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# Economic Development Incentive Wars

## What influence do State and Local Economic Development incentives have on the location decisions of firms?

Chris Lockie

**ABSTRACT.** State and local policymakers throughout the country experience tremendous pressure from their constituents to create policy tools that spur job growth and reduce unemployment in their jurisdictions. One tool that has been viewed by policymakers as useful in stimulating job growth and reducing unemployment has been economic development incentives. Despite this view, there has been growing concern over the cost effectiveness of these incentives. This paper provides a comprehensive discussion of the issues surrounding economic development incentives and evidence from four different methods of study as to the influence incentives have had on employment growth in states and counties throughout the United States.

### **I. Introduction**

“Now we are engaged in a great civil war, testing whether that nation or any nation so conceived and so dedicated can long endure” [Lincoln, in Bartlett, 1980, 523]. This quote from Abraham Lincoln in his famous Gettysburg Address described a nation deeply involved in a civil war over slavery and state’s rights. While the days of the “Great Civil War” are long passed, states are engaged in a whole new war today, not over slavery and state’s rights, but over economic development and job creation. This New Civil War, as Douglas Watson describes it, is the competition between states for businesses and jobs [1995, x]. While this competition isn’t the blood bath of the 1860’s, it has been described as every bit as fierce [Buss, 2001, 90; Burstein, 1995, 1; Bartik, 1995, 1, Watson, 1995, 7]. The weapons used in this battle among the states are large incentive packages that states have provided to businesses. 250, 720, and 600 million dollars have been just some of the totals of incentive packages given to businesses in the last two decades [Burstein, 1995, 1; Wilcox, 1999, 1]. In 1993, Alabama provided an incentive package of \$168,000 per new job to attract a Mercedes-Benz plant to Vance, Alabama [Bartik, 1995, 1]. This is just one example of a trend we are

witnessing between states as they compete for businesses, which has been described as the “rule rather than the exception” [Burstein, 1995, 1].

State and local officials buy into this competition because they have experienced a great deal of public pressure to find ways to create economic development<sup>1</sup> in the form of jobs. These jobs are desirable from the public’s point of view because of the benefits communities receive from the creation of new jobs. Beaumont and Hovey in the Council of State Government’s report describes these benefits in this way: “that state and local governments compete for business is not surprising because there are many favorable impacts of job growth in a community. Land values, newspaper circulation, retail sales, and service business all increase when a state or local economy expands” [in Wilson, 23]. It also lowers unemployment, creates higher wages, and increases state or local tax revenues. Policymakers use incentives as a visible sign of efforts to create jobs or reduce unemployment in their jurisdictions. This is important because jobs can mean votes and reelection.

While incentives have been viewed by the public as an indication of policymakers’ commitment to improving their community’s economies, public criticism and concern over the magnitude and abundance of these incentives has risen. Waits and Heffernon say that the political risk of using incentives has risen because voters have begun to question the wisdom of giving millions of tax dollars to corporations while public services are being cut [1994, 1]. The skepticism over economic development incentives has led many to call for reform or elimination of these incentives. While this may in fact be in order, judgments regarding these incentives may be premature until a proper analysis of these incentives can be conducted. Fortunately, much work has already been done in trying to determine the influence incentives have on the location decisions of firms. This paper reviews this work, as scholars and economic development professionals have attempted to determine the effectiveness of using incentives as an engine for state and local employment growth. Through this review, we can begin to understand how beneficial or costly this “Civil War” between the states really is. To better understand the context of the issues surrounding economic development incentives, some background on what these incentives are and how they have evolved is necessary.

## **II. Background**

Economic Development Incentives can be described as any policy that provides direct assistance to businesses [Bartik, 1991, 3]. The Corporation for Enterprise Development breaks these incentives into two categories: tax and non-tax incentives [2002, 1-2]. Tax incentives are designed to reduce business costs by lowering the tax burden on the business in the form of tax exemptions or credits, while non-tax incentives are also designed to reduce business costs but through grants of money, programs, or projects. Fisher and Peters in their article in the *New England Review* divide these two types of incentives into five classes:

- A. One-time deals negotiated with a specific firm, such as a property tax exemption.
- B. Grants and loans provided under programs that receive annual state appropriations, where a firm must apply for funding.
- C. Programs with established parameters and limits but with some degree of local government discretion allowed. This would include property tax abatements<sup>2</sup> in some places and tax increment financing districts<sup>3</sup>. These programs require no explicit funding, and so have no annual limits statewide.
- D. Tax incentives that function as entitlements: investment tax credits under the state corporate income tax, and local property tax abatements in many places. Here the firm receives the benefit automatically, provided the investment is in an eligible sector and the size of the investment or number of new jobs exceeds some threshold. There may be geographic targeting: enterprise zones<sup>4</sup> are the major example.
- E. Features of the tax code that apply to every corporation, but benefit some more than others and are often advertised by economic development agencies as reasons to locate in that state. Examples are single-factor apportionment, exemption of inventories from property taxation, and exemption of fuel and utilities from the sales tax. [Fisher and Peters, 1997, 110]

The range of incentives provided today is an indication of the importance states have placed on attracting businesses to their states. In the example of the Alabama incentive package given to Mercedes-Benz, \$112 million

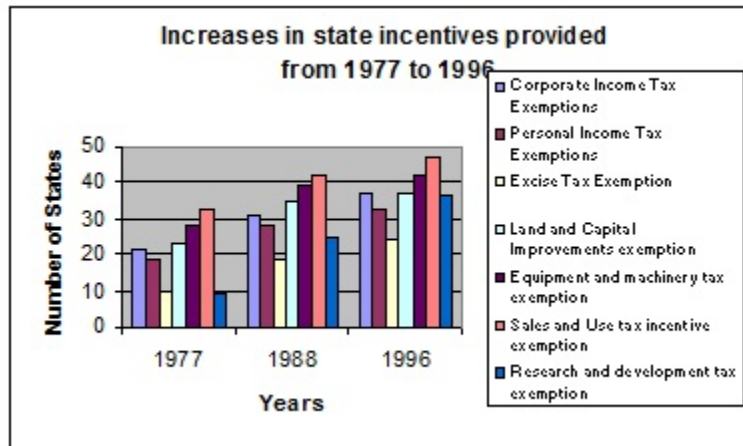
was given in infrastructure improvements, \$30 million to build a training facility, \$60 million for training, \$8.7 million for tax abatements on machinery and construction materials, and \$39 million in other incentives [Fisher and Peters, 1998, 2]. This is just one example throughout the country where businesses have benefited from large, multi-incentive packages.

