in thirty Canadian cases.

When the negative legislation was announced the stock price of the threatened company fell. The authors assume that the reaction of the stock price to the withdrawal of the negative legislation indicates whether extortion does, in fact, occur. If the stock price returns to its initial level, then it would refute the extortion hypothesis as the potential earnings of the company would return to pre-threat levels. If, however, the stock price does not return to its original level, then it indicates that political rent extraction has reduced future earnings for the company. Beck *et al.* used a z-statistic to determine whether the announcement of the retracted threat would have a significant positive effect on the stock price, which would refute their hypothesis. The authors find that the impact of the announcement is not significantly different from zero at the ten percent significance level. (McChesney, 1997, pp. 75-77) Since retraction has no positive effect on the stock price, McChesney concludes that extortion is occurring.

McChesney provides his own evidence, using Bill Clinton's threats against the pharmaceutical industry as a test. When Bill Clinton proposed price control legislation on the highly profitable and politically vulnerable drug companies McChesney argued that this should decrease their stock values. This threat was then effectively eliminated with the election of a republican controlled congress. If the elimination of the threat has no impact on stock values then McChesney argues that this is evidence of extortion. McChesney finds that the t-statistic for the threat dummy is negatively significant but for the retraction dummy is insignificant. (McChesney, 1997, p. 84) Again, this is taken as proof that rents are extracted by threatening legislation.

While this evidence does indicate that companies' earnings are reduced even when

the threat of negative legislation is removed, it fails to demonstrate that the politician initiating the threat is the one who benefits, an element that is crucial to McChesney's extraction theory. Let us take the pharmaceutical industry as an example. If Democratic representatives backed Clinton and his threat, then it must be these representatives that would financially gain from the threat for McChesney's assumption about political behaviour to be valid. What may, in fact, occur is that companies in the pharmaceutical industry would contribute heavily to free market candidates who would oppose the legislation. If this occurs then the threat of legislation can hardly be viewed as extortion since it would enrich the opponents of the politicians that threatened the legislation. This sequence events can explain the empirical evidence presented by McChesney, since threatened companies would have reduced earnings because of their political expenditures.

The evidence that would need to be presented by McChesney is that the decline in stock prices is actually because of the additional cost of paying off the politicians who initiated the legislation. In order to do this, the reduction in the value of the firm would have to be the same as the increase in political expenditures to the extorting politician. This is not the case in our alternative scenario, in which the industry's political expenditures on opposition candidates should be any amount less than the predicted cost of the profit harming legislation. To summarize the above two points, McChesney's theory of the extorting politician requires that industry political expenditures equal the reduction in the value of corporations in the industry and that the money is spent on the politicians that initiated the legislation.

Yet another scenario that can equally capably explain McChesney's data is that the

threat of legislation could frighten investors. Even if the government retracts its threat of legislation, investors are well aware that this is an industry that is under the watchful eye of the politician, and could at some future date be subject again to reduced earnings as a result of state action. This makes investment in once-threatened industries a more risky proposition. Potential investors will likely want higher returns on their investment as compensation for the more risky nature of the stock in this industry. This would lead to a decline in the value of the industry's stock prices as investors look for a larger gap between the purchasing and selling price. In this scenario, McChesney's retraction estimate is simply a measure of the increased return that is needed to convince investors to accept the uncertainty now present in the industry. This explanation is quite damaging to McChesney's argument because now, no politician benefits from the threat. Until McChesney can demonstrate that those who threaten the legislation, benefit from the threat, there is no reason to abandon the view of politician as broker originally proposed by Stigler and Peltzman.

Let us now turn to a much broader criticism, one that strikes at the heart of any public choice notions about the self-interested individual. Several authors have criticized Peltzman specifically, and public choice generally, for using a model based on a self-interested politician. For example, Kau and Rubin argue that the voting behavior of politicians can be better explained by ideology than self-interest. They put this theory to an empirical test by first identifying the ideology of congressmen in the United States. Conveniently, this task is made much easier by rankings of the "liberalism" (in the U.S. political science sense of the word) of members of congress compiled by the Americans for Democratic Action (ADA), a pro liberal lobby group. Kau and Rubin use the ADA rankings as one independent

variable to explain voting on 26 bills in 1974, specifically selected because they were deemed to be economic, rather than ideological. The authors attempted to control for economic self-interest by using the economic characteristics of the politician's riding as the other independent variables. A logit analysis was used to regress the independent variables on a dummy dependent variable. The results strongly support the idea that ideology plays a major role in the voting of elected officials. The ranking of the ADA ideology variable was significant, as measured by the t-statistic, in all but two of the 26 votes. (Kau and Rubin, 1979, p. 376) The authors conclude that, "it seems difficult to continue to argue that ideology is not significant in explaining voting behaviour", although they do not rule out the possibility that the connection may be due to some economic interest they were unable to measure. (Kau and Rubin, 1979, p. 384)

Kalt and Zupan make a similar argument after studying voting patterns on strip-mining regulation in the United States. Like Kau and Rubin, they are interested in the extent to which politicians vote according to the economic interests of their constituents, which they claim would support a theory based on self-interested motivation. The study was conducted on a lengthy political wrangle over The Surface Mining Control and Regulation Act (SMCRA) that sought to ensure that land that was strip mined was returned to its premined condition. This act would harm above ground miners and consumers of coal and help underground miners and consumers of the environment. According to Kalt and Zupan, there are two avenues for ideology to enter into the political realm. First, voters acting according to ideology, as opposed to self interest, can pressure their representatives to cast an ideological vote. Second, representatives can use their own initiative in voting according to

ideology. Of course, this would go against Peltzman's formulation of the vote maximizing politician since a particular ideological vote may go counter to the voters' wishes. While going against constituents' interests is not costless, it is possible in a political market where voters have little incentive to be informed, issues are indivisible and there is an effective duopoly. (Kalt and Zupan, 1984, p. 283) In an effort to subject the self-interest theory to an empirical test, the authors have performed a logit regression analysis in which a vote for or against the SMCRA is explained by measures of economic interest of the constituents and the environmental ideology of voters and politicians. Voter and politician ideology is measured by membership in leading environmental organizations and the rating scale of the League of Conservation Voters (LCV) respectively. The LCV rating scale was strongly significant and substantially improved the explanatory power of the whole model. In a further test, the authors found that even a broad ideological rating based on the politicians stance on seemingly unrelated issues such as the death penalty and sex education is also significant. (Kalt and Zupan, 1984, p. 291) These results lead the authors to conclude that institutional slack in the political system is used by politicians to pursue "rational altruistic-ideological promotion of self-defined notions of the public interest." (Kalt and Zupan, 1984, p. 298)

This critique strikes at one of the most important assumptions of interest group theory, and, unsurprisingly, has sparked rebuttals. Peltzman himself challenged Kau and Rubin's conclusions by arguing that the economic variables included in their study were not adequate in capturing the economic interests of an electoral district and that choosing better economic variables would substantially reduce the significance of the ideology variable.

Peltzman then goes on to attempt to empirically verify the self-interested voter model. In contrast to the previous two studies, Peltzman sets out, not to use a single issue as a test, but instead, to use the very broad sweep of voting on federal tax and spending increases. Peltzman demonstrates that the federal budget redistributes wealth away from states with high incomes and large manufacturing sectors. Therefore, if politicians vote according to their constituents' economic self interest, high income states with large manufacturing sectors should vote against increases in federal taxes and spending. The impact of federal budget increases in transferring income from states with high urbanization is less straightforward, since urban dwellers pay more taxes but may, in smaller cities, receive more benefits. When Peltzman regresses the number of votes cast by each senator that favour increases in spending or taxation on the above explanatory variables either the sign is the opposite of that predicted or it is insignificant. The only meaningful variable in the model is the positive connection between democrats and voting for more taxes and spending. (Peltzman, 1985, pp. 656-658) Peltzman does not deign to take issue with the results of this type of regression, instead he argues that this type of model is an unsuitable basis on which to base a conclusion.

The rest of his paper is dedicated to demonstrating that this type of study should not be used to dismiss a self-interested voting model. He does this by arguing that any historical model of political voting in the United States must incorporate two important "idiosyncracies" of American history: the tendency of southern politicians to be more conservative than their northern counterparts and lower per capita income in the south. To do this, Peltzman specified a dependent variable that measures the liberalism of a specific

politician relative to others in that session. He does this by determining the frequency with which the politician votes in accordance with the northern Democratic majority. This variable is supposed to indicate a propensity to support redistribution from rich to poor. (Peltzman, 1985, pp. 661- 662) His regressions are all variations on the following form:

$$LIB = a + \sum B \cdot ECON + \sum C \cdot D$$

Where LIB is the relative liberalism of each state or region's politician. ECON proxies the state or region's economic interest in liberal votes and D is a set of time-invariant state or region dummy variables. Peltzman argues that the regional dummy variables are necessary because of persistent regional elements in political behaviour, which must be accounted for when looking at whether politicians vote according to their region's economic interest. For example, the South's regional conservatism was quite at odds with its poverty, which would cause them to favour redistributive liberal policies. Using this model, Peltzman is able to show that the economic variables do play an important role in describing voting history since liberalism is significantly and negatively related to the degree of manufacturing and per capita income. (Peltzman, 1985, pp. 664-665) In fact, Peltzman is able to conclude upon closer inspection that "the restricted model (ie. only economic change matters) explains virtually all of the change in political behaviour." (Peltzman, 1985, p. 671).

The problem with Peltzman's empirical findings is that he seems to be playing a little fast and loose with the distinction between ideology and self-interest. By maintaining that different regions in the United States have different political tendencies that must be netted out, Peltzman seems to be confirming that ideology has a role in political decision-making.



After all, a theory that rests on the cornerstones of rationality and self-interest would seem to have little room for the kind of persistent irrationality that is political ideology. What Peltzman fails to point out is that it is entirely possible to have a self-interested politician vote against the obvious economic interests of their constituency if the public does not vote according to its economic interest. If voters cast their ballot based on some combination of ideology and self-interest then the vote maximizing politician may very well cast their ballot against the economic interests of their district. In the South, for example, the conservative ideology of the populace would lead the vote maximizing politician to shun redistributive policies. We will enter the quagmire of voter motivation in a later section.

Clearly, the controversy surrounding this issue is unlikely to disappear since it is very difficult to separate economic interest from ideology when assessing the motivation behind a specific vote. Tollison provides the example of a laissez-faire politician from a district dominated by the oil industry who votes against an oil import quota. This would appear to be a case of ideological rather than self-interested voting but this may not necessarily be the case. The politician may simply be voting in this way in exchange for return vote favours on other, more important issues. (Tollison, 1990, p. 26) This appears quite ad hoc and seems to be little more than a desperate, and virtually untestable, adaptation of the theory to explain away problematic evidence. Nevertheless, there are some very real problems with identifying politician's motivation. For example, it may also be possible that in the oil quota vote the electorate of the district were sufficiently harmed by the policy that a vote to transfer income to the oil industry would not have been in the representative's self-interest. It is important to realize that there is nothing inevitable about industries being able to win

concessions from elected officials. Indeed, one of Peltzman's important contributions is demonstrating the limits to the number of recipients and the size of their transfers since the consumers do have some power to influence regulatory decisions. However, these problems with distinguishing between the motivation of politicians could be considered a major limitation of the theory by economists, so attracted to empiricism and the ability to test alternative hypotheses.

### **Behaviour of interest groups**

The second issue of interest in the rent seeking literature is their explanations of how interest groups behave. Only a few years after his original article, Stigler set about to formalize the costs and benefits of any group seeking transfers from the government. (Stigler, 1974, p. 361) The main difficulty facing any lobbying group is raising support in the face of the free rider problem. The free rider problem is simply that if the benefits from the transfer cannot be denied to each individual in the group then each has an incentive to avoid the costs and get the benefits for free. This is based on the assumption that refusing to contribute will have an insignificant effect on the outcome of the lobbying. Stigler makes the important point that, in fact, choosing to free ride will have two negative impacts on the groups ability to lobby. First, the probability of obtaining the transfer is reduced. Second, if the transfer is obtained, it might not be as large as it would have been had the free rider contributed. In these circumstances, the probability that free riding will occur decreases with smaller groups because the impact of not contributing is larger.

Formally, Stigler argues that an individual should join in collective action to seek a

transfer if the benefits from joining are greater than the benefits of not joining. Formally:

$$P_j[G(m,e) - e(m)] > P_{nj}[G(m-1,e+de)]$$

The gains from joining are on the left hand side of the equation:  $P_j$  is the probability of lobbying being undertaken if the individual joins,  $G$  is the gains from successful lobbying which depends on the number of members in the lobby group ( $m$ ) and the expenditures on lobbying ( $e$ ).  $e(m)$  is expenditures per member and is the cost of joining for the individual. The benefits of not joining are on the right hand side:  $P_{nj}$  is the probability of lobbying if the person does not join, the gains ( $G$ ) will be dependent on the impact of having one less member in the lobbying group ( $m-1$ ) and the change in expenditures on lobbying because of having one less member  $e+de$ . For Stigler, then, there is no such thing as free riding, since there are costs to not joining the lobbying group. This does not deal with such notions as economic efficiency of a public good, which will still be underprovided in this formulation, it merely purports to explain why there are so many trade associations and interest groups when a strict interpretation of the free rider problem would imply that few collective groups would form. There are many situations in which the benefits from joining will exceed the benefits from not joining, and in these cases, there is no real free rider problem. Interest groups are more likely to be formed where there is asymmetry of interests within the group, since each member must pay in order to have their specific interest addressed. The more homogeneous the group, the more likely their specific benefits will be included without their participation in the group. (Stigler, 1974, p. 362)

Gary Becker also used the free rider problem in specifying the production of interest group pressure. (Becker, 1983, p. 377) Becker argued that interest group pressure depended

on an influence function which was dependent on the political pressure applied by the two interest groups in his simplified society. Pressure, in turn, depended on the number of members and the amount of resources they could muster in the following general form:

$$p=p(m,n) \quad m=an$$

where  $a$  is the resources per member and  $n$  is the number of members in the group. He further assumes that as the size of the interest group increases, each member wants to leave the cost of imposing pressure to their fellow members ( $p_{mn} < 0$ ). Since this will increase the cost of producing political pressure as size of the group increases, lobby groups can bring more pressure to bear and thus wield more influence if they can effectively control free riding. Indeed, for Becker it is the efficiency of a group in terms of maximizing pressure per dollar spent relative to its rival that will allow it to increase the size of its transfer.

Other authors have offered an alternative explanation for interest group formation. For McChesney, it is not the increased likelihood of free riding as group size increases that limits membership of interest groups, and favours producers over consumers. The main problem with the free rider explanation is that it fails to take the benefits of organization into account. While it may be that free riding problems do increase organizational problems in larger groups, this is not a sufficient explanation when the benefits of organizing are also increasing. It is not enough for the costs of organization to increase with group size due to free riding, but they must increase faster than the benefits of organizing. (McChesney, 1997, p. 137)

However, McChesney offers an alternative explanation for the creation of interest groups. Producers have an incentive to organize completely independent of lobbying

activities. Within an industry, organization allows exchanges of information, setting of standards and advertising campaigns. Few of these interdependencies exist among consumers and this increased fixed cost, more than the free riding problem, explains the relative lack of organization by purchasers. (McChesney, 1997, p. 139) However, he stresses that these obstacles do not mean that consumer groups will not organize. In fact, clearly consumer groups can, and do, organize to lobby government. They are simply less numerous, and later to organize, than producer (and union) lobby groups.

In Tollison's summary of the determinants of the demands for legislation, he admits that the formation of interest groups remains something of a mystery to economists. Whether one chooses the increased free rider or the low fixed cost explanation, what is clear is that, "somehow these groups have become organized as demanders of legislation and other forms of government action." (Tollison, 1990, p. 18) Further, it would seem an unimportant debate to the extent that both theories can explain why industries and unions have numerous active political lobbies while consumers are not nearly as well represented.

### **Motivation of voters**

Of course, any discussion that involves a politician maximizing votes, or trying to get reelected, must make some assumptions about voting behavior. The third section of the public choice literature that will be examined revolves around how individuals collect information and their voting motivation in a democratic society. The first issue we will address is the motivation of voters. Much of public choice literature in this area has been dedicated to the so-called paradox of voting. Predictably for a theory in which self-interested

individuals weigh the costs and benefits of each activity, explaining why people bother to vote has been a vexing issue for public choice authors. It would seem irrational to even bother to turn up and cast a ballot when the cost of collecting information is positive while the probability of influencing the outcome is virtually nil. The most accepted solution to this problem is to treat voting as a consumption activity, in which citizens receive utility from the very act of voting itself. While this may explain the reason that people bother to make their way to the polling booth, it does not explain how people will vote once they are there.

Considerable controversy remains about the motivation behind a voter's choice. The starting premise of much work in interest group theory is that people will vote according to their perceived self-interest. As long as people derive utility from non-financial sources, self-interest cannot be completely equated with economic interest. However, economic interest has often been used as a proxy for self-interest in order to render a model empirically testable. So, for example, if taxpayers were to follow their self-interest, they would vote against increases in taxation. This is certainly true of the Peltzman model in which the probability that a beneficiary of the transfer will vote for the policy is determined by the size of the net benefit. Specifically, the probability of support from the benefitting group is:

$$f = f[(T - K - C(n))/n]$$

where T is transfers to the benefitting group, K is the information needed to sway voters in favour of the transfer, C is the cost of organizing the lobby group, which increase with group size and n is the number of voters in the group that benefits from the transfer. (Peltzman, 1976, p. 215) This specification allows people to vote against their self-interest, but importantly argues that the greater the financial benefit from the transfer, the less likely they

are to do so.

Roger Faith and Robert Tollison attempted to determine whether people use “expressive” or “economic” voting. Expressive voting means that people will vote according to their preference for one option over another. Knowing that they have no influence over the outcome, the individual’s vote merely states that they prefer one option over another, regardless of what must be given up to attain that option. Economic voting is when the individual behaves as they would in the market place. That is, they make choices based on marginal value after opportunity costs are taken into account and can be identified with self-interested voting. They propose a test of these two theories based on the demand for welfare. They argue that increased spending on welfare represents a demand for welfare (less people living in abject poverty) on the part of taxpayers. If expressive voting holds, then voting on the amount of welfare spending should not be responsive to cost factors, if economic voting holds then it should.

Using a cross-section of states in 1970 and 1980, the authors regress state welfare expenditures on a set of variables designed to measure voters’ demand for and the cost of public welfare. The welfare spending dependent variable is explained by the number of people living below the poverty line, the number people living above the poverty line, state personal income and total state taxes. States with larger populations above the poverty line will be able to spread the cost of welfare more broadly and so the rational voter model would predict it to be positively related to welfare spending. The greater the number of poor in the state, the greater should be the demand for welfare. However, a larger number of poor will also increase the cost of paying for those in need. If the coefficient of this variable is

negative it will disprove the expressive model because it means that although people would like to spend more on welfare if poverty is greater, they are unwilling to do so because of the increased cost. Assuming welfare is a normal good, state income should be positively related to welfare spending. Taxes should be negatively related for both economic and expressive models. (Faith and Tollison, 1990, p. 234) It is important to point out that this model is implicitly assuming that it is donor votes that determine the electoral outcome, not the votes of welfare recipients. This assumption can be justified if welfare recipients are a very small minority in the total voting population, and, therefore, will have a negligible impact on the overall vote. After running a variety of different regressions on both the 1970 and 1980 data, the authors are confident in pronouncing that the evidence supports the economic model. In most of the regressions, the number of poor is significantly and negatively related to welfare expenditures. (Faith and Tollison, 1990, p. 244) This study seems to provide support for the rational, self-interested voter model.

