

Spatially Targeted Economic Development Strategies: Do They Work?

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Throughout the 1980s and early 1990s, U.S. policymakers have shown interest in geographically targeted urban economic development strategies, specifically in the form of enterprise zones. Originating in England, these zones captured the imagination of U.S. Federal Government policymakers in the early 1980s as a potentially powerful strategy for promoting economic development in pockets of urban distress. The English model involved deep tax breaks and regulatory relief to small geographic areas within a city. In 1980 conservative Republican congressman Jack Kemp (who became Secretary of Housing and Urban Development under President Bush) teamed up with Robert Garcia, a liberal Democrat from the South Bronx, to propose a Federal enterprise zone program. Although never passed by Congress, this Federal proposal, plus others in subsequent years, apparently played a catalytic role in spurring the development of such zones in States throughout the country.¹ Despite the absence of a Federal program, 37 States and the District of Columbia had enacted enterprise zone programs by 1993. Congress finally passed a modified Federal program as part of the 1993 Budget Reconciliation Act.

As elaborated below, the conceptual underpinnings of enterprise zones changed significantly as the idea crossed the Atlantic. Moreover, in practice the programs have taken on different forms in different States. Given the new Federal legislation and the decade of experimentation at the State level, the time is now ripe for reviewing what is known about these spatially targeted urban economic development strategies.

The first section begins by placing enterprise—or, in the language of the new Federal legislation, empowerment—zones in the broader context of three policy approaches to meeting the challenge of urban distress: a people-oriented strategy, a place-based people strategy, and a pure place strategy. The second section examines the policy tools used to promote place strategies, and the third section looks closely at the lessons from specific programs and summarizes what is known about the cost-effectiveness of existing enterprise programs.

People and Place Strategies for Combatting Urban Distress

The focus here is on strategies to deal with pockets of distress or blight within an urban area.² A major contributor to the distress in many U.S. cities is the decline in manufacturing activity. This decline reflects economic forces outside the control of public officials,

such as productivity improvements that reduce the demand for labor, and the movement of manufacturing firms from the central city to the suburbs (where land is cheaper) or to the southern United States or overseas (where unions are weaker and wages lower). Even if partially offset by the growth of service jobs in finance, insurance, and real estate, as has occurred in many urban areas, the loss of manufacturing jobs can have a big impact on the urban landscape and on certain geographically concentrated groups of urban workers who often lack the skills required for the new jobs. In addition, the outmigration of middle and upper income households, both white and black, in search of better housing, better schools, and decreased crime in the suburbs—combined, in many cases, with discriminatory policies that confine minorities to certain sectors of the city—contributes to the existence of distressed neighborhoods.

Three basic policy approaches can be identified for dealing with pockets of distress in urban areas. The first, a pure people-oriented strategy, focusses on helping people, with little or no attention to revitalizing the areas in which they live. The second, a place-based people strategy, uses a variety of place-specific strategies to increase the economic well-being of people living in a distressed area of the city. The third, a pure place strategy, focusses on improving the physical and economic vitality of a geographically defined area without explicit attention to the people who live there. As explained below, the English enterprise zone program is a pure place strategy, while the new U.S. Federal policy strives to be a place-based people strategy. The State programs have elements of both the place-based people and the pure place strategies.

Pure People-Oriented Strategy

A pure people-oriented economic development strategy would assist people regardless of where they live and would focus on increasing their human capital and mobility. This approach starts with the observation that poor people and those with low skills need assistance regardless of whether they live in distressed or relatively well-off places. Philosophically the approach is grounded in the free market economy—specifically the view that the market economy works most efficiently and effectively when both labor and capital are sufficiently mobile to take advantage of economic opportunities wherever they may be and when there are no artificial barriers to movement. Supporters of this view oppose place-based economic development strategies because they may encourage firms to locate in places not justified on economic grounds and because they reduce the incentive for residents of distressed areas to relocate in order to become more productive.

A pure people-oriented Federal economic development strategy would focus on moving people from welfare to work and on programs such as education assistance for children from disadvantaged households (for example, Chapter I of the Elementary and Secondary Education Act) and job training (for example, Job Training Partnership Act and Trade Adjustment Assistance programs). In addition, such a strategy might include more Federal Government assistance that would foster labor mobility. Following the Canadian model, the U.S. Government might offer a national computerized job search program or, following the Swedish model, might make assistance with housing and moving costs for displaced workers more generally available (Hanson, 1991, p. 19).