While many believe state and local financial assistance is a fairly recent phenomenon, this couldn't be further from the truth. State financial assistance to businesses actually has its roots in the 17<sup>th</sup> century when the State of Massachusetts in 1640 granted the first business incentive in the country [Wilson, 1989, 29]. In 1791, New Jersey granted the first tax exemption to a manufacturing company owned by Alexander Hamilton [Wilson, 1989, 2]. This trend continued through the early 19<sup>th</sup> century, and as a result, by 1844 Pennsylvania had invested over 100 million dollars and had placed directors on the boards of over 150 corporations [Wilson, 1989, 2]. Pennsylvania became the leading example of public investment in private enterprises at that time. This was to be short-lived, though, as graft and corruption was discovered in many of the state's ventures, which led to the enactment of a state law to limit such activities [Watson, 1995, 11]. This development became a signal to other states and cities to avoid these types of activities, but it was not long before incentives emerged once again in response to the massive economic crisis of the Great Depression.

During the Great Depression, Southern states devised new and aggressive industrial recruitment strategies that expanded financial assistance to business [Wilson, 1989, 2]. Mississippi took the lead in these incentives in 1936 with its adoption of the "Balance Agriculture with Industry" program that used tax-exempt bonds to reduce the capital costs associated with the construction of new plants [Wilson, 1989, 2; Fisher, 1998, 5]. Just as incentives were beginning to become more prevalent, the emergence of World War II curtailed much of the growth in the use of financial assistance programs as the nation focused on the war effort. This trend picked up again in the 1950's and 60's [Wilson, 1989, 2]. In 1949, Maine authorized the first statewide business development corporation, and by 1963, 31 states had such entities [Wilson, 1989, 2]. Despite widespread growth of incentive programs during the 50's and 60's, the real explosion of business incentives began in the 1970's. As a result of recession and the employment crisis in the seventies and eighties, there was an explosive growth in state and local

governments' use of economic development incentives. Graph 1 shows the growth of state tax incentives from 1977 to 1996.

Graph 1



Source: Wilson, 1989, 5; Buss, 2001, 92

As early as the eighties, every state offered some form of tax and financial incentive [Wilson, 3]. The growth witnessed from 1977 to 1996 was not only in incentives, but also in the number of professional and economic development organizations established during that time. Today, every state in the union and nearly every large city in the country have established an economic development department or a public-private partnership with the mission of economic development [Watson, 1995, 2]. This trend would suggest that city and state officials believe that these economic development departments or partnerships are necessary to stimulate job growth and development through their use of incentives. While this may or may not be the case, several arguments can be made for and against the use of these incentives.

### III. Arguments

Michael J. Wolkoff offers two primary rationales for why state and local governments offer economic development incentives: (1) to encourage investment within their communities and (2) to forestall other

jurisdictions' attempts to lure away their economic base [1990, 30]. These two arguments have led to incentives focused on attracting businesses as well as incentives designed to help existing businesses. The first argument is justified by the idea that capital markets are not always efficient. Proponents feel that governments need to be involved in the private capital markets in order to correct market imperfections and redistribute investment and jobs to depressed areas. Watson explains it in this way:

In the market's failure to distribute its bounty equitably, we find justification for an active role by local governments in economic development. Economic Development efforts are aimed at creating jobs, retaining present jobs, and generating additional taxes in communities that result in stable local economies. If the market does not create jobs or taxes without assistance from local governments, officials justify using public resources to do so. [Watson, 1995, 4]

Public officials believe providing public resources to businesses will lower businesses' start-up or relocation costs, which will in turn lead a business to locate in that community or state. Wolkoff argues that "for marginal projects or developers with little track record, the availability of public financing can make a project viable" [in Bingham, 1990, 31]. Bartik in his book *Who Benefits from State and Local Economic Development Policies?* presented arguments that state and local economic development policies can improve capital market imperfections by positively influencing local growth, labor markets, and the poor by redistributing economic activity towards depressed areas if used more extensively by those areas. He describes it in this way:

The net national benefits of increasing job growth in one local area and reducing job growth in other areas thus depend on the relative unemployment rate of the local area that enjoys increased job growth. If the area has a higher-than-average unemployment rate, the benefits of reducing unemployment in that local area are likely to exceed the costs that result from increasing unemployment in other areas [Bartik, 1991, 192]

He believes this does in fact happen because “while available evidence is scant, it indicates that the most needy jurisdictions play the economic development game the most” [Bartik, 194].

Others argue that incentives are necessary to attract or retain investment in the United States due to the increase in industrial mobility. The increase in industrial mobility has expanded the competition for job creation beyond just competition between states to competition with countries around the world. As a result, foreign investment in the United States has become more prevalent, causing state and city officials to feel immense pressure to provide incentives that attract this investment to their jurisdictions. Also, state and local policymakers have had to use incentives to prevent domestic firms from fleeing to underdeveloped countries where they can take advantage of cost savings on labor or other things. The retention of businesses then becomes a primary rationale for providing incentives.

State and local officials claim that “without incentive programs, some jurisdictions would be at a competitive disadvantage to those jurisdictions that offer public financing” [Wolkoff, in Bingham, 1990, 31]. This is due to the fact that companies have come to expect an incentive as part of their standard business package [Corporation for Enterprise Development, 2002, 5]. These expectations force states and cities to provide incentives in order to appear to be business friendly in the presence of competition with other jurisdictions. James Rogers argues that this structure of state incentives is “akin to the so-called ‘prisoner’s dilemma’” [2000, 431]. This means that state authorities will not and cannot end incentive policies on their own due to the competitive disadvantages it would create, but would rather need an outside force to end this competition. The Corporation for Enterprise Development says, “state and local officials actions are fueled by the fear that they will fail to compete effectively with other states” [2002, 5]. Without an outside force present, this fear will continue to lead to the use of incentives.