This study only supports the self-interested voter model if the assumption that increased need for welfare creates an increased demand for welfare as guilt stricken fortunates try to eliminate the poverty of their fellow citizens. This may not be a valid assumption if tastes are allowed to change, however. Charity workers and fundraisers have started to talk about a phenomenon called compassion fatigue in which pervasive problems actually receive less sympathy from donors who complain about "burnout" and desensitization to the issue. A recent study attempted to establish a link between pervasive media coverage and compassion fatigue on four social issues. Of particular relevance to this study is the issue of homelessness, which has obvious similarities to the welfare issue raised



in the Faith and Tollison paper. The authors found that persistent media coverage did lead to issue burnout, characterized by avoidance and a reduction in sympathy with the victims. They went further, to argue that issues like AIDS and homelessness are the types of issues that are especially susceptible to compassion burnout because people do not perceive a close personal impact and often feel that the victim is to blame for their situation. (Kinnick *et al.*, 1996, p. 702). If it is true, as compassion burnout suggests, that tastes can change so that more pervasive problems will actually experience a reduction in donor support, then an increased number of people on welfare may not actually lead to an increase in the demand for welfare. Instead, it may actually lead to a decreased demand for welfare as the "donors" become unwilling to spend money on programs that are doing so little to combat an ubiquitous problem. In this situation, a reduction of votes for welfare programs may not be due to voters understanding of the costs of the program, but may instead, be caused by a lack of demand for welfare spending. It would, then, be impossible for the authors to separate out the economic from the ideological motivation.

Other authors have taken issue with this assumption that self-interest is the dominant factor in people's voting decisions. Paralleling the debate about political motivation, some writers have argued that ideology or altruism influence voting decisions. Two papers attempt to cast doubt on the self interested voter model using empirical evidence from recent referendums in the U.S.. Brodsky and Thompson studied a referendum that defeated a proposed gasoline tax that would be earmarked for public transportation. The authors conducted a survey in which they distinguished those who were public transit users from vehicle owners and determined how they voted on the referendum. (Brodsky and Thompson,

1993, p. 290) A voter was classified as acting in a self interested fashion if they voted against the proposition, owned a car and did not ride the bus or if they voted for the proposition, did not own a car and did ride the bus. Conversely, if a rider with no car voted against the measure or a nonrider with a car voted for it, they would be voting against their self interest and are said to be public regarding. According to this classification, public regarding voters made up 42.6 percent of voters while self interested voters accounted for 50.6 percent. (Brodsky and Thompson, 1993, p. 293) The authors conclude that these results indicate that many voters use altruistic rather than self interested motives.

A similar test was conducted by Shabman and Stephenson. They examined a referendum in Roanoke, Virginia in which voters were asked to either accept or reject a proposition which would see a 2% increase in personal utility taxes finance a river channel project that would hopefully reduce the high incidence of flooding in the city. Only about 5,000 of the city's 100,000 residents lived on the flood plain and 5,000 more were employed in businesses along the river. Despite the small number of potential flood victims the proposal garnered the support of 56% of those who cast their ballot. In a phone survey after the vote, the authors asked people how they voted and questions about whether or not their home or workplaces were on the flood plain. The authors hypothesized that only those who benefit from the reduced flooding should vote for the proposition if voters' self interest was expressed in the ballot box. The authors used a sample of 63 interviewees who actually voted in the referendum in a logit model. How the person voted was the dependent variable explained by dummy variables representing: whether the project would protect their home, whether it would protect their place of work, whether they knew about the tax increase being

used to finance the project and household income. The two self interest variables had the predicted positive signs and both were significant. However, the model predicted that only 42 percent of the sample would vote for the proposition, while in reality 54 percent of the sample did so. Despite the relative closeness of the predicted and actual results, the authors conclude that while self interest was an important determinant of voting behaviour it was "not sufficient to accurately predict the outcome of the election". (Shabman and Stephenson, 1994, p. 1180) Further, in an open ended question about why they voted for or against the proposal, 42 percent of respondents claimed they voted for in order to help those affected by the flooding, a strong altruistic motive. (Shabman and Stephenson, 1994, p. 1180)

While these studies seem to refute the self-interested voting model this may not be the case. In fact, the rent seeking school bases its entire foundation on the ability of a small section of the voting population to get transfers even when they are against the interests of the majority. Those with little incentive to vote a particular way (those who are levied with a quite small increase in taxes for example) have little incentive to oppose those who benefit substantially. In fact, the Shabman and Stephenson study may actually support self interested voting to the extent that those with a strong self interest do vote as predicted by the theory. Most rent seeking authors argue that it is the incentives to collect and distribute information that allows this to happen.

Brennan and Lomasky (BL) have devised a quite ingenious theory that is an improvement on the polar debate about self-interest and ideology. Their ideas revolve around an important distinction between the outcome of a vote and the vote itself. If one is simply concerned with choosing between opposing outcomes, the self-interested voter would

choose on economic grounds. However, BL argue that the choice facing the voter is not one voting outcome or another, but rather one vote or another. So the opportunity cost of casting a ballot in one direction, is not the alternative foregone, but a vote for the alternative foregone. The distinction between the two is more obvious the larger the number of voters because each individual vote cast has less impact on the ultimate outcome. (Brennan and Lomasky, 1983, p. 189) This provides an opportunity for voters to follow their ideological desires, even if these run counter to their economic self-interest.

Let us say, for example, that a single person is deciding how to vote. Choice A is to increase gasoline taxes, which the voter, having some environmental sympathies, feels is a good idea. However, the voter also drives a fairly large four-by-four, which makes weekend getaways to the mountains much more comfortable, and so Choice B, rejecting the gasoline tax, is certainly in the person's economic interest. Voting for A would entail some measure of utility from expressing an ideological preference. Since voting for A has virtually no impact on whether A or B is provided, it is possible to get the utility gain from voting for A without having increased the chances that B will not be the end result. So this person can vote for the gasoline tax without fearing that the result will be higher gas prices. Since, it is, in essence, useless to believe that voting can be a means of furthering economic self-interest, as long as the direction of the voter's ballot generates any positive utility, they will vote ideologically. BL have managed to formulate a theory in which it is possible for a rational voter to completely ignore their economic self-interest. This allows us to reconcile the rational self-interested voter model with evidence that demonstrates that people can vote ideologically on many issues.

Whether people vote in a self-interested or ideological fashion may, to a certain extent, be a moot point. The real question may not be whether people vote with self-interest or ideology but rather how do people determine their self-interest or ideology. If voting behaviour, either ideological or self-interested, is based on fundamental truths and is not subject to then the distinction between the two is crucial. This would be the case if the question "Will you benefit from the implementation of policy A" has a definite, undebatable answer. However, in almost all public policy issues, the answer is not so obvious. This is where the role of information becomes crucial. If decisions are based on people's quite malleable perception of both their ideology and self-interest, then the critical determinant of voting becomes how people get their information.

Many authors have followed Stigler's lead by assuming that since obtaining information is costly, and gains from information slight, voters would be irrational to involve themselves in time consuming information gathering activities. They, therefore, formulate their decisions based on the information that is easily available, which provides an opportunity for interest groups to sway votes through information provision. In Peltzman's formulation information is used to mitigate the opposition that arises from increased taxation necessary to fund the transfer. It is the regulator that decides how much is to be spent on information to "mitigate opposition" to the transfer. Peltzman specifies the following form:

$$h = h(t, z) \text{ and } z = (K/N - n)$$

where  $h$  is opposition to the transfer,  $t$  is the tax rate,  $z$  is voter "education" expenditures per capita and  $K$  is the total amount spent on information. While opposition from taxes are

subject to increasing returns. information to mitigate the opposition from the tax increase is subject to diminishing returns. (Peltzman, 1976, pp. 216) In this model, the amount of  $K$  is chosen by the regulator and paid by the group seeking the transfer. Peltzman's formulation is a slight departure from Stigler's because voters have direct control over the regulator's decision in the sense that they vote on each transfer. However, he is consistent with Stigler's theory in that voter "preferences" can be swayed by a lobby group who stand to gain from the transfer and are, thus, willing to spend money to influence the population.

Gary Becker, perhaps, makes some of the strongest assertions in this vein. For Becker, voter preferences can be manipulated by lobby groups. This is because voters have little incentive to become well informed since they can have little influence on a political outcome decided by majority voting. Further, the costs of obtaining information in a very complex political world is quite high. While some would argue that rational voters should not display apathy and ignorance, Becker would argue that the opposite is true since rational voters should not be willing to invest a great deal of time keeping abreast of political issues. In this type of situation votes can be purchased by campaign spending or public opinion swayed by information dissemination. According to Becker, groups like the Sierra club are prime examples of this since they have been able to skillfully manipulate public opinion to achieve political influence far beyond their membership numbers. He goes even further, stating that information in a democracy is controlled so that it is difficult to obtain accurate facts even if they are desired by the apathetic public. "Research findings that oppose the interest of powerful pressure groups frequently have little political impact because they are offset by the dissemination of selected information..." (Becker, 1983, p. 393) For Becker and

like thinking public choice theorists, it is completely rational for most people to avoid wasting their time sorting out the often murky political world.

Becker used these ideas about information and voting to formulate a theory in which interest groups compete for transfers that create dead weight losses for society as a whole. In this model, the only policy being considered is the level of subsidies to one group and the corresponding (and equal) tax levied on the rest of society. Each group is represented by a lobby and the level of subsidy and tax will be determined, in part, by the amount of influence the pressure group can bring to bear on the government. As mentioned in the earlier discussion of the free rider problem, he specifies a "pressure production function" which is dependent on the amount of money spent and the number of members in the group. While no politician is explicitly modeled by Becker, he seems to be implicitly assuming that government policy depends on the influence bought to bear by the two pressure groups since they can influence voters and legislators. Like Peltzman, Becker is taking for granted that information provided by the lobby groups can successfully sway voters to support their policy. In other words, it is entirely possible to "purchase" votes through spending on information.

In his study on public policy towards smoking, Kip Viscusi examined three different theories about how people make decisions about whether or not to smoke. This is applicable to the voting debate because the decision about whether to smoke is very much determined by how individuals use and process information in making decisions. The first theory is the rational economic model in which individuals are able to use and accurately process all of the information with which they are presented. The second theory is what Viscusi calls the

“stylized smoker” in which people pay attention to the alluring images presented by cigarette producers but disregard negative information on smoking’s dangers. The third, and for Viscusi the most convincing, theory is “cognitive limitations” in which people rely on recent, highly publicized information in formulating their decisions. Using survey information, Viscusi finds that people, regardless of their smoking habits, drastically overestimate the risks associated with smoking, and further, that they incorporate these false perceptions into their consumption habits. (Viscusi, 1992, p. 91) Viscusi attributes the overestimation of the health risks of smoking to the fact that information on smoking tends to stress the dramatic, life-threatening consequences of lighting up. Since people tend to overestimate large risks, this is consistent with the cognitive limitations model in which people do make decisions based on their perceptions of “the facts”, but that this reality is very much formed by the information that they receive. Viscusi concludes that the high risk perceptions reflect the character of the information provided and the manner in which individuals process the information they receive. (Viscusi, 1992, p.83)

Based on this hypothesis, Viscusi formulates a simple model for risk perception. The perceived risk of an activity will depend on the following factors:

$$\text{Risk} = p_i + e_j + r_c$$

where  $p$  is the prior risk assessment and its informational context,  $i$ . Direct and indirect personal experience,  $e$ , is also based on an informational context,  $j$ . Last,  $c$  is the information communicated to the person, claiming  $r$  level of risk. (Viscusi, 1992, p.130) In effect, the risk associated with each source of information is weighted by the fraction of information content with which it is associated, adding up to an overall assessment of the riskiness of



cigarette smoking. Once again, with a slightly altered theory about information dissemination, we end up with a conclusion that perceptions, and the decisions based on them, are based not on absolute facts or "truths" but on opinions that can be very much influenced by the information people receive.

In sharp contrast with these ideas, Wittman, argues that the political system works quite effectively. The fundamental basis of this argument is that the information problems specified by those critical of the functioning of government have been greatly exaggerated. Wittman argues that the costs of collecting information do not all fall on the individual voter, so are not as onerous as initially assumed. In fact, there is a considerable incentive for opposition politicians to collect and disseminate information for the voter, bearing much of the cost that had previously been assumed to be borne by the individual. Further, Wittman argues that there is no reason to believe that an uninformed voter would tend to favour a project which increases government expenditure. They may, instead, overestimate its costs and underestimate its benefits. (Wittman, 1989, p. 1401) Therefore, because of the tremendously large numbers involved in most votes, ignorance of the electorate should not bias the decision in any one direction.

In essence Wittman is arguing that there is no information bias, either opposition parties furnish the opposing argument or voters simply remain ignorant. He dismisses the possibility that the information readily available to the public will be one-sided, a possibility which should not be rejected out of hand. Critically, Wittman assumes that the costs of information dissemination will be borne by political parties, but it seems possible that either ideas will not be favoured by any party or that, at least occasionally, some parties may not

be well funded. In this case it is entirely possible for information bias to exist.

In addition, Wittman's ideas are very much those of the rational expectations type-models used in macro economics. In these models individuals are able to costlessly collect and quickly incorporate any new knowledge into their decision making. As a result, adjustments are made virtually instantaneously in the presence of new information. These rational expectations models have been criticized for both their overstating human rationality and the speed at which adjustments can occur. These criticisms seem especially telling in a political system characterized not only by conflicting information but also, in most cases, by bundling of issues, limited voting options and very occasional elections. If rational expectations type assumptions are questioned in the economic realm, they must be even more dubious in the political world.

Scott Thomas made an empirical contribution by formulating and testing a theory of campaign expenditures. While he restricts himself to politicians competing for votes at election time, there is no reason to believe that if politician's campaign spending can change voters' preferences during an election, this would not also be true for advertising expenditures on specific transfers. Based on a theoretical model in which challengers only spend money on negative advertisements and incumbents spend money on commercials to refute the challengers charges, Thomas estimated two models which attempt to predict the challengers' percentage of the popular vote. Using the 1986 elections for the U.S. House of Representatives as a sample, the following two regressions were estimated:

$$CV = a + b_1CE + b_2IE + b_3SHARE + b_4P + b_5CPS + e$$

$$CV = a + b_1CE + b_2IE + b_3CECE + b_4IEIE + b_5CEIE + b_6P + b_7CPS$$

where CV is the challenger's percentage of the vote. CE and IE are challenger and incumbent spending, P is the party affiliation and CPS is the strength of the challengers party on each district. The only difference between the two models is that the first uses SHARE, the candidates percentage of total spending while the second replaces this measure with CE and IE squared and CE times IE. While the  $R^2$  of both models is quite high, .67 and .70 respectively, CE is insignificant and IE significant in the first model but the opposite is true in the second model. Thomas puts this down to a multicollinearity problem and insists that both variables have explanatory power. (Thomas, 1990, p. 251) To prove this contention, Thomas uses point estimates to determine whether the partial derivatives have the predicted sign. Most importantly,  $dCV/dCE$  should be positive if challenger expenditure were to increase their percentage of the vote and  $dCV/dIE$  should be negative if incumbent spending reduces the challenger's votes. The results support his theory, both challengers and incumbents can increase their percentage of the vote by increasing spending. (Thomas, 1990, p. 253). This evidence would seem to support the idea that votes can be bought and that voters respond positively to information.

Despite Wittman's objections, the majority of public choice writers seem to favour the Stigler-Peltzman-Becker formulation of information and voting. This study will also use this interpretation as it appears to offer a much more plausible explanation of the level of information collected by the average voter. While, like Wittman, this study does not make any claims about completely uninformed voters, it will argue that people make decisions on the information they are provided. It is the control of that information that creates political will favouring one group or another. Information through advertising clearly effects

consumers' choice of products, or companies would not dedicate so many resources to this activity. It would seem preposterous to argue that consumers can be influenced to choose between products by various forms of advertising but are not influenced to choose between candidates and policies by the same mechanism.

This purpose of this literature summary was not simply to review the current controversies in public choice literature. It was also an attempt to extract a useable model of what could be termed interest group theory, culled from the work done to date. In doing so we are explicitly taking sides in many of the debates. This, then, is what we would consider to be the elements in a useful explanation of how interest groups can affect policy outcomes. Politicians are motivated through self-interest. While the specific utility function of the politician has been the subject of some debate, it must surely be most strongly influenced by the desire to get and maintain political power. Therefore, politicians act as though they maximize votes. Interest groups seek to convince politicians to grant them transfers through the provision of votes and money, the two things that politicians need to get elected. While the exact reason remains controversial, producer groups are better positioned to organize than consumer groups in lobbying for and against protective regulation. The reason most often given for this is the increasing costs and decreasing benefits per person of large groups due to the free rider problem. We would extend this to argue that producer groups are more able to lobby for tax concessions and subsidies than taxpayers are able to lobby for their avoidance. As Peltzman was able to stress, however, the producer group will not entirely capture the transfer process as long as the consumer is able to influence the politician. The last group specified in this theory is the voters. There is still

considerable debate about whether voters cast their ballot according to ideology or self-interest, although BL make a compelling case for making at least some room for ideological motives. However, since it is rational for them to obtain little information, their perception of either self-interest or ideology can be swayed by information provided by politicians and interest groups. The admittedly quite general theory that we were able to identify through a review of public choice literature will now be applied to a specific case study - the subsidization of professional sports franchises.

## Chapter 5 Application to Professional Sports Subsidization

The subsidization of professional sports teams is an unabashed transfer from taxpayers to a specific business. Any interest group theory discussion of the transfer that occurs when residents are forced to assume an increased tax burden in order to finance a business should hinge on the differing costs and benefits to the two groups since this will determine their lobbying efforts, which in turn determines government's willingness to grant the transfer. The first task, of course, is to identify the players in the pro and con subsidy camps. We will first deal with those involved in lobbying for the subsidy. Without question, the vast majority of business owners appear to favour subsidization. In all of Euchner's case studies in *Playing the Field* and in Jim Silver's study of Winnipeg's bid to keep the Jets, the business community as a whole not only did not speak out against increased subsidization but, in fact, actively supported the idea. There have been several examples of companies becoming actively involved in attempting to woo professional teams to their city. For example, the St. Louis organization that successfully managed to pry the NFL Rams out of Anaheim with a publically financed, brand new \$270 million domed stadium that had the active backing of the area's "major businesses". Similarly, the effort to win an expansion franchise for Jacksonville, Florida came from a coalition called "Touchdown Jacksonville!", made up not only of the potential owner and the local government, who financed the construction of a stadium, but also a wide selection of the local business community. (Danielson, 1997, p. 120) The question to be answered, then, is why this is so.

Not all businesses stand to gain equally from this transfer. It is possible to distinguish four different levels of benefit that accrue to different groups from a subsidy to professional sports teams. Obviously, there are specific businesses that stand to benefit rather substantially from subsidization. The owner of the team and the players, naturally, are the primary beneficiaries. Construction companies, contracted to build the facility, and property owners close to the facility will also benefit directly from the government subsidy and so are understandably highly supportive. This is the group which stands to benefit the most from subsidization.

In addition to this first group who directly gain from the transfer, a second group benefits from growth in the local economy, which professional sports teams are supposed to provide. Andrew Wood, in an attempt to understand the trend in local government toward an aggressive pursuit of investment, argues that a specific group of businesses have a vested interest in city growth. Wood stresses that certain companies are characterized by immobilities that for one reason or another tie a business to its locality. The most important examples are land owners and property developers, but businesses as diverse as local newspapers and legal firms also are tied to their region in one fashion or another. For these firms profitability is quite directly tied to the size of the market they serve. It is these firms that actively promote development policies, even to the extent of providing substantial funding for development agencies mandated with attracting business to the city. (Wood, 1996, p. 1290) Therefore, subsidization of professional sports teams can be viewed as merely one component of a broader development strategy designed to increase the city's profile and therefore, its growth. The crucial assumption here is that if a city is big enough

to host a big league sports team, then, it must be a desirable center in which to invest, so business will flock to this hub of excitement and growth. As we have seen, there is little evidence to support this assumption. However, it still seems to be taken as a matter of faith for many pro development businesses.