In the context of distressed urban areas, the observation that racial discrimination in the housing market has contributed to the growth of urban ghettos provides an additional underpinning for a people-oriented strategy. Housing market discrimination that keeps blacks in the central city as jobs move to the suburbs leads to a “spatial mismatch” between jobs and residential locations (see Kain, 1992, for a thorough review of the current status of the spatial mismatch hypothesis). In a well-known and provocative 1969 paper, “Alternatives to the Gilded Ghetto,” John Kain and Joseph Persky argued forcefully

against place-based strategies designed to increase jobs in urban ghettos or otherwise to promote economic development within the ghetto. Instead, Kain and Persky supported “dispersal” strategies designed to encourage and assist blacks to leave the ghetto for the suburbs, where they could obtain better and cheaper housing, live in safer neighborhoods, attend good public schools, and gain access to jobs. Such policies, they argued, would be more cost-effective not only in the short run but also in the long run. They argued that a dispersal strategy, by slowing or reversing the growth of massive central-city ghettos, would alleviate the problems of unemployment, poverty, and crime associated with such ghettos. Kain has recently acknowledged that the choice of the word “dispersal” was unfortunate, in that “many critics interpreted it as a call for the forced or involuntary dispersal of Afro-Americans from central-city ghettos. [But] nothing could have been further from our minds” (Kain, 1992, p. 445). Instead, the goal was to reduce existing barriers in order to provide black households and workers with meaningful choices in jobs, housing, and education throughout the metropolitan area.

A narrower approach to the spatial mismatch problem focusses on making suburban jobs more accessible to ghetto residents (Hughes, 1991). Criticizing the dispersal approach on the grounds that the changes it requires, such as fair housing in the suburbs, are subject to enormous political obstacles, Hughes proposed a six-part mobility strategy incorporating job training, job information systems, restructured transportation systems, day care facilities, higher earned-income tax credits to supplement entry-level wages, and a place-based policy of reducing crime in urban ghettos (see Hughes, 1991, and discussion in Kain, 1992, pp. 446–450). In fact, however, Hughes’ mobility strategy is not inconsistent with a dispersal strategy, in that it would provide more opportunities for residents of inner-city areas to improve their economic well-being and, if they chose, to move out of the ghetto. It differs in that it focusses exclusively on access to jobs and, in Kain’s view, pays too little attention to other ingredients of long-term economic success such as the good schools and good housing that are most often found in the suburbs.

Both the Kain and Persky and the Hughes approaches are primarily people-oriented strategies, and the difference between the two draws attention to the possible desirability of place-based strategies. Compared to the Kain and Persky dispersal approach, Hughes’ approach emphasizes the distressed areas within cities. Implicit in his approach is the belief that one can change the culture of unemployment and welfare dependency in distressed inner-city neighborhoods by providing people with access to jobs, even if those jobs are in the suburbs. The major weaknesses of Hughes’ approach are the difficulties of solving the transportation problem in a cost-effective manner,³ the observation (discussed below) that the labor-market isolation of city residents in distressed neighborhoods entails more than just their spatial isolation from jobs, and the possibility that the community, *per se*, contributes to its residents’ well-being.

Place-Based People Strategy

A more direct approach to dealing with pockets of urban distress in urban areas involves using place-specific assistance to help the residents—especially the disadvantaged residents—of distressed urban areas. Central to this approach is the view that the community plays an important role in its residents’ well-being. Thus, in order to help people, one must build or revitalize communities. While the concept of “community” for upper income, well-educated working households need not be defined by a geographic area—instead, it might be defined by one’s working or professional community—for low-income people, community is most appropriately defined in terms of a geographic area or neighborhood. Thus a place-based people strategy starts from the view that “in a very meaningful sense people cannot be separated from place, and that an antipoverty strategy needs to treat individuals in the context of their community” (Butler, 1991,

p. 35). The place-based people strategy aims to preserve and strengthen community institutions and ultimately to generate more jobs and a higher standard of living for residents.