While opponents of these incentives recognize the importance of these incentives in the face of jurisdictional competition, they argue that incentives should be eliminated because the costs of providing these incentives have become larger than their benefits. Proponents of incentives on the other hand perceive that tax incentive benefits outweigh their costs because eventually they are repaid directly or indirectly in taxes and growth [Buss, 2001, 92]. State officials view tax incentives as “free money” to citizens because in many cases, they only represent tax



revenues forgone rather than cash paid out [Buss, 2001, 92]. Many of the incentives provided to businesses by state and local governments either exempt the business from paying certain taxes or divert the taxes generated back to the business or to the area where it resides to make improvements. State and local officials claim that the lost tax revenue from such policies will eventually be recovered because these businesses will increase their tax bases through taxes on its operation, property, and employees. While proponents of these incentives can cling to these arguments for incentives as justification for their use as a policy tool, many arguments have emerged as to why these incentives are in fact not good public policy.

Buss points out that many public interest groups, professional associations, state and local officials, and congressional delegations claim incentives are costly, ineffective, and detrimental [Buss, 2001, 90]. First of all, these incentives are seen as costly because of the large amounts of tax revenue states and cities forego in order to attract business. It has been estimated that \$15 to 16 billion dollars is spent annually on both state-level and local-level incentives [The Corporation for Enterprise Development, 2002, 2]. Waits and Heffernon described these large tax incentives in two ways: shooting anything that flies and giving away the store [Heffernon, 1994, 2]. “Shooting anything that flies” refers to the large amounts of money spent by state and local governments to attract businesses that do not fit in with the business environment of the state or city. “Giving away the store” means giving away more resources to a business than can be recovered in the long run. There is always the possibility that businesses will go bankrupt or move before the state or local governments recover lost revenue. The professional economic development literature is littered with stories of incentives that did not produce the requisite revenue or job benefits [Fisher and Peters, 1998, 8]. For example, Pennsylvania in 1978 provided a \$71 million incentive package to Volkswagen for a factory projected to employ 20,000 workers, but the factory never employed more than 6,000 workers and was closed within a decade [Burstein, 1995, 5]. A well-documented example of “giving away the store” was found in Alabama’s attraction of Mercedes-Benz’s first auto manufacturing plant in the United States. The incentive package provided totaled around \$300 million dollars. While Alabama officials deemed the benefits provided by the factory as worthy of the huge incentive package, the creation of the factory caused numerous problems. The state missed a \$43 million loan payment to the auto

company and had to use National Guard troops to clear the site for construction to save money on the project. It eventually led to widespread taxpayer dissatisfaction and the defeat of the governor who came up with the deal [The Corporation for Enterprise Development, 2002, 4].

Another argument is that these incentives are ineffective and unnecessary. Milton Friedman has argued that government should be limited to its “public good” functions, such as defense and law and order, and should not be involved in activities that can be performed by the market [Watson, 1995, 3]. Proponents of Friedman’s views would argue that state government intervention in the market is unnecessary because the market, if left alone, would produce full employment and efficiently distribute resources. The presence of economic development incentives, it is argued, disrupts the location decisions of businesses because they are enticed to move away from their optimal locations [Burstein, 1995, 4]. Some claim that economic development incentives have little or no effect on the location decisions of businesses because other market factors are more important. Regional variations in construction, transportation, and energy costs are said to have a much larger influence on firm’s location decisions than variations in state and local taxes and, presumably, development incentives [Fisher and Peters, 1997, 111]. In a study done in 1978, researchers claimed that a “mere two percent difference in wages could offset as much as forty percent in taxes” [Fisher and Peters, 1997, 111]. A firm’s proximity to its raw materials and markets are also important location factors that generally overshadow state tax and incentive policies in a firm’s location decision.

Another argument against economic development incentives is that the competition that results between states result in a negative or zero-sum game. This is the argument that economic development policies merely redistribute jobs among state and local areas, leaving the number of jobs in the nation unchanged. Burstein and Rolnick argue that it is actually a negative-sum game because the revenue lost in the losing states from the relocation of businesses is greater than the revenue increase in the winning states or else the businesses would not have relocated [1995, 4]. In response to Bartik’s arguments that high unemployment areas will experience the most growth because they provide the most incentives, John Levy, an urban planner at Virginia Tech, argues that “it is unlikely that more needy places generally out-compete less needy places for new industry” [Bartik, 1991, 195].

Opponents also argue that the more states give away in tax revenues, the less revenue they have to provide public services, which can be important location factors. Public goods, such as education, quality of transportation, and availability of recreational activities, can have a large impact on the location decisions of firms. Therefore, the large amounts of tax revenue states and cities forego due to incentives hinders their ability to provide quality public goods and can be detrimental to state and local efforts to attract business to their jurisdictions.

So who is right? Do economic development incentives produce their desired effect of job creation or are they merely replacing the market forces that would guide job creation? With the range of arguments supporting both sides of this issue, it is hard to determine what influence, if any, these incentives have on the location decisions of businesses and to what extent these incentives benefit local and state governments. To determine incentives' importance in firm's location decisions, we must first look at what scholars and business executives have found to be important factors in the location decisions of firms.

#### **IV. Location Theory**

Some of the early writers in Location Theory focused on the nature and process of plant location decisions. Alfred Weber, a well-known location theorist, developed the idea that transportation costs were the main determinants of business location decisions. He speculated that the best place for a plant to locate was where the cost of transporting raw materials to the plant and transporting products to the market was the least [Wilson, 1989, 8]. He argued that the only deviations from his theory would occur if savings from labor costs or from agglomeration economies, such as access to markets or proximity to similar firms, were larger than transportation costs. Others argued that plants locate where they have a sales advantage or where they could take advantage of high demand. August Losch argued that companies would choose the location that maximizes their profits by looking at both the costs and markets at a particular location [Wilson, 1989, 9]. While all are valid arguments, theorists and analysts today are beginning to realize that there are more to location decisions than just the costs or demands at various locations.