It is worth stressing the important role of the media in this debate. We listed the local media as one of those locally immobile businesses that stands to gain from policies that increase the rate of urban growth. This probably understates their role in the sports subsidy debate. While unquestionably the local media will benefit from a rapidly growing region, it appears to benefit especially from a subsidy targeted to attract or maintain a sports team. In short, local professional sports sells newspapers, attracts radio listeners and lures television viewers. Therefore, the local media can be expected to be avid supporters of subsidization. This is important because the local media is where most voters obtain their information on political issues. Here, we are clearly accepting the notion that voters "preferences" are heavily influenced by information from interest groups. The support of the local media is important because it allows the pro subsidy interest group to become very cost effective in its information dissemination activities. While other interest groups often have to pay for advertising to get uncritical air time or submit to a balanced report when they use the local news media, sports teams seem to be able to rely on costless and uncritical access. For example, in *Thin Ice*, Jim Silver attempts to substantiate his claim that the Winnipeg general public was not well served by the print media during the public debate about subsidizing the Jets NHL franchise through the construction of a new arena. To prove his point he has gone through back issues of the *Winnipeg Free Press* to determine the number



of articles that could be construed as supporting each side of the arena subsidization debate. Anyone in Winnipeg at the time of the debate will hardly be surprised to learn that the newspaper ran far more articles in favour of the new, publicly funded arena, than against. According to Silver, the *Free Press* ran an incredible 68 stories in a seven day period at the height of the Jets debate from May 15 to May 21. Of these, only six could be considered "journalistically balanced". (Silver, 1996, p. 140) When information plays an active role in forming voter opinions, an interest group with free, uncritical access to the local media will be quite cost effective.

Thus far it would appear that the only portion of the business community that has a direct interest in subsidization is a fairly small group consisting of those that have a direct financial stake in the team and local businesses dependent on city growth. However, other firms in the city benefit from the subsidy, albeit to a much lesser extent. The reason for this is well illustrated in the following typical assessment of the value of professional sport in Pittsburgh:

I talked about what teams mean to cities to the chairman of the board of Westinghouse. He said, 'How can I bring people to work for Westinghouse if I can't tell them we have a major league community?' Now you translate that into dollars and it can't be done. But that's not the important thing. It's the desire, the image." (Euchner, 1993, p. 73)

Even to businesses that do not directly benefit from the government subsidy or whose profits are not dependent on city growth, the existence of a professional sports team is often seen as beneficial since it is seen to be one of the most important amenities a city can offer, making it easier to attract labour.

The fourth group that stands to gain from a subsidy to professional sports teams are

the group of consumers of the sporting team that can be loosely termed "fans". Fans stand to benefit financially from the subsidy to the extent that a reduction of operating costs will be passed on to the consumer of the sporting contest in the form of lower prices both of the game itself and the complimentary goods that inevitably accompany a night out at a sporting venue. However, the fans of a team have more at stake than this in many of the subsidy debates because often the very continued existence of the team in its current market is dependent on the provision of the subsidy. Without the subsidy fans may not only have to pay higher prices to see their team, but may not even have a team to go see. In this case the benefit to the individual fan is not only the reduction in prices but is also the value that the fan places on the existence of the franchise.

In keeping with public choice theory, we would expect that since these four groups do not benefit equally from the subsidization, they will be willing to spend different amounts on the lobbying effort. Since team owners stand to benefit the most from the transfer, they can be expected to bear the brunt of the lobbying cost, while the third group of firms, who receive much more modest rewards, should be much more willing to provide vocal support than any major financing. For team owners, the potential benefits of the transfer are so large they clearly have a substantial incentive to make monumental lobbying efforts. Further, the owners of the teams are very efficient lobbyists since they have much better access to the media than most groups. Sports broadcasts on TV and the sports section of the local newspaper are usually more than willing to carry the owners point of view to the general public. Not satisfied with these free advantages, the large and concentrated transfers on offer in this issue create an incentive for the owners to spend considerable time and effort

convincing the public about the benefits of a sports subsidy. Danielson makes an argument quite in line with public choice theory when he claims that. "As in other political arenas, money is a major advantage of business in the politics of professional sports." To prove this point he uses several examples including the case of Nashville, where the business community pumped more than \$400,000 into advertising to sway public opinion on a vote to publically fund a new stadium in 1996. To put this number into context, this was more than twenty times the amount spent by the opposing lobby group, Concerned Citizens of Nashville. (Danielson, 1997, p. 260)

Public choice theory would also predict that fans should take a role in the lobbying process. Fans have a considerable stake in ensuring the transfer, especially if the existence of the team is dependent on the subsidy. However, both their personal gain and their ability to provide money is much lower than the first two categories of businesses cited in the previous paragraph. They do, however, donate time by taking part in rallies, marches and other activities which are designed to convince the public of the importance of the team to the local community. In Silver's study of the campaign to save the Winnipeg Jets, he documents the fervor with which the city's hockey fans attempted to ensure the survival of their team. A "Save the Jets" rally attracted 35,000 supporters and raised \$100,000 in donations towards the purchase price of the team. (Silver, 1996, p.128) This was only the most dramatic of an entire series of actions taken by hockey fans in the city. Fans also initiated a fund raising social that drew 2,500 people at \$100 a ticket and a blue ribbon campaign, in which residents were asked to wear a ribbon as a visible sign of their support for the team. (Silver, 1996, p. 128) While this certainly demonstrates that the hockey fans

of the city were willing to donate money in an effort to keep their franchise, these donations were of more symbolic than economic importance considering that the price to purchase and operate the franchise was over \$100 million. What these measures do succeed in doing is increase the likelihood that the state will grant the transfer. In the Winnipeg example, voters needed to be convinced that spending public money to build a new arena was a transfer worth supporting. Through their active participation in pro subsidy political campaigns, providing free positive publicity, fans reduce the cost of lobbying activity by the businesses.

If subsidization is supported, with varying degrees of intensity, by businesses and fans in a city, the next question to address is whether or not there are groups hurt by this policy. It is quite remarkable is that in virtually every city where this policy is debated, the same groups unite to make up an opposition coalition. Unfortunately for the opponents of subsidization, those who are negatively impacted by the subsidy are numerous and poorly organized. Residents in the neighborhood for which the stadium is destined, especially those whose homes or apartments will be destroyed, are understandably opposed. They are inevitably joined by what can generally be described as anti-poverty or social justice advocates, who are interested in the maintenance of a city's social safety net. Their opposition to team subsidies stems from their quite justified concern that spending on sports teams could have been spent on welfare programs, public housing and libraries. The last group in this quite uneasy alliance is usually an anti-tax organization, like Canada's National Taxpayers Association, concerned about the taxes that accompany increased government spending.

Without the same financial resources or access to the media, the anti-subsidy lobby

has to appeal to a higher moral authority in order to sway the public. In Chicago, a leader of a community group called the Interfaith Organizing Project insisted that Mayor Washington's fatal heart attack was God's own retribution for pushing ahead with the construction of Comiskey Park, saying:

"It was a base and immoral decision that represents the antithesis of all that is decent and humane, and so Washington was soon removed. If acting Mayor Eugene Sawyer persists...he too will soon be removed because God don't like ugly and this pitiful display of hedonistic pleasure for the rich at the expense of the poor is ugly, ugly, ugly" (Pelissero et al., 1991, p. 126)

Needless to say, Mayor Sawyer was not removed and the new Comiskey Park was completed as planned despite the objections of its critics. This mirrors Silver's study of the Winnipeg Arena debate, in which he demonstrates that the well-heeled proponents of public funding for the arena were quite capable of overcoming the limited obstacles placed in their path by those who argued that public funds had more important uses. In every city, from Winnipeg to Chicago, opposition to these proposals will inevitably emerge. What also seems fairly inevitable is that they will be able to do little to influence proceedings.

The ineffectiveness of opposition groups would seem to be readily explainable using public choice theory. With the notable exception of those unlucky few whose homes face the wrecking ball, the only real negative impact for most will be the increased tax burden or a decline in other government services. With these costs spread, although not equally, through the community, they do not fall heavily on many residents. In fact, the costs are sufficiently small that they are likely to be outweighed by the large transaction costs of organizing such a large and diverse group of people. This may explain why opposition groups are so insignificant despite the fact that in public opinion polls subsidization is met

with less than universal enthusiasm.

To summarize our application of interest group theory to analyze the trend to subsidize professional sports teams, it appears that the differing costs and benefits facing the potential recipients and contributors of the transfer can explain the prevalence of this policy. Owners, with a tremendous incentive to spend time and money lobbying both local politicians and the voting public, find it relatively easy to convince both when it is in few people's interests to sift through a very complex and emotional issue let alone organize a meaningful counter lobby group.

In addition to being able to shed light on why sports teams are likely to be receive transfers, interest group theory successfully captures two important specifics in the sports subsidy game. The first worth mentioning is the specific form of transfer sought by the sports subsidization lobby group. Interest group theory would predict that lobby groups with a limited number of members are more likely to seek direct subsidies while larger lobby groups seek broader measures such as protective regulation. This case study looks at one of the smallest industry lobby groups possible, when a specific firm receives the direct transfer. With no distribution costs and the dollar value of the subsidy undiluted by numerous claimants, professional sports teams always vie for a direct subsidy either in the form of stadium construction, direct financing or tax exemption.

The second trend in sport subsidization that existing interest group theory can illuminate is the growing resistance to sales taxation as a financing measure. The interest group theory presented above would seem to predict that subsidies should be fairly frequently granted since a strong opposition is unlikely to form when the costs of the subsidy are widely

borne. However, approval of the subsidy is hardly guaranteed. Interest group theory is sufficiently flexible to allow for the rejection of the subsidy if the costs and benefits fall correctly. It would seem that taxes which impact most of the voting population will be less likely to generate support than if financing can be somehow shifted onto those who are not voters. The most obvious way to have those outside the electoral region finance the transfer. This could potentially explain the soap opera that played out in Seattle, surrounding public financing of a new baseball stadium.

Seattle's baseball and football teams are currently housed in the Kingdome, which, despite its grandiose title, is rapidly becoming an outdated facility. This fact was brought literally crashing home when tiles from the domed stadium's roof started falling on the fortunately empty field below. Despite its admittedly decrepit state, the rental deal for both teams has amounted to a subsidy in the neighborhood of \$11 million per year. (Quirk and Fort, 1992, p. 170) Not satisfied, the Mariners baseball team, had long been lobbying for a new, publically financed stadium and falling tiles provided yet more impetus to their demands. In order to build a new stadium, the civic government wanted to impose a 1% sales tax increase on the citizens of Seattle. In a not uncommon move in the U.S., the question was put to a vote in a civic referendum in 1995. The results were quite conclusive. The denizens of Seattle did not want to subsidize the Mariners' new home. Despite the unambiguous results of this referendum, the elite of Seattle were unwilling to abandon the issue. Terrified of the Mariners' threats to relocate if Seattle failed to come up with a new stadium, the leaders of the city's government decided to increase taxes on rented cars and restaurant meals to finance a new stadium. (Spiers, 1996, p. 30).

Critics of stadium subsidization have used this anecdote to demonstrate that the voters' wishes are frequently treated with considerable disdain by the civic powers. They argue that the referendum result did not only indicate that residents were uninterested in the sales tax as a specific method of financing, but were opposed to a public subsidy more generally. Therefore, the alternative financing mechanism is simply an end run around the referendum result. However, interest group theory presents an alternative interpretation based on the distribution of costs. It is possible that by moving to tax on hotels and rental cars, city officials were simply seeking a financing mechanism that would be more palatable to the voters. If the demand for hotels and rental cars is fairly inelastic, the tax on rented cars and restaurant meals will be borne to a much larger extent by visitors to Seattle, not the residents of the city itself. Interest group theory would suggest that this type of financing would be much more acceptable to the residents of the city, since they do not bear the full cost of the project. This is only one example, but it seems clear that there is a trend away from financing through sales taxes and toward taxes on such things as hotel rooms, rental cars and restaurant meals.

This last trend demonstrates an important element of the public choice theory. There is nothing inevitable about the subsidy being granted. While certainly the costs and benefits of organization do appear to favour the transfer being awarded, the specific outcome of each case will very much depend on the costs and benefits of the subsidy and the groups organizing to support and oppose it. So, it is entirely possible that politicians will reject the subsidy as they have in Houston when the NFL Oilers lobbied for subsidies in the form of a new stadium. The theory merely stresses that this industry is quite well placed to capture



transfers.

While public choice appears to have considerable explanatory power at first glance, it overlooks one crucial aspect of this phenomenon. While the theoretical discussion about the differing costs and benefits does fit many of the facts on this issue, it fails to account for the actual mechanism used by owners to gain the support of politicians. According to public choice theory, political support is gained by somehow improving the lot of the politician, most often by delivering votes, either directly, by having interest group members vote as a block, or indirectly, through campaign contributions which can then be used to purchase votes. In the sports subsidization game, however, this is an incomplete explanation of how politicians are influenced.

Examining the case studies, indeed even a casual perusal of a sports section, reveals a remarkably consistent trend in owners' lobbying activities. Their request for money is rarely backed by promises of campaign contributions, bribes, or even the promise of electoral success. Instead, they are backed almost exclusively by the threat of relocation. Whether it is Al Davis threatening Oakland with a move to Los Angeles, Barry Shenkarow's promise to move the Winnipeg Jets or Claude Brochu's warning that the Expo's cannot remain in Montreal unless a new ballpark is built, money is levered out of the public sector in each instance precisely because the teams are free to pick up and leave. No bribe or contribution is necessary in a situation in which transfers can be wrung out of governments solely because team owners have the right to locate their team in the city of their choice.

Evidence to support this contention is plentiful if team owners' statements can be taken at face value. The Buffalo Sabers play in one of the smaller markets in the NHL. In

1993, the owner of the team, Seymor Knox III, started the subsidy request ritual with the inevitable opening act. In the public media, in this case *The Buffalo News*, he started complaining about the dire financial condition of the team. Predictably, these economic woes were not so debilitating that a new, publically funded stadium would not set the team back on firm financial footing. If this small public sacrifice was not forthcoming, Knox vowed, "come hell or high water, we'll have to move out of Buffalo." (Danielson, 1997, p. 167). Similarly, according to the owners of baseball's Chicago White Sox, Jerry Reinsdorf, their new publically funded stadium, and the subsidy that accompanies it, was only made possible by the threat to move claiming, "We had to make threats to get the new deal, if we didn't have the threat of moving, we wouldn't have gotten the deal". (Danielson, 1997, p. 122) Indeed, the highly complex and quite acrimonious negotiations that culminated in the construction of the new Comiskey Park for the White Sox were largely forced on the city by the ownership of the team who actively solicited subsidy offers from St. Petersburg, Florida to prove the seriousness of the relocation threat. (Euchner, 1993, p. 134). The threat of losing the White Sox was sufficient incentive to prompt Illinois officials to renegotiate the stadium rental agreement with the baseball team, settling for \$2 million per year, half of the originally agreed upon amount. In addition, no rent was to be paid if attendance dropped below 1.2 million for the season. (Euchner, 1993, p. 147). While these are only two examples, this exact threat will, without exception, accompany any request for subsidy.

Indeed, it is the ability of teams to move, as it is the ability of all corporations to move, that gives them the power to make this request with a reasonable probability that it will be granted. This observation would be greeted with little surprise by those who study

taxation. It is a well accepted tenet of tax theory that more mobile firms are taxed less. The simple logic is that if it is costless to move, firms will migrate to the region with the lowest taxes. Zodrow and Mieszkowski, for example, have expressed concern that the increasing mobility of tax bases, will force governments to lower taxes in an effort to compete for capital. (Zodrow and Mieszkowski, 1986, p. 368) There seems to be no reason not to extend this observation to argue that very highly mobile companies will actually receive subsidies.

In essence, the threat of relocation by teams is the equivalent of McChesney's extorting politicians, except in this case it is the companies extorting money from the government through threats and not the other way around. The threat, of course, can only carry weight if governments believe both that the city will be adversely affected by a departing team and that the threat is credible. The ability of teams to convince governments of these two factors will be discussed later. Unlike McChesney, who has to resort to the indirect evidence of reduced stock market values to demonstrate extortion, it is quite easy to trace the beneficiaries in this example. In this case there is little doubt that it is the teams that receive the funds levered by their threats to leave.

This is not to say that politicians do not personally benefit from some of the subsidies. Public subsidies are often delivered by financing a new stadium and arena. Clearly, any construction project of this sort leaves ample opportunity for spreading contracts around in convenient places. The changes in property values surrounding the new stadium also creates an opportunity for personal wealth creation. Unsurprisingly, this has occurred on occasion. When the Mayor of Baltimore, William Schaefer, decided that constructing a baseball stadium for the Orioles was vital to the rejuvenation of the city, many

sites were considered for the new facility. Schaefer vigorously promoted the Camden Yards site that was the eventual location of the stadium. In what is more than likely no coincidence, warehouse property that abutted the Yards site had been recently purchased by a group of investors including Schaefer's leading fundraiser. (Euchner, 1993, p. 115) The point is not that bribery, personal enrichment or vote delivery is not used by teams to influence government, but that it is not the only mechanism open to the owners of capital. In fact, it is not even the most important avenue open to those who make decisions about where to invest.

The subsidization of professional sports teams has highlighted an important problem with the public choice explanation for the role of government. Public choice theory has contributed substantially to our understanding of political policy decisions by utilizing the economic tools of self interest and utility maximization. The specific subsection of public choice surveyed here, interest group theory, has further contributed to our understanding by stipulating that outcomes will depend on the costs and benefits of lobbying government when voters' opinions can be altered by information. The difficulty is that this explanation allows all interest groups to potentially have equal access to government transfers if they can organize and lobby effectively, which is not the case. In this formulation of the theory of the state, the Sierra Club and the AFL-CIO could potentially wield the same political clout as the business community. It is, of course, possible for the first two organizations to gain political influence. In fact, the public choice tools of analysis serve quite well to explain the Sierra Club's influence. The clout of such a non-business organization will rely precisely on its ability to deliver votes or financial support for politicians. However, this type of activity,

intended to curry political favour is not even the most important source of influence for the owners of capital. It is the right, indeed the necessity that, companies locate in the most economically favourable location that is their most telling source of political influence. Although probably loathe to do so, it is possible that interest group theorists can solve this problem by borrowing from Marxist ideas.

## Chapter 6 A Modest Revision of Interest Group Theory

### The power of investment

Marxist writers have vociferously declared that corporations influence government policy through their investment decisions. While writers in the Marxist tradition often engage in, indeed are notorious for, internal debates, this next section will attempt to sketch out the common threads that together make a school of thought, however loosely united. Needless to say, any attempt at generalization such as this will be doing an injustice to the hugely diverse works that all claim to fall under the Marxist banner. However, there are important commonalities held by most Marxist scholars and so it should be possible to identify the important central tenets of Marxism in general and its treatment of the state in particular.

For Marxists, the economic and political world is neither a kind nor a gentle one. Marxists hold that a continual battle is being fought between classes over which will keep the material wealth generated by the productive process. This struggle is not between equals, but rather has a David and Goliath quality, since one class inevitably wields power over the other. Crucially for Marxists, the source of this power comes from the control, or lack thereof, over the productive process. Inevitably, the class that controls production will wield power over the class that does not. The unequal power relationship allows one class to exploit the other and thus capture more of the gains from the production process. When this analysis is applied to the capitalist economic system, classes are divided by the ownership of private property. The dominant capitalist class owns, and thus controls, property while the exploited class of workers does not own any productive property and is

reduced to selling its labour to earn income.

By dividing society into classes based on their ownership, or lack thereof, of the economy's productive capacity Marxists are arguing that class, rather than the individual, is the appropriate level of analysis. Individuals within each class have enough common interest to make policies beneficial or detrimental to the class as a whole, not just to specific individuals within the class. Therefore, higher wages can potentially be seen as a problem for capitalists as a whole, not just a specific capitalist. Similarly, higher wages could be seen as beneficial to the entire working class, not just to the individual labourer. This is not to say that Marxists claim that the division defined by ownership of the means production is the only meaningful rift in society. Marxists acknowledge that, in fact, people clearly hold interests in common based on numerous other divisions around such things as race, gender and nationality. It is probably fair to say that most Marxist scholars recognize these other fragmentations but argue that in most circumstances the division based on class is the most important rift among many.