Consistent with this view are recent works by O'Regan and Quigley (1991, 1993) and Ludwig (1993) that document the social isolation of many residents in distressed areas. To the extent that the isolation results in incomplete knowledge of the labor market and limited exposure to people in the labor market who may serve as the informal contacts needed for successful job searches, transportation strategies designed to improve access to suburban jobs may not be sufficient to improve the economic condition of inner-city residents. Instead, place-based strategies may be needed. By bringing jobs to distressed urban areas, proponents of enterprise zones hope to reduce the isolation of inner-city residents from the labor market. However, success in this endeavor requires not just that there be local jobs but that the jobs be given to local residents. Such an outcome is not assured. Few local residents will be hired if firms require skill levels not generally present in the local population or if they continue to fill jobs by relying on existing labor market networks from which ghetto residents are isolated.⁴

Proponents of a place-based people strategy agree that the targeted geographic area or zone should contain a mix of land uses, including residential, industrial, and commercial activity. Mixed-use neighborhoods are important to enable the area to adapt to changing economic conditions and to promote a flourishing street life that can reduce crime and other social problems which might inhibit local economic development (Butler, 1991, p. 35). A mix of land uses also provides linkages between various firms and people that can lead to multiplier effects within the communities. For example, a firm may buy some of its input from other local firms, and the increased income of resident workers may generate more consumption spending in the neighborhood (Rubin, 1993, p. 3).

In addition, proponents favor small firms over large ones (Butler, 1991, pp. 32–37). Small firms are viewed as more likely than large firms to hire local residents and unleash their latent entrepreneurial energy. Small firms are also preferred because of the greater likelihood that they can use existing buildings; large firms typically need to build their own customized facilities. Proponents of this small firm strategy buttress their arguments by referring to David Birch's conclusions that small firms are the most important generators of new jobs and are the only net producers of jobs in poor, urban neighborhoods (Birch, 1981, 1987). Although commonly cited, this picture of small firms is somewhat misleading. As elaborated by Brown, Hamilton, and Medoff (1990), small firms do not create as large a share of the jobs as claimed by Birch, and when their high failure rate is taken into account, small firms do not grow faster than large firms. Moreover, small firms offer lower wages, lower benefits, and less job security than large firms.⁵

Conceptually, the small firm strategy is a crucial component of a place-based people approach to local development. Without it, any place-based program is subject to the potentially serious criticism that it simply moves jobs from one location to another. Based on metropolitanwide data, Bartik (1991, 1993) claims that net gains to society can emerge even in the absence of an increase in the total number of jobs, provided the jobs are moved from areas where labor is in short supply to areas where it is in surplus. If Bartik is correct, even a program that simply moves jobs around may be justifiable on economic grounds. Generally, however, such a program faces the tougher political hurdle of needing to be justified on distributional grounds alone. The small firm strategy is appealing because it makes plausible the possibility that jobs will be generated which will increase the total output of the economy, that the new jobs may go to disadvantaged local residents, and that, because some of the residents will become owners of local firms, they will have a larger stake in the economic stability of the community.

The new empowerment zones and enterprise communities proposed by President Clinton and passed by Congress in the 1993 Budget Reconciliation Act represent the clearest, most recent attempt by the United States to pursue a place-based people strategy. It is place based in the sense that the incentives and other benefits are targeted to geographically defined zones that are substantially larger than many of the zones in the State programs. The Act authorizes the Secretary of Housing and Urban Development to designate 6 urban and 3 rural empowerment zones and 65 urban and 30 rural enterprise communities. While the designation criteria and other details have yet to be resolved, the goals of the program are quite clear: to build communities and empower residents of distressed areas so that they may prosper. The tax incentives include a 20-percent tax credit covering the first \$15,000 of wages and certain types of training that a business provides to each employee who lives and works in the zone, as well as tax and financial incentives for investment in the zone. In addition, the program creates a block grant that will direct money for social services to disadvantaged residents of the zone.⁶

Most of the 38 State enterprise zone programs can also be categorized as place-based people strategies, at least in part. In their statement of intent, 18 of the State programs list the goal of increasing health, safety, and welfare; 3, the goal of promoting community development; and 11, the goal of revitalizing neighborhoods. Many also cite job creation as a goal. Twenty-seven States either include as part of the eligibility criteria the hiring of zone residents or provide financial incentives for the selective hiring of zone residents or disadvantaged workers (Erickson and Friedman, 1991, pp. 160–163). However, since many of the State programs are also intended to revitalize economic areas regardless of who receives the jobs and other benefits, many can also be characterized, at least in part, as pure place strategies.

Pure Place Strategy

Urban distress within a narrowly defined geographic area need not refer to the distress of that area's residents. Instead, it may refer to blighted or vacant areas of cities in which few people live or to deteriorating downtown business districts that house few city residents. Pure place-based strategies involve either improvements to the physical landscape of the area or its economic revitalization, defined as new investment and new jobs within the area. With respect to the provision of jobs, the pure place strategy differs from the place-based people strategy in that it is intended to improve the economic well-being of people in a geographic area extending well beyond the boundaries of the targeted area rather than to help only the residents of the targeted area. Implicit in this strategy is the view that pockets of blight are detrimental to the economic vitality of the larger jurisdiction.