Robert Ady, an executive consultant for a business location consulting firm, said that companies seeking a location use a myriad of criteria to evaluate locations; some have lists of hundreds, but for most,

the list is usually less than 50 [1997, 78]. He goes on to divide those factors into three categories: operating costs, operating conditions, and quality of life [Ady, 1997, 78.] Quality of life refers to the cultural activities, educational capabilities, recreational opportunities, and housing availability at a particular location. Operating conditions include the quality of the work force, attitudes of local officials, and executive travel times. Operating costs would include labor costs, utility costs, transportation costs, and tax costs. As is evident by this list, the number of factors that influence business executive's location decisions are quite broad. He goes on to say that, "location criteria are different for different business sectors and different companies within any sector, as well as at different stages of the site search. This greatly complicates any effort to discern causal relationships between any given location criterion and economic activity or growth" [Ady, 1997, 78]. With this in mind, anyone studying the role and influence of economic development incentives in this myriad of location factors has a very difficult task. Despite the complexity of this task, many academics, economic development professionals, and state and local government officials have attempted to measure this influence. Four different techniques have emerged to study the impact and effectiveness of incentives.

## **V. Measurement Techniques**

### **A. ECONOMETRIC TECHNIQUE**

Several economists have attempted to answer the question through econometric studies. These studies have ranged from a focus on state business climates, to state spending on economic development, to looking at specific programs. One of the first econometric studies that attempted to determine what influence economic development incentives had on firms' location decisions was done by Dennis Carlton in 1979. Carlton looked at the how differences in wages, taxes, electricity costs, and other variables within and across Standard Metropolitan Statistical Areas<sup>6</sup> [SMSA] influenced the creation of new manufacturing single-establishment plants or branch plants in the SMSAs. One of the variables he included was a business climate variable which was based on the number of incentives offered by a state, which he felt was an indication of the state's attitude toward business. He found for the single establishment firms that "in none of the industries did business climate

enter positively and significantly” [Carlton, in Wheaton, 38]. He found for branch plants that the business variable had an insignificant negative influence on branch plant establishments. He finally concluded that “no evidence could be found to support the view that a favorable business climate alone can substantially stimulate new locational activity” [Carlton, in Wheaton, 44].

In 1984, an econometric study by Warren McHone also looked at SMSA data. He attempted to measure the impact state incentives had on the spatial patterns of employment growth within twenty-six multi-state SMSA’s. In order to test this influence, he ran a regression that tried to determine whether a relationship existed between the development incentives offered by states, and the employment growth experienced by counties in different states, but in the same SMSA. He wanted to compare how employment growth differed between the counties according to the incentives they received from different states. When looking at the employment growth differentials between counties and their SMSA’s, he found that “none of the five explicit industrial incentives provided by most of the states were statistically significant” [McHone, 12]. He did, however, find two incentives to be significant when comparing whether a county’s employment growth was greater or less than that of its SMSA. He concluded that “the results suggest that some of the explicit industrial incentive program employed by states as well as some of their policies that might be viewed as implicit incentives appear to affect the direction of employment growth differentials within these multi-state SMSA’s” [McHone, 13].

In 1989, Margery Ambrosius did a time-series analysis of how the adoption of eight different incentives by states influenced the state’s per capita manufacturing value added and the percent of the state’s labor force considered unemployed for the time period between 1969-1985, controlling for national trends in manufacturing value added and employment. She found “no significant effect on manufacturing value added<sup>7</sup> and only one possible positive effect on the unemployment rate. [Ambrosius, 1989, 290]. A similar study conducted in 1988 by Michael Wasylenko compared a variety of fiscal variables with changes in state employment from 1980 to 1985 with one of the variables including the number of financial incentives provided by the state. The author of the study found that the development incentives variable was significantly associated with lower total employment growth and lower employment growth in manufacturing and retail trade. On the other hand, a number of

employee training programs did seem to be statistically significant and have a positive effect on total manufacturing employment growth [Fisher, 1997, 113]. Therefore, he concluded that “one cannot reject that fiscal variables may influence firm location” [Fisher and Peters, 97, 113].

Other econometric studies focused on specific incentives' influence on employment growth. Rubin and Wilder in 1989 compared the growth of industries within enterprise zones with the overall industry growth in the Evansville, Indiana Metropolitan Statistical Area (MSA) from 1983 to 1986. They found that the enterprise zone experienced significantly more employment growth than the rest of the industries in the Evansville MSA [Rubin, 426]. They determined that of the 1,878 jobs created in Evansville Enterprise Zone, 1,430 could be attributed to the comparative advantage the zone provided when compared to what the area would have experienced if it grew at the average rate of growth for the entire metro area [Fisher and Peters, 123]. They then concluded that the substantial growth in the Evansville Enterprise Zone could not be attributed to either metropolitan growth or the industrial composition of the zone, but it was instead a function of the comparative advantage of the area that comprised the zone [Rubin, 276]. James Papke discovered just the opposite in another regression analysis of Indiana enterprise zones. He conducted a regression analysis comparing the level of capital created in newly formed enterprise zones with the capital created in a control set of Indiana townships before and after the zones were established. He found that 7% less capital was created in the designated zones compared with the capital created in the control group of Indiana townships [Bartik, 1991, 20]. Another study of enterprise zones conducted in 1990 looked at investment growth and job growth experienced in a subset of 357 enterprise zones found in seventeen states. The authors of the study found that “the number of zone incentives was positively and significantly related to both investment and job growth despite the inclusion of many policy variables” [Fisher and Peters, 124]. When they included some non-policy variables, however, the incentive variable became insignificant. Michael Luger and Harvey Goldstein in 1990 used a control group of counties to compare the influence of research park designations on county employment growth. They found only 58% of the parks succeeded in lowering their county's unemployment rate compared to the control group [Bartik, 1991, 20].