In general, Marxists argue that the capitalists' advantage in the economic domain can be transferred to the political arena. As with other elements of Marxist theory, there is some debate between different scholars around the role of the state in the capitalist system. Having said this, most Marxists would probably agree that the capitalist state is limited in its policy actions by the dictates of the capitalist system. This is primarily because the state depends heavily on the smooth functioning of the capitalist system but cannot achieve this directly, through allocation of capital, but instead must rely on its indirect policy influence on private investment decisions. There are two possible reasons for the state's desire to perpetuate a

healthy capitalist economy. The first is that the state's revenue is completely dependent on the health of the economy. High income pays off in high income tax revenue and high profits pay off in higher corporate tax revenue. Equally importantly, the legitimacy of the state is dependent on the relatively smooth functioning of the economy. The populace will only be willing to support a government if it perceives that it is benefitting from the economic policies of that government. Since it is the capitalist class that provides investment and thus employment in the economy, governments ignore the demands of capital at their peril. Policies that work against capitalists' ability to make profits will result in less investment and slower economic growth. (Barrow, 1993, p. 59) Therefore, the financial health and indeed the very existence of the government is dependent on the continued health of the economy which can only be secured by ensuring that the capitalist class has a favourable climate for investment.

This is not to say that capitalists do not need the state. Indeed, the policies established by the government are crucial to profitability. Capitalism cannot survive without state intervention because it is inherently prone to crisis. The instability of the system means that government must intervene in the economy to maintain economic stability and mediate between the continually battling classes. In this role the government occasionally appears to go against the short term interests of the capitalists in order to preserve the long term survival of the system by compromising with the working class. (Cammack, 1989, p. 270) The capitalist system is said to go through cycles, or long waves, of boom and bust that last about fifty years and are associated with major technological changes. It is the state's role to provide policies that support profitability during the boom period and then change those



policies to correct for declining profits during the bust. The network of institutions that supports each period is somewhat awkwardly termed the social structure of accumulation. (Collinge, 1992, 59)

The policies implemented by the state will be driven by the crises that inevitably emerge in domestic class conflict and international competition between capitalists. While it may be entirely possible for a politically strong working class to win very real gains from the capitalist system, like the social welfare system put in place after WW II in much of the industrial west, these gains are not without restrictions. Especially binding are the constraints imposed by international competition, which place serious limits on the gains of any single country's working class since gains for workers result in decreasing international competitiveness if productivity rates are the same. (Barrow, 1993, p. 78)

This conflict between maintaining the conditions for corporate profitability, on one hand, and the acceptance of the system by the labouring classes, on the other, is well captured by James O'Connor. O'Connor (1984) argues that the government in a capitalist system fulfills two often conflicting roles - accumulation and legitimation. The government's accumulation role is to provide an institutional structure which helps the capitalist class in its quest for profits. The legitimation role acknowledges that the economic system in a democracy can only function with the consent of the labouring class who are clearly in the majority. As a result the government must try to ensure that the bulk of the populace feel that they are benefitting from the capitalist system. Clearly, these two goals will often be in conflict.

In his analysis of the economic downturn in the late 1970s, O'Connor provides an

excellent example of the conflicts between these two goals. The fundamental contradiction of post war economic policy was rooted in the content of the Keynesian economic policies enacted as a result of the political battles between the classes. Maintenance of demand was the policy tool used by governments to meet the economic goals of full employment, steady growth and stable prices. (O'Connor, 1984, p. 203) Stimulating demand through expansion of consumer goods, military spending and the government bureaucracy played an important legitimating function but did so by expanding wages, credit and employment beyond the needs of capital. The problem was that these policies neglected supply factors by sacrificing expenditure on capital goods and technological change. In addition, stimulation of demand came at the expense of disciplining the labour force. (O'Connor, 1984, p. 208) In fulfilling its legitimating role the state sacrificed its accumulation role, and the corresponding fall in profitability was a significant factor in the end of the post war boom. The debate about which goal to follow was very much mirrored in the economic policy debate at the time, with unions arguing that the economy needed to be stimulated through increased employment and consumer demand and businesses claiming that profits needed to be restored through tax cuts and less government spending. (O'Connor, 1984, p. 209)

O'Connor's work admirably demonstrates that Marxist theory does not deterministically predict that government policy will reflect the demands of the capitalist class. O'Connor correctly points out that it is also crucially important for the state to also maintain a social consensus. (O'Connor, 1984, p. 211) The post war boom demonstrates the difficulty of balancing these two goals. In the post war boom the government largely followed policies of full employment and increasing consumption which played important

legitimizing roles. The problem with these policies was that they compromised the ability of capitalists to profitably operate. When the conditions for profitable investment do not exist, investment, and therefore, economic growth and job creation will decline. This is especially true when corporations can choose between alternative locations. When government policy compromises the profitability of firms relative to other locations, this will result in businesses relocating to, or locating new investment in, the alternative location.

This section demonstrates the Marxist argument that income is not the sole, or even the most important, source of power for the capitalist class. While it is true that the additional income of the capitalists allows them to purchase political influence through campaign contributions and lobbying activities, this is clearly only one facet of their influence. More importantly, capitalists' political power comes through their ability to influence the economy by investment decisions. Therefore, even if the working class were able to somehow raise funds to rival the capitalist class in terms of political clout, the state would still most often implement policies that were in the interests of the capitalist class. It is this crucial recognition of the need for government to encourage private investment that we hope to build into the interest group theory outlined previously.

Of course, under a system of democratic government "the public" must be successfully convinced to support the government's economic policies. To a certain extent this creates a situation in which the general public can influence government policy and, indeed, Gramsci argues that the power of the ballot box makes the state subject to class and popular democratic struggles. (Boggs, 1984, p. 23) However, the power of the vote is, of course, limited by the "ideological hegemony" of the dominant class. Power is not so much

exercised through coercion in a democracy, but is rather more subtly maintained by having the vast majority of the population internalize the ideological and cultural values of the dominant class. This is achieved through a broad range of institutions, from the educational system to the mass media. Noam Chomsky and Edward Herman have also gone to considerable effort to demonstrate the filters and biases through which information reaches the public with a privately owned mass media. (Herman and Chomsky, 1988) For Marxists, it is not only public opinion that is manipulated through the avenues of information dissemination, but the very belief system of the populace. Therefore, it is not enough to say that interest groups can manipulate public opinion but that information is systemically biased to favour the ideology of the capitalist class.

As public choice authors are quick to point out, there are important differences between this interpretation of voter manipulation and that employed in interest group theory. However, they both share a common belief that the public's voting behavior and political opinions are less the result of intrinsically held beliefs, and more the result of readily available information provided by those interested in garnering public support. Fortunately, for the purposes of this paper, this common ground can be used, avoiding a potentially thorny theoretical debate about which version of information bias is correct. This is possible because it would seem possible that when talking about firms and their lobby groups, these two theories do overlap to a large extent, at least as far as admitting the possibility of public opinion being a function of the information provided to the masses.

The next section will develop an interest group theory which uses the Marxist idea of the power of capital, which hopefully will not be seen as a wholly unsuitable marriage

despite the surprising partners. It will also use the idea that public opinion can be manipulated, if not completely created, by those seeking to pursue economic goals through the political system. This idea should be fairly well accepted in both Marxist and interest group camps, although, as we have stressed, for quite different reasons.

### **Including investment in interest group theory**

This section will attempt to revise the usual public choice explanation of how interest groups seek government transfers by allowing firms to have influence beyond their ability to purchase public opinion and politicians. We will start out with the usual assumptions of interest group theory - that firms and individuals join lobby groups in order to attract positive and avoid negative transfers from the state. The conclusions derived from the review of public choice literature form the basis for this model. For simplicity we will follow the assumptions made by Denzau and Munger, that interest groups do not vote and voters do not contribute financially to politicians (Denzau and Munger, 1986, p. 92) This assumes that the size of the interest group will be insignificant compared to the size of the total voting population, and that the resources raised for political purposes by individuals will be a small amount of the total. In addition, for simplicity we will assume that on any one issue, there will be two interest groups, competing for and against the transfer, by trying to sway public opinion. We will start by outlining the motivation of the three main actors in our theory: politicians, interest groups and voters.

Politicians will be treated in the standard utility maximizing fashion. Perhaps naively, we will assume that they are not interested in enriching themselves through bribery

or other underhanded methods. Instead, their utility is narrowly defined in terms of maximizing votes. While their ultimate goal is to get elected, it seems reasonable that more votes are always preferred to less. This assumption follows Peltzman's 1976 formulation and has been used by many other authors. Denzau and Munger argue that vote maximization is a sensible proxy even in a political situation that only requires the approval of a majority of voters for reelection. Winning comfortably is more desirable than winning by a narrow margin since narrow victory could be seen as a sign of weakness, inspiring a more competent and well financed challenger in the next election. (Denzau and Munger, 1986, p. 91)

Voters in this model have the final say in whether a firm will be able to attract a favourable transfer from the government. However, this model will accept that information can influence rational individuals' perceptions of their own interest. In doing so we are accepting the Becker - Stigler - Peltzman idea that information affects preferences. As we have seen, this notion also has strong support among Marxist authors, although clearly their argument allows a much deeper and more important role for information bias in maintaining the economic system. Therefore, the number of votes that a politician will get for approving or rejecting a transfer, in part, depends on the amount of information an interest group can lavish on the voters. This will depend on both the amount of money spent on such items as media releases, commercials, think tank studies, and consultants fees as well as the efficiency of each dollar spent. Not all interest groups are equally capable of attracting media attention and, once attracted, converting time into votes. Therefore, the ability of an interest group to influence voters through information is dependent on dollars spent and the groups efficiency. Since there are two interest groups competing for the voters' opinion, it is the relative, not

the absolute strength of each lobby group that will decide the impact on the information received by the public.

$$B = a(m_1 - m_2, e_1 - e_2)$$

where B can be considered the number of votes swayed by information bias, m is the amount of money spent by the two interest groups 1 and 2 and e is the efficiency of the money spent. The larger the difference between the two groups information spending and efficiency, the more one sided the information flow that reaches the general public. The variable a represents the uncertainty inherent in translating information into votes. Identical information bias may result in very different numbers of votes, and so the lobbying groups do not know the precise value of a.

In this model, although public opinion can be altered, the general public is not a blank slate on which firms can impose any transfer demand they desire simply by splashing out a few dollars on a glossy advertising campaign. What this model hopes to accomplish is to allow the public a degree of control over which transfers are granted to firms while at the same time acknowledging that firms and their interest groups do have greater influence on public opinion and, therefore, on governments than other lobby groups by reason of their ability to invest and therefore, impact employment and incomes. It is this component that has been lacking in previous public choice analysis of interest group influence and where they could perhaps improve by borrowing from the Marxist notion of the power of investment.

In this specific model, the general public may be either quite skeptical or fairly amenable to a change in the existing structure of transfers. The initial desirability of the

change in transfer arrangements will depend on both the likelihood and the impact of a change in the firm or interest group's investment in the region. This acknowledges that people realize the importance of private investment in the economy and that any reduction in job creation will negatively impact incomes. Specifically, we propose that the initial public sympathy for a transfer will depend first, on the credibility of the firm's threat to change the location of its operations. If a firm or group of firms could be more profitable in a different location, then its threat of relocation will be believable. Of course, firms that are tied to a location can also elicit transfers, but only if it appears as though they are not profitable. So, while mobile firms can attract transfers with the threat of moving to more profitable locations, firms tied to the region will have little access to public funds unless they are faced with insolvency. In economic terms this can be thought of as the opportunity cost of remaining in their existing location. Second, the impact of a firm failing or moving also varies with the size of the firm. Firms or groups of firms that have a large impact on the economic region in question will generate more public concern than a small corner store.

$$I = b(o, s)$$

where  $I$  is the number of votes initially favouring the transfer, which is going to depend on,  $o$ , the opportunity cost of the firm or industry maintaining its operations at the current level and  $s$  is the size of the firm compared to the size of the economic region. The larger the opportunity cost and relative size of the firm(s) represented by the lobby group, the more votes will initially favour the transfer.

Logically, public sympathy will also vary depending on who will bear the burden of paying for the transfer. Any increases in either the tax burden on each member of the voting



public or the number of people on which the tax burden falls will negatively impact their willingness to vote in favour of the transfer.

$$T = c(z/n.n)$$

where  $T$  is the number of votes lost because of the tax burden needed to finance the transfer.  $z$  is the size of the transfer that will need to be paid by the voters and  $n$  is the size of the taxpayer group on whom the burden of paying for the transfer falls. Any increase in  $z$ , without changing  $n$  will increase  $T$ , negatively impacting voters' willingness to approve a transfer. The impact of an increase in  $n$ , however, is uncertain. While it increases the number of voters that will be inclined to oppose the tax, for a given  $z$ , it also reduces the burden on each individual. Therefore, the overall impact on  $T$ , the number of votes for the transfer lost, depends on which of these two effects is larger.

In keeping with the emphasis on costs and benefits that is the hallmark of interest group theory, interest groups will not simply spend until public opinion is swayed in the direction of their requested transfer. Firms will only spend money on lobbying if the overall costs of lobbying are less than the benefits. By this, we do not only mean that the dollar amount of the transfer must be greater than the amount expended procuring it, but that the profits in the existing location plus the expected difference between the subsidy and the lobbying expenses must be greater than the profits in the alternative location. Referring back to our sports subsidy case study, this means that the amount teams will be willing to spend in swaying the voters in their home city will depend on the differential earnings between the alternative locations. For a given size of transfer, the higher the profits from operating in another city, the less a team owner will be willing to spend in lobbying activities.

$$m_1 = z - o \text{ or } z = m_1 + o$$

The transfer,  $z$ , must at least compensate the firm for its information expenditures,  $m_1$ , and the opportunity cost of remaining,  $o$ . Similarly, the group opposed to the transfer will base their information spending on how they are impacted by the transfer. More money will be spent to avoid the transfer, when the tax burden is larger.

$$m_2 = d(z/n.n)$$

This is a less specific formulation than that made for the transfer seeking firm. We now have two reaction functions that involve the terms  $z/n$  and  $n$ . The  $d$  in the above equation can be thought of as the extent to which the transfer actually creates opposition information expenditures.

We can now replace the initial equation for information bias with the following specification:

$$B = a(z - o - d(z/n.n), e_1 - e_2)$$

and can now use this equation for information bias along with the two equations specifying voters initial sympathy to the transfer to get a general model of voter approval of the transfer.

$$V = f(B, I, T)$$

or

$$V = f[a(z - o - d(z/n.n), e_1 - e_2); b(o.s); c(z/n.n)]$$

since  $V$  is votes, anything that increases  $V$  will increase the likelihood of the transfer from the vote maximizing politician. Many of the explanatory variables do not have a unidirectional impact on  $V$ . For this model, one of the important variables is  $o$ , opportunity cost. While  $o$  has a positive effect on initial voter reaction, it also means that firms are

willing to spend less money on information for a given sized transfer. In order for the overall effect on voter approval to be positive we must assume that, all else being equal, the initial effect on the credibility of relocation outweighs the decrease in media spending.

In addition, the size of the transfer,  $z$ , will also have opposing impacts on voter approval. While a larger transfer will encourage the firm or industry lobby group to spend more on information, it will also reduce voter approval in two ways. First, it automatically biases the voters against granting the transfer. Second, it will increase the likelihood that an opposition group will spend money to sway voters against the campaign. It is these two latter effects that limit the size of the transfer.

It may be useful to specify a particular functional form for this very general model. A quite simple example of political equilibrium under a single issue, majority rule referendum should be sufficient to demonstrate the type of analysis that is permitted by this type of model. Let us say that a political jurisdiction is being asked to vote in a referendum about whether or not to grant an industry a specific subsidy. In order to pass from proposal to policy, the proposition must garner the support of at least half of the voters. In our general model, we have stated that the number of votes will depend on the initial propensity to provide the subsidy ( $I$ ), the quality and quantity of the relative information bias ( $B$ ) and the tax burden ( $T$ ). Let us be a little more specific about a particular functional form.

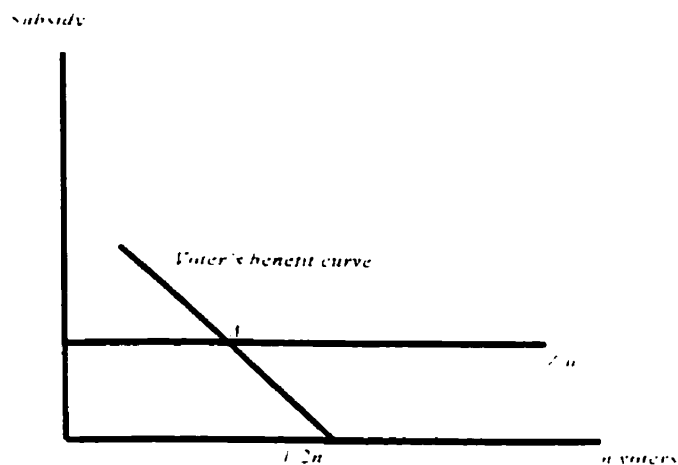
Our political equilibrium will involve voters choosing to vote for the subsidy if their perceived benefit from the subsidy is greater than their portion of the tax burden. We will further assume that the burden of the subsidy will fall on all of the voters equally. For each voter, then, the costs of the subsidy are  $z/n$  using the notation previously stipulated. In this

model we will assume that voters can make a fairly reasonable estimate about what the subsidy will cost them. The subsidy will be approved, then if for just more than one half of the voters, the benefits of the subsidy exceed the costs.

This, of course, begs the question about the benefits, which are not quite so straightforward. The benefits depend on the initial predisposition of the populace to grant the subsidy, which we have said relies on the chance that the subsidy will maintain the investment presence by the industry and the industry's importance. This is measured by the opportunity cost of remaining and the size of the industry. It stands to reason that each individual voter's valuation of the benefits will be different and that, further, it would be possible to rank each voter according to how much benefit they feel they would receive from subsidizing the industry. Starting from the person who perceives that the subsidy will be the most beneficial, each successive individual will have a somewhat lower perception about the value of the subsidy. Therefore, if we assume that for the first person the benefits will outweigh the costs, and the referendum question will at least generate one "yes" vote, there will come a point somewhere along the perceived benefit line connecting the steadily declining benefits of each successive person, where the benefits to that person will no longer be greater than the costs. The question is, then, will enough votes be cast in favour of the proposition before this point is reached? So, each individual voter, without any information bias, will decide whether  $I > z/n$ . Further, the rate at which the perceived initial benefits declines for each successive voter can be specified as  $\alpha$ . If the benefits of the subsidy are perceived to benefit a wide section of the population,  $\alpha$  will be smaller since successive voters will have a more similar evaluation of their personal benefits from the subsidy.

Successive voters will vote for the proposal until  $p - \alpha n = z/n$ . Where  $p$  is the perceived benefit of the person who values the subsidy most highly.  $p$  can be thought of in terms of the opportunity cost of the industry remaining since the more chance there is of the industry relocating, the higher the value of the subsidy. So  $p = b(o)$  where  $o$  is the opportunity cost of remaining and  $b$  is the extent to which this transfers to perceived subsidy benefits. The size of the industry will influence the degree to which the benefits fall not just on those immediately involved but on the whole of society and will, therefore, influence the degree to which successive voters perceive their benefits to diminish, so  $\alpha = g(s)$ . We now have  $b(o) - g(s)n = z/n$

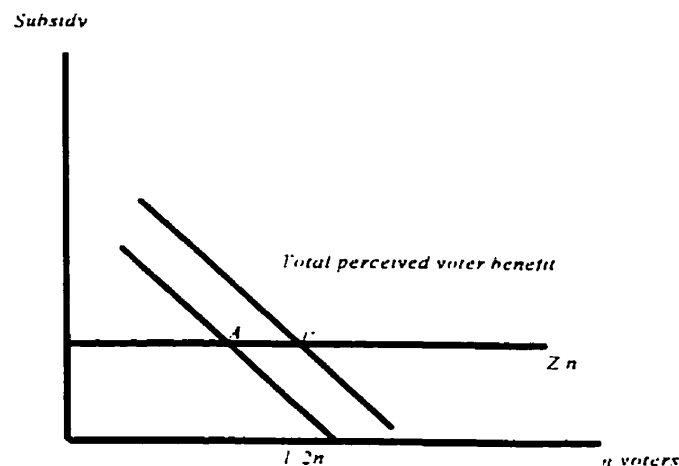
Graph 1



If the initial predisposition of the voting public is strong enough, it is entirely possible for the industry to receive transfers from the government without spending anything

to sway public opinion. Obviously, however, this is not always the case and so it is important to include  $B$ , the media bias into the model. In graph 1, the initial predisposition of the voters will not result in the referendum being passed. We have said that media bias depends on the relative amounts of money spent and the effectiveness of the lobbying effort. For the always convenient sake of simplicity let us assume that the spending of any opposing groups is relatively insignificant. In that case, media bias simply depends on how much is spent and the effectiveness of the money. We can specify the following functional form  $B=e(m)$  where  $e$  is the effectiveness of each dollar spent on media expenses. If no money is spent on influencing the public, then effectiveness does not matter. The impact of media spending is simply to shift each voter's perception of the benefits of the subsidy outward.

Graph 2



The political equilibrium is then:

$$e(m) + b(o) - c(s)n = z/n.$$

which occurs at point E. Recall that no firm will spend beyond where  $m = z - o$ , so

$$e(z-o) + b(o) - c(s)n = z/n.$$

From either the equation or the graph, it should be fairly clear that the more effective the media spending, the greater the shift and so, the more votes will be garnered. Similarly, the greater the size of the firm, the more votes will be garnered. Once again, we see the problem of the opportunity cost, which will increase the public's initial sympathy, but will mean that the industry lobby will be willing to spend less on media manipulation. In terms of the equation, an increase in the opportunity cost will increase votes if  $b > e$ . Another way of interpreting this is that with a high initial opportunity cost, the firm will be less likely to spend money on the media, but it is also less necessary, since they will be closer to a favourable political equilibrium without any media spending.

The same type of analysis can be applied to an increase in the value of the subsidy on offer. An increase in the value of  $z$  will increase the costs of subsidization by  $1/n$  but will also increase the perceived benefits by  $e$ , as firms increase their media spending for any given opportunity cost. Therefore, the overall impact depends on which of these effects is larger. If  $n$  is quite large, the subsidy will be spread among many voters and so the subsidy is more likely to be approved than if  $n$  is small. Similarly, if  $e$  is large and firms are very effective media lobbyists, the subsidy is also more likely to be approved.

We have formulated a model that departs from standard interest group theory in permitting a firm or industry's use of investment decisions to impact the likelihood of being

granted a transfer. It does so by assuming that voters can actually be initially predisposed to grant transfer requests, even if they are negatively impacted, if the credibility of a relocation threat (measured by the opportunity cost of remaining in the current location) is high and the industry or firm is substantial relative to the local economy.



## Chapter 7 Application of the New Model

The expressed purpose of formulating this model was the claim that it could better explain firms' ability to attract transfers from the state than previous interest group theories. The main advantage of this theory is that it provides an extra lever for firms or their lobbying groups to use in attracting transfers from the government. While traditional interest group theory requires the firm or its lobby group to convince voters, who would not initially favour the transfer, in this theory the public can be predisposed to grant the transfer. It is crucial to realize that this predisposition depends critically on the credibility of the threat to reduce investment in the region.

Our adjustment to the interest group theory of transfers to firms does provide some potentially testable implications. In contrast to previous interest group theory, our alteration implies that there is a connection between the opportunity cost to the firm of maintaining its existing operation in a region and the level of subsidy. This connection is particularly strong when media spending is quite low, as it means that the initial predisposition of the voters to the subsidy was a favourable one. This appears to be the case in professional sports. Although, as we have said, the "yes" side of a sports subsidy debate will dominate the media, sports teams appear to spend little money to make this happen. Indeed, they rely very heavily on the "free media" of news coverage as opposed to paid commercials. In a case such as this, higher opportunity costs should result in a greater incidence of subsidization.

As far as I am aware, no such connection is applied in traditional interest group theory. Opportunity cost depends on the profitability of the current location compared to the profitability of the next best alternative. It should be safe to assume that the value of the next

best alternative is equal for all the teams in a league. This is a valid assumption if any one vacant city would be an equally profitable alternative location for all of the current franchises in a given league which holds if each city seeking a team has no preferences between franchises. St. Petersburg is a useful example of a city which has been actively seeking a baseball team to fill their recently completed stadium. The city put in unsuccessful bids on both the Chicago White Sox in the early 1990s, and the Seattle Mariners in the mid 1990s before being granted an expansion team that started in the 1998 season. It did not seem to matter which ball club was moved to the area. The White Sox or the Mariners would have been equally acceptable. Jacksonville's search for an NFL franchise is equally illustrative. The city's quest for a team started in 1979 when they attempted to lure the Colts out of Baltimore. The Colts moved to Indianapolis but, undeterred, the city attempted to lure five other teams to the city before they tired of bidding on existing franchises when they failed to convince the Houston Oilers to relocate in 1987. With such a poor record of luring existing teams, the city switched strategies and sought an expansion franchise from the NFL, which proved successful when the Jaguars were granted entry into the league. (Norton, 1993, p. A1) What is crucial is entrance to the league, not the team that provides the access. If this assumption holds, and it seems quite plausible, then the opportunity cost for a franchise remaining in its current location depends on the current profitability of the club.

The revised interest group theory would seem to be supported by a connection between the profitability of a franchise and whether it is subsidized. While it is still quite possible for voters to reject a transfer for a relatively unprofitable franchise, any connection between the profitability of a franchise and the incidence of subsidization would seem to

favour the revised over the conventional interest group theory. As was mentioned earlier in this discussion, obtaining precise data on the degree, or even the incidence of subsidization is problematic. As a result, our empirical sample will be taken from teams that have received, or been promised public money for the construction of a new stadium under the assumption that public construction of a facility can be taken as evidence of subsidization. Given the very high incidence of subsidy rates found in the works of Baim and Quirk & Fort, this is a reasonable assumption. The sample is also limited because we can only use teams which have been promised public money recently because the profitability, or lack thereof, of teams has only become part of the public domain since The Financial World started estimating teams' operating income in the 1991-1992 season. In order to draw some conclusions about the relative profitability of a team, data for at least a few years prior to the subsidy offer must be available.

In the NHL five teams have been offered subsidies since 1995. Governments have offered to provide at least part of the funding for new buildings for the Winnipeg Jets, Hartford Whalers, Buffalo Sabres and St. Louis Blues. The Quebec Nordiques were offered a subsidy package to cover 70% of the team's losses up to seven million dollars per year. While these are not the only teams subsidized in the league, they are the only ones included since they are the only teams which I know were offered subsidies after the Financial World started publishing its statistics on the profitability of sports franchises. All of these subsidized teams generated income and had franchise values below the league average.

Table 7-1

Team	Operating income (Millions)			Franchise value (Millions)		
	91-92	92-93	93-94	91-92	92-93	93-94
Winnipeg Jets	-2.5	-2.6	-3.6	35	35	35
Quebec Nordiques	3.3	2.7	1.2	48	43	49
Hartford Whalers	-2.8	-5.5	-6.8	48	46	43
Buffalo Sabres	-2.1	-2.2	-6.5	44	55	60
St. Louis Blues	1.7	-1.7	-2.8	52	59	69
League Average	3.6	3.1	3.8	57	61	71

Source: Financial World, Sports Valuation Issues, 1993-1995

Teams in highly lucrative markets should be much less likely to receive subsidies. According to the Financial World, the Detroit Red Wings, Boston Bruins, New York Rangers and Chicago Blackhawks were the four most consistently profitable teams in the NHL. Table 7-2 demonstrates that their operating income and franchise values are above the league average.

The revised theory would imply that these teams would be very unlikely to be able to illicit transfers because any threat of relocation would have very little credibility since profits in their current location are well above the league average. None of these teams receive subsidies. All play in privately funded buildings and receive no more direct form of government support. It is worth noting that, with the exception of the New York Rangers, all of these teams have financed the construction of new facilities since 1995.

**Table 7-2****Most Lucrative Teams in the NHL 1991-1995**

Team	Operating income (Millions)				Franchise value (Millions)			
	91-92	92-93	93-94	95-96	91-92	92-93	93-94	95-96
Detroit Red Wings	25.7	19	17	13	87	104	124	126
Chicago Blackhawks	6.1	13.1	12.5	22	67	80	102	122
Boston Bruins	10.5	7.9	13.8	11.4	79	88	106	111
New York Rangers	9.8	8.6	14.8	9.7	76	81	108	118
League Average	3.6	3.1	3.8	4.2	57	61	71	74

Source: Financial World, Sports Valuation Issues, 1993-1996 We will now turn to

evidence from MLB. In the period after the Financial World statistics were available, several cities have committed to subsidizing their teams through the construction of publically funded facilities. If these the teams in these cities are less lucrative than the league average this should support the hypothesis in this paper. The Cincinnati Reds, Houston Astros, and Detroit Tigers all received approval for publically financed stadia in 1996 referendums. The Seattle Mariners and Milwaukee Brewers have also been promised new facilities by the governments of their respective cities in 1997.

Table 7-3 shows that the teams that have been promised new publically constructed facilities are almost always less profitable than the league average. Of the five teams, only one, The Houston Astros managed to have an operating income above the league average, and this was only for two of the four years in the sample. Indeed, with the exception of the Milwaukee Brewers meager 1 million dollar profit in 1995 these were the only two years in which any of these teams turned a profit. The franchise values are equally telling. All of the

teams in the sample are consistently below the league average. Indeed, for most of the years before these teams were promised new venues they were valued at about 80% of the league average.

**Table 7-3**

**MLB Franchises That Have Been Promised New Stadiums in 1996-97**

Team	Operating Income (Millions)				Franchise Value (Millions)			
	1992	1993	1994*	1995	1992	1993	1994*	1995
Cincinnati Reds	-11.8	-5	-16.8	-11.8	103	86	84	99
Detroit Tigers	-3.2	-5.4	-15.7	-5.3	97	89	83	106
Houston Astros	11.4	6.7	-8.4	-4.5	87	85	92	97
Seattle Mariners	-2.4	-4	-12.1	-9.8	86	80	76	92
Milwaukee Brewers	-12.8	-2.2	-12	1	86	96	75	71
League Average	3.4	6	-4.4	2.1	109	107	111	115

\* strike shortened season

Source: Financial World, Sports Valuation Issues, 1993-1996

Similar methodology can be applied to the NFL. The NFL is somewhat more difficult to analyze than MLB since many of the newly constructed facilities or recently committed subsidies were given to relocating teams. However, several stationary teams have either received, or been promised, new publically funded stadiums in 1996 or 1997. Their operating income from 1992 to 1995 is listed in table 7-4.

These results seem to be less conclusive than those of both the NHL and MLB. While the Detroit Lions and Washington Redskins did, with the exception of the 1992 Lion's season, consistently have an operating income below the league average, the same cannot be said of the Cincinnati Bengals, Tampa Bay Bucs and Chicago Bears. For the Cincinnati

Bengals, the 1993 and 1994 seasons did show a noticeable downturn in operating revenue, dropping it below the league average for both seasons.

**Table 7-4**

**NFL Teams That Have Been Promised New Stadiums in 1996-97**

Team	Operating income (Millions)				Franchise Value (Millions)			
	1992	1993	1994	1995	1992	1993	1994	1995
Cincinnati Bengals	4.2	6.9	1.1	1.3	128	142	137	171
Tampa Bay Bucs	10.3	1.6	1.6	9.6	118	142	151	164
Detroit Lions	6.4	-17.3	-4.1	-0.1	118	138	141	150
Washington Redskins*	1.7	-11.6	-6	0.2	123	158	151	184
Chicago Bears	9.3	5.4	9.1	14.1	136	160	161	184
League Average	4	-0.4	3.1	7.9	129	153	160	174

\* Unlike the other stadia in this group which were primarily publically funded, the new Jack Kent Cooke Stadium, was financed by both the team and the county and state governments. The public sector contributed an estimated \$71 million of the \$200 million total cost. (Washington Post, December 28, 1996)

Source: Financial World, Sports Valuation Issues, 1993-1996

The consistently high operating revenue of the Chicago Bears and Tampa Bay Bucs are the only examples, so far in our study where teams have received subsidies and been above the league average in terms of operating revenue. In each of the four seasons studied prior to the announcement that a new publically funded facility would be build for the Bears, their operating revenue was well above the league average. Indeed, despite quite mediocre on field performances, the team's profits were among the highest in the league. While the Bucs were not quite as profitable, they did have operating income above the league average in three out of four seasons. Franchise values are also not quite as supportive as the evidence

from MLB. Three of the teams in the sample are continuously below the league average. However, the Chicago Bears were consistently above the league average, again, standing out as an exception to our rule that poorer teams are more likely to be subsidized.

The evidence from baseball and hockey seem to support our claim that the profitability of franchises does have an impact on their ability to attract transfers. In both sports, the teams which have been recently granted or promised subsidies were almost exclusively below the league average in terms of operating revenue for the four years studied. The evidence from the NFL is less clear as there is less connection between the teams receiving subsidies and profitability or franchise value. While it is still possible in our theory to attract transfers without a credible relocation threat, the theory certainly implies that more effort and expense to sway voters would be needed. If all of the three sports are combined, only two of the fifteen teams that were offered subsidies earned operating revenue or had franchise values above their league average. This would seem to support the need to include the credibility of a relocation threat in any theory which purports to explain the ability of firms to attract transfers from government. In traditional public choice theory, there would seem to be little explanation for a connection between profitability and the ability to win transfers from the state.

A careful reader would, at this point, perhaps wonder whether the above evidence can be reconciled with the very high incidence of subsidization of all professional sports teams. Surely, if most teams are subsidized, then teams with above average operating incomes are most likely subsidized. While this is a valid comment, it does not refute the evidence presented above because the timing of the subsidy is important. At any given level of



subsidies across teams in a league, our theory predicts that the less profitable teams are more likely to receive subsidies. Once they have received the subsidy, it is possible that they would become much more profitable, dropping other teams into the ranks of the relatively impoverished. The newly poor teams would then become the likely subsidy candidates. Through this process it is possible for most teams in a league to become subsidized over an extended period of time.

In the five year period between 1992 and 1996, the five teams in table 7-5 received publically funded facilities. The table ranks the operating income and franchise value for each of these teams. The stadium opened column lists the year in which each team commenced play in its new facility. While a team's operating income should only increase after the new facility has opened, the franchise value of the team may well increase before construction of the new venue has even started. The announcement of the new facility and its expected increase in revenue, often a year or two in advance of the opening, could lead to an increase in the value of the franchise.

A new facility can increase either a team's profits on each year's operations or the value of the franchise. These two sources of revenue will be dependent on much more than the facility in which a team plays. On-field success, and crucially playoff performance, can have a tremendous impact, especially on profitability in a single year. However, we have been arguing that the purpose of constructing a new publically subsidized facility is that it increases the revenue potential of the franchise. Therefore, we would expect that a team operating in a new stadium would earn more income, and increase its franchise value.

**Table 7-5**  
**Change in Profitability of Teams With New Facilities**  
 Rank Among Teams in the Same League

Team	Stad Open	Operating Income					Franchise Value				
		1992 91-92	1993 92-93	1994 93-94	1995 94-95	1996 95-96	1992 91-92	1993 92-93	1994 93-94	1995 94-95	1996 95-96
Cleveland Indians	1994	5/26	5/28	15/28	13/28	7/28	26/26	13/28	13/28	12/28	6/28
Texas Rangers	1994	4/26	18/28	4/28	6/28	4/28	10/26	7/28	3/28	9/28	7/28
St. Louis Blues	94-95	14/22	19/24	22/26	19/26	10/26	13/22	11/24	12/26	13/26	10/26
Cleveland Cavs	94-95	12/27	18/27	10/27	6/27	14/29	7/27	6/27	6/27	6/27	6/29
San Antonio Spurs	93-94	13/27	9/27	7/27	9/27	8/29	12/27	10/27	11/27	10/27	10/29

source: Financial World - Sports Valuation Issue 1993-1997.

Every team in the sample has improved its standing in the franchise value ranking. Some teams have certainly benefitted more than others. While the Cleveland Cavaliers have only managed to improve their ranking slightly since their move to the new Gateway Arena, the Cleveland Indians have moved from having the lowest franchise value in Major League Baseball to a remarkable sixth out of twenty eight teams now that they are playing at the scenic Jacob's Field. Operating income is slightly less unanimously supports our claim that new stadiums improve an owners revenues. However, in four of the five teams (Rangers, Blues, Cavaliers and Spurs) did move up the rankings in the season in which they moved into their new facility, although the Cavaliers did not maintain their improvement in the following season. The only real exception is the Cleveland Indians who surprisingly slipped significantly in the two years immediately following their move to Jacob's Field despite their dramatic increase in franchise value. Overall, it does seem that new facilities are connected with higher franchise values and, slightly more tentatively, year to year profits.

Our adjustment to interest group theory is also supported by more anecdotal evidence. The modification of interest group theory has substantially more explanatory power than traditional efforts when examining several aspects of the sports subsidy issue. For example, it permits us to contrast the English to the North American subsidization situation. In England, as in most of Europe, professional sport is dominated by soccer. Despite the legendary English obsession for the sport, English soccer teams have not been able to illicit the same level of public funding received by North American professional sports. The major source of public funds to English professional soccer is the Football Trust which subsidizes stadium construction.

The Football Trust was the British government's response to a tragedy at Hillsborough Stadium in Sheffield that left ninety five people dead. In the predictable soul searching and finger pointing that follows this type of disaster, the British government established an inquiry into the causes of the deaths. The resulting study, entitled The Taylor Report, convincingly argued that one of the main factors in the deaths was the antiquated and often dangerous conditions of the stadium. Of special concern was the situation in the "terraces" in which spectators were packed, standing up, into fenced in enclosures. The Taylor Report further argued that this state of affairs was not unique to the Hillsborough stadium but was the norm throughout the country. The obvious conclusion from these observations did not escape the authors of the report and so one of their main recommendations was to require professional teams in Britain to modernize their facilities, specifically, to construct all-seater stadiums.

As one would expect, large, mandatory expenditures were hardly greeted with enthusiasm by the owners of soccer teams. To soften the rather large spending blow that resulted from this government edict, the Football Trust was formed with a mandate to share the expenses of stadium renovation. For the purposes of our study there are two facts which need explaining. First, why do English teams receive less than their North American counterparts. Second, why do they receive any subsidy.

In addressing the first question, I would argue that the principal difference between the two situations is the credibility of the threat of relocation. There are currently ninety-two English professional soccer teams vying for fans among the forty-four million strong population. Every major, indeed every minor, center is represented by at least one

professional team. In the 1997-98 season, London, the largest market in the country, contained no less than six teams playing in the top professional division and several others toiling away in the lower levels. In a situation in which the market for professional soccer teams is clearly saturated there is little opportunity to exploit unoccupied markets desperate for the excitement of the professional game. Threats of relocation by owners would be viewed with not only skepticism but absolute disbelief by the public. In fact, although there are rumblings about the potential move of one club, Wimbledon, from its traditional home in the suburbs of London to Dublin, no large team to date has moved to another market. Therefore, in England, there are almost never threats of relocation in an effort to lever money from the state. The reason for this is simply that the threats would not be credible, since relocation is not really a feasible option. In reference to the model outlined in the previous section, the opportunity cost for the English teams operating in their current location is nothing, unless the team is actually better off declaring bankruptcy. Therefore, any team not facing financial insolvency is unlikely to garner voter support for a transfer.

Of course, the situation in North American professional sports is radically different. The owners of all four professional leagues have kept a jealous guard over entry into their cartel. The result is that there are several cities large enough to support professional sports that do not have franchises. In this situation, the threat of relocation takes on much more credibility. Our theory suggests that it is this credibility that accounts for the prevalence of subsidies in North America. In contrast to the case in England, there is a positive opportunity cost when teams remain in their current location. This difference would explain the different subsidy levels in the two regions. The next two tables illustrate the market saturation in the

United States and England.