Another set of studies looked at how state spending on economic development influenced establishment growth and unemployment. One

such study done by Eng Seng Loh in 1993 looked at Ohio's development incentive programs to determine whether the amount of money given in incentives influenced county-level employment growth in six industries. He found that the total dollar amount provided or the number of projects receiving funds in each county influenced employment growth in the county. He concluded that "while the empirical results are not uniformly significant or positive, enough evidence exists to show that incentive programs contributed significantly to Ohio's county-level growth" [Loh, 379]. Ernest Goss in 1994 attempted to analyze how state economic development spending as a percentage of gross state product influenced state growth rates in enterprises and establishments. He found that the economic development spending variable had a positive impact on both the formation of new business enterprises and establishments. He stated that "this result appears consistent since a large portion of economic development agency spending has traditionally been devoted to recruitment" [Goss, 1994a, 273-274]. In a similar study done by Goss and Phillips, they looked at how state economic development spending by state as a percent of gross state product influenced employment growth in states. He found that "the coefficient for the economic development spending variable is positive and statistically significant, indicating that state economic development spending positively affects the employment growth rate" [Goss, 1994b, 296].

As is clear from the econometric studies presented, results have been quite mixed as to the influence incentives have had on the growth in establishments or employment found at the state, county, and metropolitan area. Earlier studies with simple regression analysis tended to find that incentives have little influence on employment growth, but recent studies have found more of an influence. Also, it appears that economic development spending seemed to have a larger influence on establishment and employment growth than did the number of incentives provided.

Econometric studies, despite their usefulness as a method of analysis have their drawbacks. They have been widely criticized because they cannot include or measure all the factors that influence business location decisions. There are too many unobserved characteristics of a city or state that are unconsciously omitted or unquantifiable in this type of study. Also, while these studies may be able to assess the effect incentives have had on a region or state, econometric are not able to give us a clear picture of incentives' influence on national job creation. Since

econometric studies have been viewed as so problematic, researchers have found other methods to try to measure incentives' influence on employment growth and business decisions. One such approach is the case study approach.

#### B. CASE STUDY TECHNIQUE

The case study approach was seen as an alternative to the econometric approach because it was viewed as a better measure of the effectiveness of specific economic development programs. Several case studies have been conducted over the last few decades to try to measure how specific incentive programs have influenced employment growth in both cities and states. One such case study looked specifically at the location decisions behind the creation of a General Motors Saturn plant in 1987. In this study, the researchers compared the average cost of transport to market, local labor costs, and state and local taxes for seven different locations considered by the Saturn executives. They found that Nashville, Tennessee was the lowest cost site for the plant, which was consistent with the Saturn executives' decision to locate the plant in Spring Hill, Tennessee 35 miles away. The researchers argued though that if Lexington, Kentucky, the next lowest cost site, had decreased taxes by just \$13 per car that the plant would have located in Lexington [Bartik, 1991, 29]. The table on the next page shows that a \$13 decrease per car would have lowered the total measured cost of the Lexington site to \$702, making it the lowest cost site.



TABLE 1—Estimated Saturn Costs Per Car

Location	Average Cost of Transport to Market	Local Labor Costs	State and Local Taxes	Total Measured Costs
Nashville, TN	\$426	\$159	\$118	\$703
Lexington, KY	423	186	106	715
St. Louis, MO	419	172	134	725
Bloomington, IL	417	202	162	781
Kalamazoo, MI	430	244	116	790
Terre Haute, IN	413	209	168	790
Marysville, OH	427	219	169	815

Source: Bartik, 1991, 29

Several other case studies have looked at enterprise zone programs in various states and have found mixed results. One such study found the state of New Jersey's Enterprise Zone program was successful at generating jobs and was deemed cost-effective [Rubin, in Green, 1991, 118]. An enterprise zone study conducted on three zones established in Maryland on the other hand found no evidence that the program increased employment in the zone's areas [Grasso and Crosse, 1991, 133]. These are a few of the limited number of studies using the case study method. It has not been used extensively because like the econometric studies they are not without their flaws.

Critics of this approach say that case studies fail to account for the location factors involved in business' location decisions [Fisher and Peters, 1997, 117]. Because these studies focus only on whether job growth occurred in the presence of incentives, they often subjectively claim that the incentives present were the primary factor in the employment growth in the study area when in fact it could have been attributed to a host of factors. Case studies also need to establish a comparative control group in order to properly measure the precise effects of the incentives analyzed. If controls for the other variables involved in location decisions are not created, then one cannot say with any degree of certainty that one has captured the true effects of the incentive on the location decision. Yet, it is difficult to determine an identical control group for comparison.

### C. SURVEY TECHNIQUE

The survey approach has been the most common approach to measuring the influence of economic development incentives on location decisions. In this particular approach, researchers survey business executives from the businesses that created jobs in the city or state. Fisher points out that surveys often distinguish between “must have” location factors and merely “desirable or significant” factors [1997, 116-117]. Early surveys of business executives found that incentives and taxes were an insignificant factor in location decisions [Wilson, 1989, 13]. In 1982, Roger Schmenner surveyed Fortune 500 companies and found that only one percent listed taxes as a “must” factor in selecting a particular broad region and state for a new branch plant. Thirty-five percent however listed low taxes as “desirable if available and helped to tip the scales in favor of this site” [Bartik, 1995, 26-27]. Schmenner commented on the results of his survey by saying “the results demonstrate, fairly convincingly, that tax and financial incentives have little influence on almost all plant location decisions and seem to be, at best, tie-breakers acting between otherwise equal towns or sites” [Schmenner, in Wilson, 1989, 14]. A survey of Appalachian manufacturing plants in 1989 by Walker and Greenstreet found that only 37 percent of the plant’s executives stated that incentives were decisive in their final location decision [Bartik, 1995, 27].

On the other hand, some recent surveys have found that taxes and incentives are ranked highly by executives in their location decisions. In the 15<sup>th</sup> Annual Corporate Survey conducted in 2000 by the Area Development Magazine, they found that when executives were asked to rate a number of different site-selection factors, state and local incentives were rated fifth behind highway accessibility, availability of skilled labor, labor costs, and the corporate tax rate as the most important business location factors. Tax exemptions were ranked seventh [Gambale, 2000, 18]. The survey also asked the executives to rate how important tax exemptions and state and local incentives were in their location decision. The survey found that 40% of the executives considered these incentives and exemptions to be very important in their location decisions [Gambale, 2000, 16]. These results would indicate that incentives and exemptions provided by local and state governments have a rather strong influence on

the location decisions of firms, but like the other studies, the survey approach has its flaws as well.

Critics of the survey approach feel that the methodology and questions used for the surveys bias the results. Consistently, incentives are rated low as “must have” factors, but rated highly as “significant, important, or desirable” factors. Therefore, the framing of the question can severely bias the results. One is also not guaranteed that the person who made the final location decision was the one who completed the survey. The survey may thus inaccurately reflect the true motives behind the location decision. Another problem with surveys is that executives can be compelled to say incentives were important in their location decisions even if they played an insignificant role in their location decisions [Fisher and Peters, 1997, 117]. Executives are compelled to say this because it could jeopardize their chances of receiving additional incentives in the future if they gave policymakers the impression that the incentives had little influence on their location decision. Plus, they do not want it to appear as though they took advantage of the community in which they located. Thus, the survey responses might not properly measure the true importance of the incentives to the business because one has no way of determining the actual motives behind executive’s responses and if they gave truthful answers. Regardless of the flaws of the survey approach, the results once again do not clearly define the influence that incentives play in site selection. With the problems pointed out in the previous measurement approaches, a new approach has sparked the interest of researchers in this field. This approach is called the Hypothetical Firm Approach.

#### D. HYPOTHETICAL FIRM TECHNIQUE

The Hypothetical Firm Approach looks at the impact local taxes and incentives have on a firm’s actual income [Fisher, 1997, 118]. Buss describes it this way: “Analysts take an industrial sector, then build models of what they believe are average firms in that industry. Then they take tax data, averaged for states and localities, and try to describe how the firm would respond to different taxes and incentives” [2001, 99]. Fisher and Peters, major proponents of this approach, point out that this approach has primarily been used to study differences in state tax systems [1998, 59]. They, however, took this approach one step further and developed a model using the Hypothetical Firm approach that included

state and local tax and non-tax incentives. They claim it is the first comprehensive simulation of non-tax incentives in a hypothetical firm model [Fisher and Peters, 1998, 60].

In their study, they developed a single-location<sup>8</sup> and a multi-state<sup>9</sup> hypothetical firm for eight different manufacturing industries. They developed these firms by pouring through the annual reports, federal tax statistics, and the Census of Manufactures for actual firms in the eight industries. They chose the eight manufacturing industries that were experiencing the most growth and had the most geographic mobility. They then measured how the returns on investment<sup>10</sup> of the hypothetical firms were influenced by tax changes and incentives through the use of a model called the Tax and Incentive Model. They developed this model by examining the taxes and incentives found in 112 cities in twenty-four states. The twenty-four states chosen were those states with the greatest manufacturing employment.

They sought to answer two questions through their study: can incentives reasonably be expected to influence business location decisions and do they influence the spatial distribution of investment returns across states and cities? They found that variations in incentives and state taxes seemed to influence the returns on investments for firms at the best and worst location for each industry. They also found that incentives can be quite large relative to tax burdens and differences in taxes and incentives across states and cities were substantial [Fisher and Peters, 1998, 175]. While they did not test a causal model in their study, the magnitude of the differences in returns on investment, before and after the Tax and Incentive Model was applied, appears to be sufficient to make a difference in business location decisions at the margin [Fisher and Peters, 1998, 175]. They felt they could reasonably assume from their findings that tax and incentive differentials between top- and bottom-ranked locations could sway plant location decisions.

They also attempted to analyze whether taxes and incentives affected the spatial distribution of investment returns. They analyzed whether the locations that generated the highest rate of return had the highest rates of unemployment and poverty or the lowest job growth. They found that tax incentives displayed a weak positive correlation with unemployment and non-tax incentives displayed no clear correlation with the state's unemployment rate. State taxes on the other hand displayed a strong negative relationship with the state's unemployment rate, which seems to suggest that statewide incentives would only slightly off-set the effects of

state tax systems. Fisher and Peters found that, “overall, it appears that, at the state level at least, decades of interstate competition have not produced a pattern of return on investment that could plausibly contribute to a redistribution of jobs to states in most need, but rather the opposite” [Fisher and Peters, 1998, 180]. They ultimately conclude that “after at least a decade and a half of intense competition for investment and jobs, and the widespread adoption of pro-development tax policies and incentives, states and cities have produced a tax and incentive system that provides no clear inducements for firms to invest in high-unemployment places” [Fisher and Peters, 1998, 200]. They also looked at job growth and found that it was negatively correlated with the value of incentives, which seems to suggest that tax and non-tax incentives produce a pattern of returns on investment somewhat favoring slow-growth states.

While the Hypothetical Firm Approach has piqued the interest of scholars, it too is not without its drawbacks. One criticism is that firms do not always behave in average ways, so using hypothetical firms will not necessarily represent the true influence of taxes and tax incentives on actual firms. Fisher and Peters themselves admit that their research did not look at other location factors or at the benefits firms receive from taxes, so they were not able to say whether a state’s or a city’s tax and incentive regime could reasonably be expected to alter a firm’s location decisions [Fisher and Peters, 1997, 120].

## **VI. Conclusion**

As is clear from the numerous studies that have been conducted by scholars and economic development professionals, the question of the influence incentives have on business location decisions has commanded a great deal of attention. Despite all this attention, the answer to the question of incentives remains elusive. The variation in the types of studies devised to answer this question is a testament to the difficulties of measuring the true influence of economic development incentives on the location of firms. No clear consensus can be reached from these studies as to the true influence incentives have on firms' location decisions.