**Table 7-6**  
**Presence of Pro Teams in United States Major Metropolitan Areas - 1996**

Rank	City	1994 Pop. (000's)	NFL Teams	MLB Teams	NHL Teams	NBA Teams
1	New York	19,796	2	2	3	2
2	Los Angeles	15,302		2	2	2
3	Chicago	8,526	1	2	1	1
4	Washington, D.C.	7,051	2	1	1	1
5	San Francisco	6,513	2	2	1	1
6	Philadelphia	5,959	1	1	1	1
7	Boston	5,497	1	1	1	1
8	Detroit	5,255	1	1	1	1
9	Dallas	4,362	1	1	1	1
10	Houston	4,098	1	1		1
11	Miami	3,408	1	1	1	1
12	Atlanta	3,350	1	1	0**	1
13	Seattle	3,225	1	1		1
14	Cleveland	2,898	0**	1		1
15	Minneapolis	2,688	1	1		1
16	San Diego	2,632	1	1		
17	St. Louis	2,536	1	1	1	
18	Phoenix	2,473	1	0**	1	1
19	Pittsburgh	2,402	1	1	1	
20	Denver	2,189	1	1	1	1
21	Tampa Bay	2,156	1	0**	1	
22	Portland (Or.)	1,982				1
23	Cincinnati	1,894	1	1		
24	Kansas City	1,647	1	1		
25	Milwaukee	1,637		1		1
26	Sacramento	1,587				1
27	Norfolk	1,529				
28	Indianapolis	1,461	1			1

29	San Antonio	1,437				1
30	Columbus (OH)	1,422				
31	Orlando	1,361				1
32	New Orleans	1,308	1			
33	Charlotte	1,260	1			1
34	Buffalo	1,189	1		1	
35	Salt Lake City	1,178				1
36	Hartford	1,151			1	
37	Providence	1,129				
38	Greensboro	1,107				
39	Rochester (N.Y.)	1,090				
40	Las Vegas	1,076				

- promised an expansion franchise
- Jacksonville, Green Bay are not in top 40

While there can be little question that the owners of sports teams have managed to position themselves in most of the largest markets, it is also evident that there remains room to move for teams unsatisfied with the profitability of their current market. The most striking example is the absence of an NFL team in Los Angeles, the second largest market in the country. This would certainly provide a quite credible relocation threat for an owner seeking a subsidy. Especially since Los Angeles managed to support not only one, but two NFL teams until the mid 1990s when both the Rams and Raiders left. The real room to move is between more marginal cities. In the smaller markets at the bottom of the table there are numerous openings in all of the sports. For example, cities like Columbus and Portland would seem every bit as capable as New Orleans or Indianapolis of supporting an NFL franchise. The same argument can be made for all of the other sports shown in the table. In each sport, vacancies exist in locations that are quite capable of supporting franchises.

**Table 7-8**  
**Presence of Professional Soccer Teams in Major England Metropolitan Areas - 1997**

Rank	City	1994 Pop. (000)	Premier	Div. 1	Div. 2	Div. 3
1	Greater London	6,962	6	2	5	2
2	West Midlands*	2,628	2	3	1	
3	Greater Manchester*	2,578	2	3	2	
4	West Yorkshire*	2,104	1	1		
5	Merseyside*	1,434	2	1		
6	South Yorkshire*	1,305	2	1		1
7	Tyne & Wear*	1,134	1	1		
8	Bristol	399			2	
9	Leicester	293	1			
10	Nottingham	282		1		1
11	Kingston upon Hull	269				1
12	Plymouth	255			1	
13	Stoke on Trent	254		2		
14	Derby	230	1			
15	Southampton	211	1			

\* Designates Metropolitan Areas. Other cities are classified as non-metropolitan cities.  
 Source: Table 2.5 Geographical Distribution of the Population and Table 8 Population of capital cities and cities of over 100,000 population

There are some important differences between the English and American tables that should be mentioned before any attempt at comparison is made. First, and perhaps most obviously, is that the English table only represents one sport, while the United States table shows the four "major league" sports. Therefore, it is appropriate to compare the number of



soccer teams in each city with each sport column in the American sample. The other difference between the two tables that needs to be highlighted is the English divisional structure. Teams in English soccer move between divisions depending on their playing strength. The top three teams in each division are promoted and the bottom three teams are relegated. Therefore, membership in the Premier Division will change every year with the bottom three teams facing the humiliation of relegation to the First Division to be replaced by the best teams in the First Division. So, for example, while Nottingham did not have a team in the best division in England in the 1997 season, the success of Nottingham Forest in the First Division resulted in promotion to the Premier Division starting in the 1998 season. The result of this divisional mobility is that a city's absence from the top division does not have to be rectified by attracting a team from another city, as is the case in North America. On-field success can promote a team from competing with the lesser lights in the lower divisions to the glamour of Premier Division.

What the English table clearly shows is that all of the major cities are represented by existing professional soccer teams at some level. In addition, the largest markets in England are more saturated than the largest cities in the U.S. Just to take the largest market in each country as an example, London supports an astounding fifteen professional soccer teams while New York supports no more than three teams in any one sport. The same trend is evident in the other larger cities. In the U.S. there are only rarely two teams competing in any single market, while in England all of the metropolitan areas of over one million people contain at least two teams and often many more. This evidence would certainly support our contention that in England there are very few open markets and thus there is a lower

opportunity cost of remaining compared to the situation in the United States.

Current interest group explanations would have to rely on arguing that there are different costs and benefits to lobbying in the two cases. The size of the lobby groups (the team and its immediate beneficiaries) in the two areas would be quite similar and there is no reason to believe that English teams would face a different cost structure in organizing its lobby group than North American teams. Similarly, there is no reason to believe that English teams would be less efficient than their North American counterparts. English papers seem as desperate for sports news as North American and it would be doubtful if the local press would grant a more unfavourable airing to teams' transfer requests in England. Opposition of the lobby opposed to subsidization would also be similar to that in North America. The burden would be small for each individual but spread over a large number of people, creating an identical organization problem to that which exists in North America. Traditional interest group explanations, therefore, have difficulty in explaining the difference in subsidization rates between the two regions, a difficulty not encountered when the threat to relocate is included in the model.

The second question to be addressed is why English teams receive any subsidy at all given their lack of ability to move. The answer lies in the very precarious financial position of most English clubs at the time of the Taylor Report. Szymanski and Smith present data on the average pre-tax profits of forty-eight professional soccer clubs spanning all the divisions between 1974 and 1989. Of the forty-eight teams studied, thirty-six or three quarters reported losses. (Szymanski and Smith, 1997, p.137) The theory presented in this paper suggests that industries or firms without a credible relocation threat are much less

likely to receive transfers than their mobile counterparts. However, immobile firms can make a successful plea for transfers if they can convince the populace that they are on the verge of bankruptcy. An industry or firm closing down has the same negative impact on employment as a relocation. The evidence above suggests that soccer clubs could make a quite convincing argument that their already very precarious financial position would become fatal if they were forced to bear the entire cost of implementing the recommendations of the Taylor Report. Despite their financial difficulties, some real doubt about the likelihood of teams going under as a result of its new stadium spending existed. Although, in 1988, one year before Hillsborough, forty of the ninety-two teams in the Football League were insolvent, the last team to actually fold was in 1962. (Economist, 1988, p.50) The fact that English professional soccer is subsidized can be explained by its financial difficulties at the time of the Taylor Report. The fact that it does not receive anything approaching subsidies of the magnitude of North American professional sports is due to team's lack of mobility and their ability to survive despite their dire economic straights.

The need to establish a credible relocation threat can also explain other aspects of the subsidization issue, such as owners' insistence on actively soliciting offers from cities seeking to attract professional teams. As this model would predict, the more credible the threat of moving, the more likely the transfer is to be granted. This is because the voters need to be made aware of the extent of the opportunity cost of remaining in the team's current location. The higher this opportunity cost the more likely they are to approve of the subsidy.

In The Strategy of Conflict, Thomas Schelling argues that making credible threats

greatly enhances the bargaining position of the threatener. A threat, according to Schelling, is claiming that you will undertake some action, that you will not do if a contingency occurs. The most credible threat is one in which the threatener completely surrenders their choice about whether to carry out the threat if their conditions are not met. To demonstrate this point he sets up a simple payoff matrix in which one party has the first move. (Schelling, 1960, p. 126) If we apply the sports team analogy here, the city would have the first move, deciding whether to provide the subsidy, and then the team would decide whether or not to operate.

		City	
		Sub	No
Team	Op	2 4	4 2
	No	0 0	0 0

Without a relocation option, the city has an easy win in this situation as it simply states that it will not subsidize the team, leaving the team with the option of whether to operate without the subsidy. If the team is at all profitable without the subsidy, it will choose op as it gains 2 instead of 0. However, the team can attempt to change the city's first move by threatening to not operate (No) if the city chooses not to subsidize. If the city believes the threat, it will choose to subsidize and get 2 instead of 0. The dilemma, then, revolves around the city's assessment of the probability of the team carrying out what is, in effect, an irrational threat if it chooses not to subsidize.

The whole point of seeking out an alternative host city is to make the threat of not operating in the current city less irrational. If for example, they can find an alternative

location that will provide them with a gain of 3, this very much changes the payoff matrix. Now, if the team does not operate (No) it will still receive 3. Now the threat is completely rational and the city is better off offering the subsidy as its first move. In this context, the attempt to court alternative host cities can be seen as a negotiating technique aimed at changing the alternative payoffs so that the team's threat to move becomes credible.

Let us take the example of the Cleveland Browns. The fans of Cleveland had shown remarkable support for their NFL franchise despite almost a decade of very mediocre performances. However, Browns' owner Art Modell had been lobbying for a publically financed new stadium for years, arguing that he needed the increased revenue that new stadiums, and their accompanying frills like luxury boxes, are capable of generating. This request was greeted with little sympathy from either the city or the state until Modell entered into serious negotiations to move the team to Baltimore. The city of Baltimore and the state of Maryland not only offered to build a brand new \$200 million dollar stadium but would also allow the team to keep all of the revenue that it generated. (Spiers, 1996, p.29)

This very generous subsidy would dramatically increase the profitability of the franchise, especially compared to the Browns' existing stadium leasing arrangement in Cleveland. As it became increasingly apparent that Modell was serious about a move, the citizens of Cleveland became much more amenable to subsidizing the team. In fact, voters in a referendum actually voted to subsidize the Browns on the backs of sinners in Cleveland by approving an increase in tobacco and liquor taxes. In the end these concessions were granted too late and the Browns accepted the rather lucrative offer put together by Baltimore city officials. The main point here is that what changed the public's attitude toward

subsidization was not a change in any of the costs or benefits to lobbying that traditional interest group theory would use to predict the outcome of the transfer, but a marked increase in the credibility of the football team's threat to relocate as it became clear that the team could make more money in Baltimore. It is no accident that team owners actively seek bids from alternative locations when lobbying for a subsidy. This primary objective in these efforts is to demonstrate that, in the absence of the requested subsidy, the alternative location is more profitable for the team.

A model that includes a recognition of the influence of investment can also explain the changes that leagues have made in the mobility restrictions of their members. In all professional leagues, if a team wishes to relocate, they must get approval from the rest of the owners. Clearly, the voting rules in this situation will have a large impact on the potential mobility of a team and thus the credibility of its relocation threat. Until quite recently, most leagues had very conservative voting strategies when deciding on whether a team had the permission of the league to relocate. Indeed, many leagues required unanimous consent of the other owners. Needing unanimous approval, teams moved less frequently, generally only if they could not profitably operate in their current market. These rules have been gradually relaxed over time until now a simple majority will suffice in some leagues. As the voting rules have changed, teams have become much more mobile and the incidence of subsidization has increased. Surely, these facts are not unrelated. This model would suggest that the increased incidence of subsidization are a result of the changing league rules of relocation.

This model can also help explain the level of government that awards the transfer.

In traditional public choice theory, there is little consideration given to the level of government that interest groups lobby for their transfer. Presumably, the group seeking the transfer would choose the level at which the transfer was most likely to be awarded. This theory offers a fairly explicit interpretation of the level of government that will be lobbied. Since the likelihood of voter sympathy for a transfer depends, in part, on the opportunity cost of remaining in the current location, firms or industries have an improved chance of being awarded the transfer if they seek it from a level of government that they can exit. In the sports industry, the transfer comes from the state and local levels not from the national government. This model would argue that this is because there is virtually no threat of any sports teams leaving the United States. Therefore, voters realize that no transfer is necessary for sports teams to remain in the region. At the state or local level, however, the threat of relocation is very real, resulting in a positive opportunity cost for remaining in the existing location. This would increase the chances of voters favouring a subsidy.

The same analysis explains why the Canadian national government has committed itself to transfers to sports teams while the United States has not. The Canadian government pledged to fund around one-third of the cost of a new arena to house the Winnipeg Jets. Canadian hockey teams had been struggling to match the profitability of their U.S. counterparts and vacant markets in the south presented many Canadian teams with quite viable exit options. Since the Jets were not only threatening to leave the city and province but also the country, Canadian voters would be more sympathetic to the transfer than if the team were remaining in Canada.

The theory presented above also implies that teams, indeed any firm or group of

firms, are more likely to be subsidized in a smaller market. This logical implication of the theory does need to be carefully phrased, for clearly, we do not want to argue that smaller regions will always subsidize their professional teams. However, it logically follows that, all else being equal, a firm that has a larger impact on a given region will be more able to appeal to the public for transfers. Therefore, teams that generate roughly similar economic contributions will be of quite varying importance to cities of different size. For example, a hockey team in Edmonton will be more important economically than a hockey team in New York. Small market teams are much more likely to be subsidized not only because of the lower profits that are likely in smaller cities, but also because the residents of those cities are more likely to be loathe to loose the team.

This is consistent with the incidence of subsidization across cities in hockey and basketball. We have already noted that teams in both sports operating in large markets (New York, Chicago, Detroit and Los Angeles) are unlikely to be subsidized. However, those in smaller markets (Cleveland Cavaliers, Calgary Flames, Edmonton Oilers) are much more likely receive government support. In addition, as previously noted the two sports with larger economic impacts, football and baseball are very often subsidized even in the largest markets. The City of Chicago, for example, has recently build a heavily subsidized ballpark for the White Sox baseball team and is about to start construction of a similarly generous football stadium for the NFL Bears.

If economic impact is an important factor determining which firms receive subsidies then professional sports teams would be much less likely to receive subsidies than larger businesses. This seems to fly in the face of the evidence, which suggests that sports teams



are much more effective than other individual firms in attracting state transfers. The limited economic size of sports teams should act as a natural obstacle to public support for sports subsidization according to our theory. However, lobby groups seeking transfers for sports teams have devoted considerable effort to demonstrating that the team has a quite substantial economic impact on the local economy. It is important for the argument being made here to demonstrate that these studies do actually overstate the economic impact of the team. In order to do this it will be necessary to delve fairly deeply into the economic impact studies that have been conducted on professional sports teams.

## **Chapter 8 Case Study: The Use of Economic Impact Analysis**

### **Variance in studies**

The purpose of economic impact analysis is to measure the change in economic activity resulting from a specific program or project. This can be a useful tool for governments when deciding between various uses for public funds. A properly designed and carefully researched study can shed considerable light on the very murky domain of economic costs and benefits for a particular region. However, the accuracy of these studies is very much dependent on the methodology followed by the individual author, who is required to make numerous, often discretionary decisions, that will affect the final conclusion. Needless to say, when the final results are so dependent on the decisions of the authors the door is open to all manner of inconsistencies and even abuses. In fact, these types of studies need to be read with a very critical eye before accepting the conclusions.

This note of caution is particularly relevant when analyzing the economic impact studies that have been published to examine the economic contribution of professional sports teams. Any one with an even vaguely suspicious nature should be immediately on their guard when a study so dependent on the author's discretion is published or funded by one of the interested parties in a debate. Of course, this is usually the case with studies of the economic impact of professional sports teams. In our theory, we have argued that the size of a firm is one determinant of the public's willingness to subsidize a firm or industry. It is our contention that economic impact studies are important informational tools used by the pro sports subsidy lobby to sway public opinion by convincing voters that sports teams do actually have a significant economic impact on the economy of their host city or state. The

purpose of this section is to determine whether or not economic impact studies of sports teams tend to overstate the teams' impact.

The degree of variation between studies that are investigating a roughly similar phenomenon is quite remarkable. For example, Baade and Dye cite the contrast between two studies on the value of NFL franchises in Philadelphia and Baltimore. One study determined that the Philadelphia Eagles contributed more than \$500 million to the city's economy in 1983. In contrast, a study on the now relocated Baltimore Colts concluded that the team had a quite marginal economic impact, only managing to increase the economic activity of the city by \$200,000 in one year. (Baade and Dye, 1990, p. 6) John Crompton provides an equally telling example. When the San Francisco Giants were considering relocating to nearby San Jose, both cities commissioned economic impact studies on the team. San Francisco, faced with the prospect of losing the team and therefore keen to downplay its economic benefit, concluded that they contributed a meager \$3.1 million to the city. On the other hand, San Jose, eager to justify public spending on a new ball park to house the team, estimated that it increased economic activity by "somewhere between" \$50 and \$100 million each year. (Crompton, 1995, p. 16) Only the most trusting reader would put this entire discrepancy down to the different impacts of the team in the two cities. It seems more likely that the difference is, to at least some extent, caused by differing methodologies used in the studies.

The purpose of this section is to examine several of the economic impact studies that have been used to determine the costs and benefits of professional sports teams in an effort to account for the variation in economic impacts. This section will also attempt to judge the

appropriateness of the techniques used in these studies to determine the validity of their results.

### **Problem definition**

The first step in any empirical work is to formulate a specific research question. Broadly speaking, this analysis is interested in determining the accuracy and consistency of the collected impact studies. In an effort to do this we will first attempt to determine the extent to which these studies have followed accepted practices in conducting their studies. All assumptions are not created equal, and many of the impact analyses that have been conducted to date have been justifiably criticized for breaking some of the more generally accepted conventions of the discipline. In order to determine which conventions of well constructed investigations have been flaunted by the sample studies it will first be necessary to identify the preferred assumptions and methodologies. If it is found that many of the studies have violated standard practices in impact analysis then the stated impacts of these studies must be viewed with some suspicion.

Further, this study will use meta-analysis in an attempt to determine the causes of the variation between these studies. What is critical to determine is whether the very large observed variation in the impacts assigned to the differing teams in this study accurately reflects differing impacts or is simply a result of different assumptions. If the variation is due, in large part, to differing assumptions and methodologies, especially if those assumptions are somewhat questionable, then the reliability of these studies must be called into question.

### **Data collection**

Obtaining economic impact studies on professional sports teams is somewhat more difficult than the usual gathering of published empirical work. Impact studies are usually not published in reputed journals and listed in easily accessible data bases on user friendly CD Roms. Instead, they are published for a very specific purpose, to be cited time and again by the local media and the respective lobby groups keen to sway public opinion, and then disappear. Therefore, the search for studies was somewhat more difficult than a standard gathering of literature. After realizing the paucity of studies published in easily accessible sources, this study turned to an information request sent over the Regional Science Information Exchange, maintained by the Regional Science Institute at West Virginia University. The response to this request was quite encouraging with several authors sending in their own studies and other respondents providing useful bibliographies.

The second method of obtaining studies was through bibliographies of articles on related topics. Journal articles that examine how economic impact studies are used in the broader context of the debate about subsidizing professional sports were significant sources of citations. Attempts were then made to locate these documents with varying degrees of success. While some were easily available from the local library of the city in question, others seem to have simply vanished or were not available to the public. The total sample, then, consists of all of the available studies that could be obtained using these two methods along with the usual search of published literature. The sample is less a representation of all of the studies that have been produced than of what was available.

Only studies that fulfilled two criteria were deemed eligible for this survey. First, the analysis had to explicitly account for the economic impact of a major league professional team. Many studies simply calculate the impact of a new stadium or arena without specifically determining the economic impact of the team playing in the facility. These were not included. After all, the underlying logic behind building a stadium is not the construction of the building itself, but the impact of the new building on increasing team revenues in comparison to the existing facility. Indeed, simply looking at how the construction of an arena or stadium contributes to economic activity is quite misleading because any number of alternative structures could have been built with the money, creating an identical economic impact. The real point is how the facility contributes to the economy once it is constructed and clearly, much of this is dependent on the revenue generated by the franchise for which it is built.

Second, the studies had to follow what can be loosely described as the “typical” approach to economic impact studies. By this we mean the by now quite familiar exercise of estimating an initial, or direct impact, and then determining how this first round of expenditure circulates throughout the area of the study. Other, more exotic, methodologies were used, but this study is solely interested in the traditional version precisely because it is most likely to be used. The studies that met these stringent criteria are listed in table 8-1.