The econometric studies conducted seem to show some relationship between the presence of incentives and economic development spending on employment growth, but the relationships are small and inconsistent. Plus, the inability of these studies to include all the location factors present in a firm’s location decision cast doubt on their legitimacy.

Survey results are much the same. While they can account for most of the location factors involved in the site selection decision, the problems involved with survey research casts doubt on whether the responses of business executives accurately reflect the importance of various business location factors. Case studies on the other hand have been useful in looking at the impact of particular incentive programs or analyzing the best location for a particular firm, but the results differed according to the cases studied and the methods of analysis. Also, the need for establishing an identical control group for comparison in the case study approach renders this approach inadequate for answering the question of the importance of incentives in location decisions. The last approach presented seems to have been given the most attention of late by scholars, but it too is not without its limitations. The lack of studies using this approach is a testament to the reluctance of scholars to utilize this approach. Besides being time consuming, these studies do not control for the other factors in the site selection process, thus diminishing this approach's effectiveness in answering the location question.

While it appears that the inconclusiveness of the studies on economic development incentives provide us with no basis for eliminating economic development incentives and stopping this competition between states, the answer to this question may be in the lack of evidence. If we cannot clearly demonstrate that incentives are needed to attract jobs to a particular region or provide their intended benefits, then the elimination of these incentives should be explored. The real question is whether jobs would be created nationally without the presence of these incentives. We could venture to say that businesses would continue to expand and create jobs without the presence of state or local tax or non-tax incentives through private financing, but one could argue that certain regions of the country would continually lose in the face of interjurisdictional competition due to their high taxes and high unemployment. While this may be the case, each criteria used by executives to evaluate various sites varies dramatically according to the characteristics of the firm. Therefore, regardless of the disadvantages certain locations have, they also may have a host of advantages that appeal to particular firms. Robert Ady said, "Site selection is a dynamic process, not a static approach. At each level of screening, the site location criteria are different, as is the relative importance of each criterion" [1997, 78].

## **VII. Policy Implications**

If it is indeed the case that incentives may not play a crucial role in creating jobs, what should be done about these incentives? Some reformers and critics of incentives say that incentives can represent good public policy if they are structured to meet certain conditions. Heffernon and Waits offer four conditions which incentives should meet in order to improve their accountability and effectiveness [1994, 2]. For one, incentives should be used to accomplish clearly defined goals based on an overall economic development strategy. To accomplish this, goals should be established by the jurisdiction as a set of guidelines to be followed in all cases. If the state's goal is to create high-wage jobs, then they should avoid bidding for businesses that offer only minimum-wage jobs. Along these lines, state and local officials should structure incentives to fit the businesses they are trying to attract. The Corporation for Enterprise Development describes it as, "picking the right incentives" [2002, 8]. Other reformers say that improving public services to fit the needs of those businesses would also help state and local governments achieve their goals. In fact, some critics of incentives have argued that state and local officials should limit their use of incentives and compete solely by improving their public services. Proponents of this solution feel competition over basic public services between state and cities would be a more efficient use of public funds than giving incentives.

The second solution offered by Waits and Heffernon is that incentives should be subjected to rigorous cost-benefit analysis in both the short and long terms. Policy makers should then pick those incentives that "not only help firms, but have the largest public benefits" [The Corporation for Enterprise Development, 2002, 8]. This would help ensure that only projects that have a high likelihood of creating the jobs promised are given incentives. It should also limit the dollar amount of incentives given to a single firm.

Third, incentives should be viewed as investments in the state or city so that they retain their value even if the business departs. Offering incentives such as infrastructure improvements or training programs would be an investment that would help attract businesses and have long-term benefits. Many economic development professionals have recognized that training programs have social benefits that aren't present with tax incentives. The skills people acquire from the programs have the long-run benefits of improving their employability.

The last solution to these incentives is that incentives should be made legally binding so that businesses are held accountable for their promises and performance. This would help prevent the exit of a business before it has generated the revenue needed to pay back the state or local government that provided the business incentives. Four methods of recourse are available to state and local governments to improve the accountability of the business they attract. One is rescissions, which is the ability to cancel a subsidy agreement if they so choose. Another is clawbacks, which is the ability of a state or local government to recover all or part of the subsidy costs if the business moves or goes bankrupt. Another option is to establish penalties, such as fines or charges, if the business fails to perform or relocates. The last legal option is called recalibration. This is where adjustments to a subsidy can be made to reflect changing business conditions. This allows the state or local governments to reduce the subsidy they are providing if the company is doing well or adjust the payments on loans if the business is struggling to meet payments.

While these reforms are seen as important improvements or solutions to the incentive problem, state and local policymakers will still continue to face pressure from competition with other jurisdictions to continue their abuse of incentives. To eliminate this pressure, some have called for the federal government to eliminate this competition and state and local governments' ability to provide tax and non-tax incentives.

Proponents of the elimination of incentives believe that Congress holds the right under the Commerce Clause of the Constitution to regulate interstate competition and states use of incentives. The original intent of the Commerce Clause was to create an economic union, particularly by ending the trade war among the states that prevailed under the Articles of Confederation [Burstein, 1995, 1]. Burstein and Rolnick argue in their critique of the use of incentives by states that,

It is now time for Congress to exercise its Commerce Clause power to end another economic war among the states. . . . while the Court has not confronted the constitutionality of states engaging in these activities, it has expressed the view that these activities may be “admirable,” and it would probably find that they fulfill a legitimate public purpose. Economists reach a different conclusion. They find that there is a role for competition among states when it takes the form of general tax



and spending policy. Such competition led states to provide more efficient allocation of public and private goods. But when that competition takes the form of preferential treatment for specific businesses, not only is it not “admirable,” it interferes with interstate commerce and undermines the national economic union by misallocating resources and causing states to provide too few public goods [1995, 1-2].