**Table 8-1**  
**Economic Impact Studies Surveyed**

Blair, John and Swindell, David, Sport, Politics and Economics in the Queen City: The Cincinnati Story, 1996.

Center for Economic Education, University of Cincinnati, The Effects of the Construction, Operation and Financing of New Sports Stadia on Cincinnati Economic Growth, 1996

City of Chicago, The Economic Impact of a Major League Baseball Team on the Local Economy, 1986

Conway, Richard and Beyers, William, Seattle Mariners Baseball Club Economic Impact, 1994

Conway, Richard and Beyers, William, Seattle Seahawks Economic Impact, 1996

Coopers & Lybrand, Winnipeg Jets Hockey Club: Report of the Projected Economic Benefits of the Club's Operations, 1990

Deloitte & Touche, Economic Impact Study of a Major League Baseball Stadium and Franchise, 1993

Maryland Department of Economic & Employment Development, Economic and Fiscal Impacts of Baltimore Orioles' 1992 Season in Maryland, 1987

Mayer Hoffman McCann & Mid-America Regional Council, The Economic Impact of the Kansas City Chiefs and Kansas City Royals on the State of Missouri, 1989.

Melaniphy & Associates, Chicago Cubs Economic Impact Analysis, 1986.

Schaffer, William and Davidson, Lawrence, Economic Impact of The Falcons on Atlanta: 1972

Shaffer, William and Davidson, Lawrence, Economic Impact of the Falcons on Atlanta: 1984

Silverstein, Patricia, The Economic Impact of Major League Baseball in Denver, 1990

### **Accepted practices in economic impact studies**

The next step will be to outline some of the most widely accepted practices for conducting economic impact studies in an attempt to determine the extent to which the surveyed studies conform to these procedures. In general terms, economic impact analysis attempts to calculate the total economic impact of a policy or project by determining a net initial impact by subtracting any costs imposed by the project from its total initial or "first

round” benefits. This initial impact is then adjusted by a multiplier to arrive at the total economic impact. In a 1995 article, John Crompton, has concisely identified accepted practices in economic impact analysis by pointing out eleven frequently committed “misapplications”. This paper will analyse the credibility of the sample study by determining the extent to which the studies commit Crompton’s “misapplications”, all of which will inflate the estimated economic impact. Of Crompton’s eleven, five will not be extensively analysed in this study because they were violated in all of the studies. We will first deal with these misapplications.

We will first address two cost items. Crompton argues that studies should always attempt to explicitly account for all of the costs of the project, and also to include the opportunity costs of the subsidy. (Crompton, 1995, p. 31) The presence of a professional sports facility will inevitably impose costs on the surrounding region which should be accounted for in the initial impact assessment. For example, if a new stadium results in increased traffic congestion for a neighbourhood then this needs to be weighed against the benefits of the project. Opportunity cost, which is the value of the next best alternative, should also be explicitly calculated. This is necessary because the funds that were dedicated to the stadium may otherwise be spent on a convention center or highway construction. If a new stadium would generate \$100 million in economic benefits each year but a convention center would have generated \$200 million, the sacrifice of the convention center must be accounted for in evaluating the costs and benefits of the stadium. Crompton is quite correct in arguing that these elements should be included in a well crafted economic impact analysis. The fact that not one of the studies in our sample accounts for either costs or opportunity



costs will lead them to overstate the initial economic impact. However, since they do not explain the variation in the results they will not be discussed further in the paper.

Crompton also warns against the malleability of employment multipliers in estimating the number of full time jobs that a project will provide. The employment multiplier assumes that an increase in visitor spending will translate into a given number of jobs based on an assumption about full time pay rate. Crompton provides the example of a \$1 million dollar increase in tourist spending, which would create 81 full-time equivalent jobs. This is based on a full time job paying \$12,350 per year. (Crompton, 1995, p. 22) The main problem with this is that increased spending may not translate into increased employment, especially if labour is not fully utilized. It may be possible, for example, for existing labour to work harder, rather than hiring extra people. For our purposes, this is somewhat a moot point, as only a few of the studies in our sample calculated an employment impact, and therefore, we are much more concerned with the economic impact estimate.

Crompton also includes an argument by two other authors, Burns and Mules who claim that a public funding agency should not claim the full amount of economic benefit for projects that it has only partially funded. If the government only funds one third of the project, it should only claim one third of the benefit. Crompton, himself appears to be less than certain this is a valid critique since it assumes that two thirds of the project would have occurred in the absence of government funding, which is not necessarily the case. (Crompton, 1995, p. 30) Crompton's skepticism is very well placed. Indeed, it is surely a mark of efficient subsidization if a government can spend as little as possible while ensuring that a project goes ahead. If the goal is to ensure that a sports team remains in a city through

the construction of a new stadium, a government should not simply offer to fund the entire project, but should try to ascertain what minimum expenditure is required to keep the team. If the team would have left without the government subsidy, it seems valid for the government to claim the full economic benefits. Since this misapplication seems misplaced, it will not be further included in this study.

Crompton also argues for using an income as opposed to a sales multiplier. This is based on the seemingly incontestable assertion that local residents care about how a project will impact their personal incomes, not economic activity in a broader sense. Crompton quite correctly points out that using the larger sales multiplier can lead to spurious inferences about the income generating effects of a project. While Crompton's insistence that studies be very explicit about just what they are measuring is, of course, justified, his point about the inappropriateness of sales multipliers is perhaps more controversial. Crompton claims that a tourist dollar spent in the local economy can be respent on any one of three local alternatives: households, interindustry spending and government. Only the money that finally comes to rest in the coffers of households should of interest to the researcher. If one is only concerned about the impact of the project on household incomes, then by definition, this is correct. However, it seems possible for the local economy to be improved by increased flows of funds to both local government and businesses. Taking government as an example, if tax revenue is increased, this either means that households pay less tax for the same level of services or residents get access to more services. If more roads are repaired or libraries opened this would seem to be of some interest to local residents, even if their incomes have not changed. As long as it is very clear that the sales multiplier does not

represent an actual increase in household income there seems to be no reason to object to its use. All of the studies in our sample use overall economic impact. Crompton's sales multiplier, to measure the impact of the team. However, as long as the study refrains from making dubious inferences about income increases, this methodology is not inappropriate. Of course, this is a very different issue from artificial inflation of whatever multiplier the study chooses to use.

Of the remaining six misapplications, all of which are present in some of the studies in our sample but not in others, we will turn first to the controversy surrounding the choice of the appropriate multiplier, which encompasses three of Crompton's eleven item menu. The works cited in this study use two different techniques to determine a multiplier. Most of the studies use an economic base multiplier. The assumption behind this multiplier is that when an injection of money is made into the economy it is circulated again, increasing the economic impact of the initial spending. For example, when vacationers stop by a city to sample some of the cosmopolitan attractions, they will pay for a hotel room. This money is not then hoarded by the hotel, but is spent on such things as a laundry service, wages and groceries that further contribute to the local economy. The people that receive this money will then spend some of it on other local goods for yet another round of increased economic activity. During each of these rounds only a portion of the income received will be spent on the local economy, the rest is said to have "leaked out". If the hotel spends the initial money from the visitors on national sales tax, or imported wine then these are leakages and will not count in the next round of economic impact. What needs to be determined, for each round of spending, is the local marginal propensity to consume and the local tax rate. The reliance

of this multiplier on export base theory should be quite clear from the preceding description. Only additions (exports) from the local economy serve to increase economic activity and the growth in the region arising from the initial impact is dependent on how well the economy can create locally oriented jobs. (Vias & Mulligan, 1997, p. 959) Since economic impact is determined by taking the initial spending and expanding it by the multiplier, the author's choice of this one value can have a monumental impact on the bottom line.

The second method of determining a multiplier is through input-output analysis. In input-output analysis, the initial expenditure is adjusted to account for indirect spending on the inputs needed to supply the initial impact. In order to do this a fairly complex input-output table of the local economy is needed which attempts to model the production activity in the region. Crucially, the input-output table must be able to specify linkages between the different sectors of the region being studied. For example, if one were to determine the impact of building a new arena using the input-output technique, the initial construction impact would have to be adjusted to include the extent to which the construction industry purchases from the rest of the local economy. This would depend on such factors as the percentage of the materials used in construction were produced locally and the percentage of labour hired locally. The patterns of expenditure in these two sectors would then have to be considered in the next impact round. (Hefner, 1990, p. 7) The total economic impact of an initial expenditure is only arrived at once all of these linkages are exhausted.

For an input-output model, total output for each industry is assumed to be the sum of final demand sales and output destined as inputs into other sectors. So, for each industry:

$$X_i = \sum X_{ij} + Y_i$$

where  $X_i$  is the total output for each industry,  $i$ .  $X_{ij}$  is the output of industry  $i$  used as an input in other industries and  $Y_i$  is the output of industry  $i$  used to meet final demand. The crucial calculation for this equation is to determine how much of industry output is needed to meet the needs of other sectors.  $X_{ij}$  can be expressed as:

$$X_{ij} = a_{ij}X_j$$

where  $a_{ij}$  represents the amount of input  $i$  needed to increase the output of  $j$  by one unit and  $X_j$  is the output of  $j$ . Combining all of the industries we get the vector:

$$X = AX + Y$$

where  $A$  is a vector of all the coefficients representing the interdependence between industries. (Leiztritz and Murdock, 1981, p. 34) The researcher needs to estimate the coefficients that comprise  $A$  and the final demand for each industry.

There are two types of income multipliers applied to input-output models. The imaginatively termed Type I multiplier is the ratio of the direct and indirect income change to the direct income change that results from an increase in final demand in a specific sector. The direct effect is simply the increase in household income from an increase in final demand in the sector. The indirect effects also include the increase in household income from the interindustry effects that result from the initial industry's increase in final demand. The Type I multiplier, then, gives us the amount that household income will increase from a \$1 increase in any particular industry. What it does not include is the induced effects of that increase in household income when it is, in turn, spent again in the local economy.

The Type II multiplier goes further than the Type I multiplier by including the induced effects of household spending. So, the Type II multiplier is the ratio of direct,

indirect and induced income change to the direct income change due to an increase in final demand. This is done by making household demand endogenous in the model, allowing for successive rounds of consumer spending to increase demand in local industries, further increasing income. This can be done by expanding the industry matrix by one row and one column to include the household sector's interactions with other industries. This allows the direct, indirect and induced effects of a one dollar change in any industry to be listed in the household row of the matrix, allowing a determination of the overall effect on household income from an increase in the industry in question. It has also been demonstrated that there is a stable relationship between the Type I and II multipliers if the consumption function is assumed to be linear. (Richardson, 1972, p. 42) Therefore, it is possible to determine the Type II multiplier if the Type I is known, without resorting to the mathematically onerous task of expanding the matrix to include a household row and column.

The information requirements for an input-output multiplier would appear to be beyond the means of most researchers. Fortunately, the U.S. Department of Commerce maintains RIMS II, an input-output model for each state in the union. All four studies in this sample that use an input-output analysis make use of this model. Within each state, distinct multipliers are tabulated for each industry. The RIMS II multiplier is designed to take into consideration all of the leakages, taxes, imports and earnings through input-output coefficients applied to each industry. To use the RIMS II multiplier, the researcher must correctly determine the industry which accounts for the initial impact. Sporting events are included in the "hotels and lodgings places and amusements" industry. (Hefner, 1990, p. 8)

While the two types of economic impact study multipliers may seem quite different, and therefore, incompatible in the same study, this is not the case. Indeed, the export base multiplier can be usefully perceived as a disaggregated input-output multiplier. If industries are divided up into the export and local sectors, then there is equivalence between input-output and export base multipliers. (Merrifield, 1987, p. 653) While the use of the RIMS II input-output multiplier does eliminate one source of discretion from the study, the other problems identified by Crompton, and applied in this study, are still very much applicable. Indeed, with the exception of the choice of the multiplier, the methodology applied by those studies using the RIMS II input-output and economic base multipliers is identical. In both cases, the researcher must determine the initial impact onto which the multiplier is then applied. It is this determination of the initial impact in which all of the other "missapplications" arise. Therefore, it is valid to use both the studies that use economic base and RIMS II methodologies in the same study.

The size of the both input-output and export base multipliers depends crucially on the extent to which additional rounds of goods and services are purchased from the local economy. The larger the geographical area under consideration, the less leakage. A substantial amount of spending would be conducted within a nation, less within a state or province and less still within a city. Therefore in general, cities should have a lower multiplier than states or provinces. The multiplier also depends on the extent to which the demand for goods and services can be met by local firms. Therefore, regions with a diverse industrial base should have higher multipliers than areas heavily dependent on goods imported into the locality. Crompton argues that while reasonable estimates of the

appropriate multipliers are available for specific regions, even for specific industries within those regions, these are often ignored in favour of overly optimistic numbers. (Crompton, year, p. 29) It would be quite useful to determine the extent to which these studies have inflated their multipliers, thus overestimating the overall economic impact.

We will next address two problems that highlight the need to distinguish between gross and net impacts. Gross impacts do not account for money being substituted from one use to another, while net impacts attempt to count only funds that are genuinely additional. Crompton correctly insists that it is net rather than gross impacts that are appropriate since it is additional, rather than displaced money that increases economic activity in a region. The distinction between these two techniques is especially crucial given the importance of the calculation of the initial impact in the final benefit calculation. In these studies, the initial impact is expanded by the multiplier to get a final measure of total economic impact. The overestimation resulting from using gross rather than net figures is, therefore, exacerbated as the initially inflated figures are adjusted by the multiplier.

The first distinction between net and gross impacts revolves around the inclusion of local spending. Since only spending that would not have occurred in the absence of the sports team should be included as part of the initial economic impact, any spending that is merely transferred from one local business to another should not be included. It would seem highly plausible that much of the spending on sports teams by local citizens would be spent on other local entertainment options in the absence of a team. Local expenditures should only be included if season tickets are purchased instead of an out of town vacation, not if they substitute for tickets to the local theatre. While certainly some local expenditure is additional



in this sense. assuming that all local spending is not substituted from elsewhere in the local economy will clearly result in an overstatement of the initial impact. Indeed, Crompton correctly argues that only a very small portion of local spending is additional, and therefore, a safer assumption is to assume that no local spending represents an increase in economic activity. (Crompton, 1995, p. 26) This same principle should be used in dealing with any of the team's revenue sources. For example, national television revenue is additional, but local contracts are not if that money would have been spent on other local programs. Studies that insist on counting local expenditure as increasing local economic activity are undoubtedly inflating the impact of the team

Second, not all of those from outside the city attending the sporting event should be included as additional funds coming into the region as a result of the team. There is an important distinction between travellers drawn to town because of the sporting contest and those who are attending the contest simply because they are in the area. The latter group should not be included as additional money because they are in town for other purposes and would have spent money in the city anyway. The money they spent on tickets and concessions at the game would have likely been spent on another attraction. Certainly the amount spent on hotels and restaurants during their stay would have been spent in the absence of a sporting contest. Well formulated studies should, therefore, have some method of identifying visitors in town for the sporting event as opposed to "casuals" who would have made the trip regardless of the presence of the team.

The last of Crompton's "misapplications" that are relevant in this context is the temptation to use a different definition of the geographic area of interest for different aspects

of the analysis. It is advantageous to use a quite small area when defining locals and visitors so that as many spectators as possible are included in the latter category, making them eligible as increases in local economic activity. On the other hand, a large geographical area permits a larger economic impact since a larger multiplier can be used. Some studies have attempted to get the best of both worlds by using a small area when defining visitors and a larger area when applying the multiplier. For example, a study of the impact of the Commonwealth Games in Victoria, British Columbia, considered people from outside the city to be a tourist but used the whole province to measure the economic impact of the games. (Crompton, 1995, p. 24) Altering the geographic area of interest in this fashion is a serious flaw in the analysis, again, used to inflate the economic impact.

This section should have provided the reader with some idea of how economic impact studies can diverge from accepted practice. As indicated in this section we cannot test all of Crompton's misapplications in the following meta analysis. We are limited to examining those problems that have been addressed in some studies but not in others. However, this does not mean that problems like omitting opportunity costs are not important, it is simply a reflection of the information available in the studies obtained. The next section of the analysis will attempt to determine the extent to which these problems have contributed to variations in economic impact estimates among the studies in the sample.

### **Analysis of the studies**

The variances in all of the studies are listed in table 8-2. Note that there is often more than one economic impact for each study because in several studies the authors published

**Table 8-2  
Economic Impact Studies**

<b>Study</b>	<b>Geographical Region</b>	<b>Team(s)</b>	<b>Sport</b>	<b>Impact (\$1983) millions</b>
Mayer Hoffman McCann - Gross	Kansas City	Royals & Chiefs	MLB & NFL	200.92
Mayer Hoffman McCann - Net	Kansas City	Royals & Chiefs	MLB & NFL	164.91
Gov't of Maryland	Maryland	Orioles	MLB	161.42
C.E.E	Cincinnati	Reds and Bengals	MLB & NFL	161.11
Deloitte & Touche - State	Arizona	Devil Rays	MLB	159.72
Deloitte & Touche - City	Phoenix	Devil Rays	MLB	112.51
City of Chicago - State, New Park	Illinois	Cubs	MLB	104.67
City of Chicago - City, New Park	Chicago	Cubs	MLB	87.85
City of Chicago - State, Old Park	Illinois	Cubs	MLB	86.91
Melaniphy & Associates	Chicago	Cubs	MLB	84.76
City of Chicago - City, Old Park	Chicago	Cubs	MLB	72.89
Silverstein - Gross	Denver	Rockies	MLB	69.61
Blair & Swindel	Cincinnati	Reds and Bengals	MLB & NFL	64.75
Conway & Beyers	Washington State	Seahawks	NFL	43.88
Schaffer and Davidson 1984	Atlanta	Falcons	NFL	36.01
Coopers & Lybrand	Winnipeg	Jets	NHL	31.92
Schaffer & Davidson 1972	Atlanta	Falcons	NFL	31.81
Conway & Beyers	Washington State	Mariners	MLB	29.79
Silverstein - Net	Denver	Rockies	MLB	29.54

different conclusions based on differing study areas or assumptions. For example, the City of Chicago study on the Cubs estimated impacts at the state and city level, with and without a newly constructed park. Earlier, this study alluded to the fact that twelve of the thirteen studies were financed by groups with a vested interest in demonstrating the import of the subject team to the local economy. Despite the lack of difference in motivation, there is certainly variation in results. While some of the contrasting conclusions can clearly be attributed to acceptable differences in the case studies, much of the variation could be due to differences in methodology. The acceptable differences should be readily apparent from a cursory examination of table 8-2. There are differences in the number of teams being studied, the sport being played and the geographical region in question, which should all lead to different economic impacts. This makes it difficult to make an immediate comparison between many of the studies since the Jets should have a different impact on Winnipeg than the Chiefs and Royals combined in Kansas City.

However, what is equally obvious is the tremendous differences between studies that examine the same sport and similar regions. The C.E.E. and the Blair & Swindel studies investigate the exact same teams in the exact same cities, yet they have arrived at estimates that are remarkably far apart. The divergence in studies that only focus on baseball team's impact on a state is also worth noting. The four studies in table 8-3 should have less variance than the whole sample because they are all on teams in the same sport and are all at a state wide level.

**Table 8-3**  
**Economic Impact Studies of Baseball Teams on a State**

<b>Study</b>	<b>Geographical Region</b>	<b>Team(s)</b>	<b>Sport</b>	<b>Impact (\$1983) millions</b>
Gov't of Maryland	Maryland	Orioles	MLB	161.42
Deloitte & Touche - State	Arizona	Devil Rays	MLB	159.72
City of Chicago - State. New Park	Illinois	Cubs	MLB	104.67
Conway & Beyers	Washington State	Mariners	MLB	29.79

While two of the studies predict a similar impact, there can be little question that tremendous variation remains between studies which should yield quite similar results. The most optimistic assessment was the Department of Economic and Community Development study, conducted to determine the economic impact of the Baltimore Orioles in their new Camden Yards home. They estimated that the team contributed \$161 million dollars (1983 constant) to the state of Maryland in 1992. At the other end of the spectrum, a study on the economic impact of the Seattle Mariners on the state of Washington, arrived at the much more modest figure of \$30 million (1983 constant), less than one fifth of the Maryland estimate. Despite these widely disparate numbers, both authors were able to reach the similar conclusions about the value of the franchises to their respective states. In the executive summary of the Maryland study, the authors argue that, "The Orioles' 1992 home season generated substantial economic and fiscal impacts in the City of Baltimore and the State of Maryland." (Maryland, 1992, p. 1) Despite their much lower dollar figure, the study on the Mariners claims, in its very first sentence, that the team "make(s) a contribution to the Washington

State, King County and City of Seattle economies.” (Conway and Beyers, 1994, p. 1) The remainder of this section will start to determine what accounts for these differences and which of the studies follow the accepted economic impact study practices.