While it may in fact be desirable for Congress to end this competition between states, scholars and economic development professionals do not see this as a possibility. William Fox, a professor of economics at Tennessee, said in a national symposium of experts on economic development policies that, “I would be particularly concerned about having the federal government tell the states how to formulate their tax policy. That is not something I would like to see” [Fox, 1997, 143]. One of the arguments against federal intervention is that it would place undesirable restrictions on states' rights. Peter Enrich in that same symposium felt that the courts would be the crucial player in ending this state competition by claiming that this competition is in fact in violation of the Commerce Clause of the Constitution, which would “provide a powerful incentive for Congress to try to figure out a reasonable balance in what states should be permitted to do” [Enrich, 1997, 146]. But even then, he recognized that Congress would have to take action to set the parameters and provide the authorization for these incentives, which would be difficult [Enrich, 1997, 145-146]. It would be difficult because federal policymakers would have trouble deciding whether a specific policy was an acceptable or unacceptable practice. Also, large variations in the types of incentives provided by states would make restrictions and enforcement even more difficult. Robert Ebel, another symposium panelist, also commented on federal government intervention by saying, “I will argue strongly that federal policymakers should neither promote or dampen interstate competition because although intervention may bring some short-term gains, federal intervention would be far more costly than allowing interstate competition” [Ebel, 1997, 147].

The concern over federal intervention echoed by many scholars and practitioners in the economic development field leaves us with little hope of ending this interstate competition. Therefore, as long as strong cases cannot be made as to the detrimental effects of these incentives, which would be needed to spur federal intervention, the use of incentives in the

war between states for jobs and businesses will continue. This leaves us in the precarious position of how to deal with this “New Civil War” between the states. Our best hope may lie in our policymakers' abilities to implement policy reforms, while we wait for scholars and economic development professionals to develop studies that clearly determine the true influence economic development incentives have on the location decisions of firms.

### **End Notes**

1. “Economic Development” is a fairly broad term with multiple definitions, but the definition used in this paper is from the U.S. Department of Commerce’s Economic Development Administration, which is, “enhancing the factors of productive capacity-land, labor, capital, and technology- of a national, state, or local economy” [Economic Development Administration, 2002, 1].
2. “Property Tax Abatement” means the full or partial exemption of taxes on eligible properties located in a reinvestment zone designated as such for economic development purposes [City of Arlington, 1].
3. “Tax Increment Financing Districts” are districts where the property tax revenue generated by new construction in the district is deposited in a special fund and used to pay for public improvements within that district [Klacik, in Johnson, 2001, 17]. Tax Increment Financing is viewed as a way to finance public facilities by directly connecting the population that requires the infrastructure to the allocation of expected property enhancement effects and related property tax burdens [Klacik, in Johnson, 2001, 17].
4. An “Enterprise Zone” is an area designated by state and local governments to induce private investment by removing unnecessary governmental regulatory barriers to economic growth and to provide tax incentives and economic development program benefits [City of Houston, 1]. These are often established in distressed areas in order to spur investment and job growth in the designated zone.
5. The idea of the “Prisoner’s Dilemma” comes from a genre of theory called Game Theory. Game theory describes a situation where various players are competing with the common goal of winning. If in fact this is the goal of the game, rational players will play so as to encourage the best outcome for themselves [Poundstone, 1950, 44]. In the case of the prisoner’s dilemma, if a prisoner is given a chance to be set free if he testifies against a friend and the friend is faced with the same situation, a rational prisoner would testify against his friend with the hope of being set free and for fear of betrayal by his friend. If they both remained silent, they would probably both be better off, but the fear of betrayal causes both of them to testify against each other, thus making them both worse off. This same relationship can be said to be present in the use of economic development incentives. If all states agreed to end their use of incentives, they probably would all be better off, but the possibility of short-term gains from the use of incentives would lead states to cheat on the agreement, which would cause all states to cheat in the hopes of themselves benefiting from the short-term gains from breaking the agreement. Thus, if states act rationally, they will

continue to compete for economic development with incentives because it would be irrational to act otherwise.

6. A “Standard Metropolitan Statistical Area or Metropolitan Statistical Area” is a large population nucleus, together with adjacent communities which have a high degree of social and economic integration with that core. Metropolitan areas comprise one or more entire counties, except in New England, where cities and towns are the basic geographic units. The Office of Management and Budget (OMB) defines metropolitan areas for the purpose of collecting, tabulating, and publishing federal data. Metropolitan area definitions result from applying published standards to Census Bureau data [U.S. Census Bureau, 1]. More specifically, each Metropolitan Area (MA) must contain either a place with a minimum population of 50,000 or a Census Bureau-defined urbanized area and a total MA population of at least 100,000. A MA comprises one or more counties and may include one or more outlying counties that have close economic and social relationships with the central county. An outlying county must have a specified level of commuting to the central counties and also must meet certain standards regarding metropolitan character, such as population density, urban population, and population growth.
7. Per capita, “Manufacturing Value Added” is the value that is added by manufacturing operations in a given jurisdiction divided by the population. It is calculated by subtracting the value of inputs to production from the value of the outputs produced by the manufacturing plant [Hovey, 2001, 75].
8. A “Single-location firm” is defined by Fisher and Peters as a firm whose total assets fall into the 25<sup>th</sup> percentile of total asset size of firms in that industry. In other words, only 25 percent of the firms in that industry had lower total assets. Fisher and Peters assumed that these low total assets signaled the presence of small single-location firms.
9. A “Multi-state firm” is defined by Fisher and Peters as a firm that’s total assets fall into the 75<sup>th</sup> percentile of total asset size of firms in that industry. They assumed that these large total assets were an indication of the size of the firms and their presence in numerous states.
10. “Returns on investment” is the increase in the firm’s cash flow attributable to the investment in the new plant. This was calculated by Fisher and Peters by simulating the firm’s revenues and costs over a twenty-year time period, which produced a stream of annual cash flow figures [Fisher, 1998, 78]. Therefore, they used the Tax and Increment Model they devised to see how taxes and incentives influenced these simulated cash flows in that twenty-year period.

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