We will first make a preliminary examination of the extent to which these studies suffer from Crompton’s misapplications. The first column in table 8-4 shows the multiplier that was used in converting the direct into the total economic impact. It is impossible to make a blanket statement about what the multiplier of cities and states should be, since this would depend on the structure of the economy in question. However, having said this, some of the multipliers used in these studies are clearly exaggerated. Four of the thirteen studies have used multipliers of 2.5 or over which is most probably an overestimation, especially considering that Crompton cites a University of Missouri paper which claims that ninety to ninety-five percent of United States county multipliers fall between 1.4 and 1.8. (Crompton, 1995, p. 29) The Conway and Beyers study used the RIMS II multiplier, eliminating that element of discretion from their study. It is worth noting that this multiplier is at the very low end of the spectrum in the sample, at 1.5 for the state of Washington. It is also remarkable that all of the studies with multipliers of over 2.5 are studying the impact on cities, not on states. In fact, the studies conducted on states, such as the Maryland study and those by Conway and Beyers have been much more conservative in their multiplier estimates.

As table 8-4 clearly shows, the vast majority of the studies use gross rather than net figures. As discussed earlier, using net figures is the correct methodology. In table 8-4, this is captured by the middle two columns entitled “locals included” and “casuals included”. Both of these items are designed to capture whether the study is only including additional

**Table 8-4**  
**Analysis of Economic Impact Studies**

<b>Study</b>	<b>Multiplier</b>	<b>Locals Included</b>	<b>Casuals Included</b>	<b>Area Shifting</b>
Mayer Hoffman McCann <sup>1</sup> - Gross	2.9	yes	yes	no
Mayer Hoffman McCann <sup>1</sup> - Net	2.9	no	yes	no
Gov't of Maryland	1.9	yes	yes	no
C.E.E	1.7	yes	no	yes
Deloitte & Touche - State	1.9	yes	yes	no
Deloitte & Touche - City	1.6	yes	yes	no
City of Chicago - State, New Park	2	yes	yes	no
City of Chicago - City, New Park	1.7	yes	yes	no
City of Chicago - State, Old Park	2	yes	yes	no
Melaniphy & Associates	3.3	yes	yes	no
City of Chicago - City, Old Park	1.7	yes	yes	no
Silverstein <sup>1</sup> - Gross	2	yes	yes	no
Blair and Swindel	1.7	no	no	no
Conway & Beyers-Seahawks	1.5	no	yes	no
Schaffer and Davidson 1984	2.1	yes	no	no
Coopers and Lybrand	2.5	yes	yes	yes
Schaffer and Davidson 1972	3.3	no	yes	no
Conway & Beyers-Mariners	1.5	no	yes	no
Silverstein <sup>1</sup> - Net	2	no	no	no

<sup>1</sup> Both of these studies cite gross figures and "new" money, which is more appropriate, but do so in a manner that emphasizes that the gross figure is the economic impact of the team.

money. The "locals included" column indicates whether the study has included local revenue

sources as part of economic impact. A "yes" will appear in this column if locals are included. As discussed in the previous section, this indicates that gross impacts are being used since most local spending is probably diverted from other local businesses. As can be seen from table 8-4, most of the estimates in the sample (13 of 19) do include local spending as part of economic impact. When no distinction is being made between genuine additional impact and money that would have been spent in the local economy anyway, it is very unlikely that the authors will attempt to separate tourists into those primarily in town for the game (casuals) and those who would have been visiting the city anyway. If a study made an attempt to determine whether the number of out-of-town spectators were genuine additions to the tourist population, then a "no" will appear in the "casuals included" column. Table 8-4 shows that these economic impact studies were only rarely interested in making this distinction. Again, this demonstrates that many of these studies have overstated the impact of the team.

It is worth noting that all of the studies in the top half of the table, that is with the highest economic impacts, use gross rather than net numbers, and are therefore overstating the benefits of the team. Interestingly, many of these studies made little effort to justify their use of gross rather than net impacts. For example, the study by Deloitte-Touche for the Arizona Office of Sports Development is content with stating that, "A gross expenditures and economic multiplier approach was used in conducting this study, which is the most widely accepted approach in conducting these types of studies." (Deloitte & Touche, 1993, p. 6) While table 8-4 does show that this approach is the most widely used, most economists would argue that it should not be accepted.



The only area in which these studies followed widely accepted economic impact practices was in their commendable refusal to fluctuate their area of study. This is captured in the last column "Area Shifting". A "yes" in this column indicates that the study has altered the area of interest for different aspects of the study and as a result has overestimated the economic impact. Only two of the studies in the sample are guilty of this error.

What is perhaps somewhat alarming is that of the fourteen studies in this sample, only the Blair and Swindel study can claim to have followed recommended practice in all four of the criteria. Their study has a much lower economic impact than most of the other studies, concluding that the Reds and Bengals combined only contribute \$98 million dollars in 1996 (\$64 million in 1983 constant dollars). While Silverstein did follow accepted methodology in estimating the net impact of the Colorado Rockies, the gross number was presented as the more plausible estimate of the team's economic impact. In line with our contention that economic impact studies funded by pro subsidy lobby groups are overestimated in order to encourage the voting public to accept the transfer, it is worth noting that this is the only study in the sample conducted by a researcher without funding from the team or government. All of the rest of the studies have, to a greater or lesser extent, violated the practices that should be followed in conducting a sound economic impact evaluation. The next section will attempt to use a more rigorous empirical technique to analyze these studies.

### **Meta analysis**

This study will use the technique of meta analysis in conducting a survey of several

economic impact studies on professional sports franchises. While meta analysis has yet to see widespread use in economics it is well established in other social sciences as a statistical approach to literature surveys. Meta analysis is an empirical method of reviewing a number of studies in which the data points in a regression are the surveys themselves, as opposed to individual observations. Regressions are used to determine the causes of variation in study results by using the differing methodologies, data sets and assumptions as explanatory variables. While, as in all empirical work, the formulation of the model allows for considerable discretion on the part of the researcher, proponents of this method argue that it leaves less to the individual perception of the author than more traditional methods of literature surveys. Given economists' obsession with empirical rigour it is perhaps surprising that this technique has not been more quickly embraced.

The purpose of this section of the study is to outline the specific regression model to be used. This regression will hopefully be able to determine whether the variation in economic impacts of the different studies is due to legitimate differences between studies or due to the use of the unacceptable techniques discussed in the previous section. The regression will be performed on the following model:

$$VAL = a_0 + a_1FOOTBALL + a_2BASEBALL + a_3REGION + a_4STAD + a_5MULT + a_6LOCAL + a_7SWITCH + a_8SHIFT$$

The dependent variable in the regression is the study's final assessment of the team's economic impact in constant dollars. Football and baseball are dummy variables set to capture the differences in economic impact between sports. There are three sports included

in the studies surveyed and so if the survey studies football or baseball, the dummy variable will be set to one. Football and baseball are expected to have a larger impact than hockey. The NFL plays only a few games each season, but generates significant revenues from national television broadcasts and merchandising. Baseball, while not so well supported by the national media compared to the NFL, plays a 162 game season, twice that of NHL teams, in larger stadia than have yet been constructed for hockey.

REGION is designed to capture the understandable difference in impact of differing geographical areas. If the region being studied is a city, the dummy variable is set to one. For a state or province, the variable is set to zero. If the area being measured is a state as opposed to a city, a higher multiplier can be justifiably applied. However, using the larger area also means that the initial impact should be smaller since the local area is expanded, reducing the number of revenue sources that can be defined as additional.

STAD accounts for the fact that a team's economic impact is, to a certain extent, dependent on the facility in which they play. The positive sign indicates that teams playing in new stadiums and arenas attract fans who want to experience the state-of-the-art facility's stunning architecture, unobstructed sightlines, and overpriced concessions, and thus should be expected to have a larger impact than those playing in older facilities. Of course, as the tenants of the once state-of-the-art Skydome in Toronto are finding out, curiosity is soon sated and attendance tends to fall back to its historical average. In an early study on attendance and pricing, Roger Noll set about to estimate the determinates of fan attendance in the four major leagues. One of the explanatory variables used by Noll was the age of the stadium. He found that in baseball attendance will rise immediately after the construction

of a new stadium but then decline steadily, until after a decade, it has reverted back to the historical average. (Noll, 1975, p.124) However, Noll found little support for the claims that new facilities could dramatically improve attendance in other sports. The variable is set to one if the team played in a stadium that was constructed in the ten years prior to the impact study and 0 if they played in an older park.

MULT is designed to capture the crucial estimation of the multiplier in the study. The positive sign demonstrates the hopefully obvious fact that a larger multiplier should result in a higher economic impact. The real question is whether or not the multiplier chosen is artificially inflated. It is entirely plausible for a state to have a higher multiplier than a city, and this would be a completely acceptable difference in the sample studies. However, as was pointed out earlier, in this sample states do not have higher multipliers than cities, in fact, it is the cities that have a higher multiplier than the states. Therefore, variations in multipliers cannot be considered acceptable differences between the studies.

LOCAL captures whether the study has made an attempt to distinguish between revenue sources. As mentioned in the previous section it is crucial to distinguish between funds generated inside the local area, which are likely to be displaced from spending on other local goods and money from outside the area which is genuinely additional. For example, while a team's share of national television revenue is genuinely additional, spending by local fans is not. This variable is set to 1 if local spending is included and 0 if only revenue from outside the area is used.

SWITCH captures a difficulty in including all visitor spending. Only visitors that are drawn to town because of the sports team should be included in calculating additional

impact. Surveys should always include a question like “what is your reason for coming to Nantucket?”. SWITCH will be set to 1 for studies that do not attempt to distinguish between visitors and 0 for those that do.

SHIFT accounts for the practice of shifting the geographical area between determining revenue sources and applying the multiplier. Obviously, a thoughtful study should maintain a consistent region, but this is not always the case. SHIFT is set to 1 for studies that shift boundaries and 0 for those that remain constant.

As we have already seen, the last three variables are not acceptable causes of variation. If all of these studies were conducted according to accepted economic impact study practices, the LOCAL, SWITCH AND SHIFT variables would all be set to zero.

### **Empirical results**

The question that this regression is attempting to answer is determine the extent to which the misapplications cited in the previous sections are significant in explaining the variation in the economic impacts of the studies. As was mentioned earlier, the number of observations in the regression is slightly larger than the number of studies because a few of the studies presented different economic impacts for different assumptions or areas of study. For example, the study by the City of Chicago offered different impacts for state and local areas and based on whether a new stadium was constructed. For studies that have done this, each economic impact number is a separate observation connected to the specific estimates and assumptions used to arrive at the estimate. There are 19 observations in the regression.

In running any cross sectional regression, the empiricist should be vigilant for potential heteroskedasticity. The White test is the most general and currently, the most widely used, test for detecting this potential empirical entanglement. Unfortunately, with the small sample size in this study the White test is impractical since it involves regressing the squared residuals on the independent variables, their squares and their cross multiples. With this many independent variables, the sample size in this study is simply not large enough to produce reliable results. (Gujarati, 1988, p.380) As an alternative test, more amenable to the small sample size, the Spearman's rank correlation test was used. This test first ranks the absolute values of the residuals with the variable, dependent or independent, to be tested. Using this data the Spearman's rank correlation coefficient can be calculated in the following manner:

$$r_s = 1 - 6[\sum d_i^2 / n(n^2 - 1)]$$

where  $d_i$  is the difference in the ranks assigned to each cross-section and  $n$  is the number of cross-sections. Using the  $t$  test the  $r_s$  can be tested for significance. If the  $t$  test is above the critical value, we can consider heteroskedasticity to be present. (Gujarati, 1988, p. 373) Applying this test to each of the variables it was found that heteroskedasticity was present between the residual and dependent variable. To correct for this problem, Shazam's hetcov option was used to perform White's Heteroskedastic-Consistent Covariance matrix estimation. The results are presented below.

VAL = - .65 + .77 FOOT - .88 BASE - .37 REGION + .4 STAD - .11 MULT - .38 LOCAL - .41 SWITCH + .10 SHIFT  
                   (6.2)           (7.0)           (-1.9)           (0.9)           (1.3)           (3.5)           (3.4)           (0.7)

$R^2$  -adjusted .69

F-stat 5.9

The model seems to perform reasonably well. The adjusted  $R^2$  of .70 indicates that much of the variation in the dependent variable can be attributed to the explanatory variables. The F-statistic of 5.9 is safely above the boundary levels for the F-distribution at both the 5% and 1% confidence levels of 3.07 and 5.06 respectively.

Turning to an analysis of the individual variables. The numbers in brackets are the t-statistics for the explanatory variables. The coefficients of the variables represent millions of dollars. Individually, it appears as though studies on football and baseball teams claim a substantially larger impact than hockey. Baseball's larger positive coefficient relative to football also suggests that the larger number of fans attracted to baseball creates larger impact numbers in their studies than those on football. Whether the study area was a city or state is significant at the 10% level. The negative coefficient indicates that state level studies increase the economic impact by 37 million dollars. There seems to be no significant connection between whether a team is playing in a new stadium and the studies' estimation of economic impact.

Of more concern to this study is the significance of the last four variables. The inclusion of local spending was both positive and significant at the 5% level. The coefficient indicates that including local spending increases the economic impact by a rather substantial 38 million dollars. Neglecting to distinguish visitors in town for the expressed purpose of the sporting contest from the rest of the tourist population attending the game is also significant at the 5% level. SWITCH has the predicted positive sign and the coefficient shows that not distinguishing between the two types of tourists increases the size of final economic impact estimate by 41 million dollars. This is important for those attempting to

determine the validity of these studies as these two variables appear to positively influence the final estimate. Surprisingly, the MULT variable was insignificant, indicating that much more of the variation between the studies is accounted for by the decision to use gross or net impacts than the choice of the size of the multiplier. The SHIFT variable was insignificant.

This section analysed one of the most important aspects of the subsidization debate. Economic impact assessments are used by the pro transfer lobby in an effort to demonstrate that the team has a major economic impact on the city. The purpose of this chapter was to determine to what extent these studies are realistic reflections of the impact of the team or whether they have taken advantage of the amount of discretion required in economic impact analysis to manipulate the results. Somewhat disappointingly, many of the studies violated what Crompton has identified as acceptable practices in conducting these studies, tending to use methodologies that would inflate the economic impact of the sports team in question. The most common violation was using gross rather than net impacts, but several studies have also used inflated multipliers and a few have even shifted the area of study to increase the impact. The meta-analysis of these studies demonstrates that differences over the decision to use gross or net impacts are the most significant causes of the rather large variation in impacts between the studies in the sample.

This is crucially important to the pro transfer lobbying effort because the economic impact of the few highly paid athletes and several lowly vendors employed by most professional teams is hardly readily apparent to the public. Therefore, teams must establish that they have an impact well beyond their meager employment figures. Fortunately for those in favour of the subsidy, economic impact studies have been, with varying degrees of



credibility. able to do just that by arguing that professional sports teams substantially increase the level of economic activity in the region. They, therefore, play an important role in convincing voters that the team does indeed have a sizeable economic impact. In fact, it may be possible that one of the reasons sports teams have been successful in their lobbying activities is that they have been able to show that they are an important economic engine for the region.

## Conclusion

In the unlikely event that the main purpose of this study has thus far escaped the reader, it has been to develop an explanation for the increasing prevalence of subsidies to professional sports franchises. In an effort to do this, two previously developed explanations for transfers from the public to private sectors were examined and found wanting.

The first was the idea that professional sports teams constitute a positive externality. The proponents of sports subsidization argue vociferously that teams help to create economic growth in a region by acting as a magnet for businesses and workers. This helps other local businesses, but the sports team is not compensated for these benefits. If this is the case then subsidies from the public sector are justified. While this is certainly a well respected theoretical justification for transfers from the public to the private sector, empirical testing, both in this work and previous efforts, provide little evidence that sports teams should be viewed in this light. If sports teams are not a positive externality, then there must be another explanation for their ability to capture transfers.

One, quite promising, theory that purports to explain public to private sector transfers is interest group theory. Broadly speaking, interest group theory claims that transfers and regulations can be explained by the efficiency and motivation of different lobby groups. While this explanation does have, at first glance, some explanatory power it also seems to have a fairly important shortcoming. While public choice theorists' failure to incorporate what Marxists would term "the power of capital" is understandable given their desire to distance themselves and their theories from any radical taint, it does somewhat weaken their theory. By ignoring the power of the decision of investment to sway government decisions

and public opinion, interest group theory is left with competing interest groups vying for transfers by delivering votes or providing money. This is a carefully constructed theory, in which no specific interest group, be they unions, farmers or the Fraser Institute, have an inherent advantage in seeking transfers from the state. Instead, transfers are dependent on the costs and benefits to the interest group lobbying for the transfer. While this is intuitively appealing and, indeed, at first glance explains many of the trends in the sports case study, it fails to account for the threat used to extract the subsidy - relocation of the franchise. All businesses will seek to operate in the most profitable location and differing government transfers, both positive and negative, will impact profitability. Therefore, there is considerable pressure on governments to create a climate favourable to investment by avoiding negative and granting profitable transfers. It is this inherent advantage, available only to firms and their lobby groups, that this model seeks to incorporate into interest group theory.

The model developed in this study borrows wholeheartedly from much of interest group theory by permitting manipulation of public opinion through spending on information and assuming that the government maximizes its utility by getting reelected. However, it improves the theory by making the willingness of the public to grant a transfer dependent on the credibility of the interest group's threats of reducing its investment through relocation or shutdown. In this model, firms that can be much more profitable in alternative locations are quite likely to garner considerable public support for a transfer, without having to spend tremendous sums of money to sway public opinion.

The revision of interest group theory does appear to wield more explanatory power

than models that omit the power of investment. Our limited sample of teams that had recently been offered subsidies seems to demonstrate a link between profitability and the ability to attract a transfer, an important implication of the revised theory. It also allows us to usefully explain several other trends in the sports subsidization issue. First it can explain the difference between the trends in Europe and North America. Second, it accounts the owners' tactic of actively hustling subsidy bids from other cities. Third, it also reveals the importance of economic impact studies in creating public sympathy for the transfer.

It is also just possible that the theory developed in this work could be applicable beyond the sports case study analyzed here. It would be quite beneficial to expand on the work in this study to determine the extent to which it can be applied to other issues that involves firms vying for a positive (or attempting to avoid a negative) transfer. As a test of the sports subsidization case it appears quite useful, but the true test of any theory is whether it can stand up to repeated testing and scrutiny.

It should be made abundantly clear that this model does not imply that industries or firms continually get what they want from the state. It merely implies that the greater the threat of relocation or shut down the greater the public sympathy to the transfer. In a situation in which the government is concerned not with the wealth of its members but reelection, public sentiment can translate into government policy.

## APPENDIX

### Sources of data

#### United States

City Taxation	City Government Finances. U.S. Bureau of Census. from U.S. Statistical Abstract.
State Taxation	State Tax Collections. U.S. Bureau of Census. from U.S. Statistical Abstract
Enrolment	Institutions of Higher Education - Numbers and Enrolment of Students. Digest of Education Statistics. U.S. National Center for Education Statistics. from U.S. Statistical Abstract
Electricity	Average Price of Energy in Selected Metropolitan Areas. CPI Detailed Report. U.S. Bureau of Labor Statistics. Prices for cities discontinued in the sample from the cost of living price index.
Wages and Salaries	Regional Economic Information System
City Income	Regional Economic Information System
Employment	Regional Economic Information System
Population	Regional Economic Information System
Total Personal Income	Regional Economic Information System

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