Externalities are sometimes used to justify geographically targeted government interventions of this type. Small investors acting alone may have little incentive to invest in a blighted area because of the risk that the area will remain blighted. This argument is especially valid for firms that plan to buy property in the area and for whom costs and revenues are directly related to the characteristics of the area, such as a high crime rate. However, if many investors simultaneously invested in the area, they would all benefit from one another's investments. Government intervention can alter the situation in one of two ways. One is to provide financial incentives to induce large companies to invest in the areas, especially companies large enough to internalize the externalities involved in investing in the blighted areas.⁷ The other is to signal to many smaller investors that the area is about to grow. Convincing investors that others will simultaneously invest in an area mitigates the externalities problem.

The enterprise zone approach, as conceptualized and used in England, illustrates this pure place-based strategy.⁸ The term “enterprise zone” was initially used in a speech by Sir Geoffrey Howe in 1978 to describe a new policy for dealing with small areas in the most derelict and depressed sections of British cities. The areas, about 1-mile square, were typically old industrial areas, often near ports, which became vacant and rundown as economic forces reduced the demand for the warehouses or other businesses that once formed the economic basis for the area. Most of the zones housed very few residents; indeed, residential areas were often explicitly excluded from the zones. A zone program, it was hoped, would produce a small urban industrial park that would yield economic benefits to the larger geographic area.

As discussed below, the governmental policy designed to achieve the goal was deep regulatory and tax relief. Deep tax breaks were required, it was believed, to induce large corporations to invest in the zone. Attracting the investment of large corporations was deemed essential, because only they would have the resources and incentive to redevelop the entire area.

The closest thing to a pure place approach in the U.S. urban context is the revitalization of downtown business districts. Because so few people typically live in the downtown or central business district (CBD), a CBD development strategy should not be viewed as one designed to help distressed residents in the district. Instead, it must be justified as a provider of additional jobs for residents throughout the city. Whether downtown revitalization in fact helps poor city residents is a controversial issue beyond the scope of this article.⁹

As already noted, to the extent that State enterprise zone programs aim to provide new jobs to people beyond the zone, they can be classified, at least in part, as pure place strategies. Thus they combine the elements of a pure place strategy with those of a place-based people strategy.

Policy Tools to Promote the Development of Places

To promote the economic development of places, enterprise zone programs typically rely primarily on the supply-side policy instruments of geographically targeted tax abatements and, in some cases, the relaxation or streamlining of regulation. Three key issues arise with respect to these policy tools: (1) what specific forms of tax reduction are most appropriate; (2) are supply-side policy instruments appropriate or sufficient for achieving the goals of place-based programs; and (3) can any place-based strategy improve the welfare of local residents?

Forms of Tax Reduction and Other Financial Incentives

The philosophy underlying the enterprise zone concept in England called for lower regulatory barriers and reduced taxes. The original idea in the United States was to promote local development in distressed areas primarily by reducing regulatory barriers. However, opposition from unions and environmentalists quickly shifted the emphasis to tax reduction.

In the United States, the State enterprise zone programs vary in the types of tax and financial incentives they offer to encourage firms to locate or expand in the zone. A recent study showed that most zones used tax incentives, with 51 percent offering sales or

use tax credits; 51 percent, job creation and wage credits; 49 percent, employer income tax credits; 43 percent, selective hiring credits; and 37 percent, investment credits. In addition, 20 States either provided property tax credits or made them available at the option of local governments (Erickson and Friedman, 1991, p. 160).

In light of the small firm strategy discussed earlier, it is somewhat surprising to find that many of the enterprise zones include tax abatements that are not particularly useful for small firms. For example, a reduction in corporate tax rates does not help small firms that are sole proprietorships or partnerships, and property tax abatements may not help small firms that rent, rather than own, their property. Moreover, some tax preference provisions seem better designed to transfer benefits to established firms than to induce them to invest more dollars or hire more workers. However, the form of the tax break may help determine which types of firms choose to locate in the zone. For example, as documented below, the Indiana inventory tax credit provides a strong incentive for warehouses and similar businesses to move into the zone. Proponents of the small firm strategy most likely did not have warehouses in mind as the ideal type of business around which to build a vital community.

In addition, many analysts have observed that, given the goal of increasing local employment, subsidies to capital make less sense than subsidies to labor (see, for example, Gravelle, 1992). A capital subsidy is attractive to capital-intensive firms to move away from labor in favor of capital. Only by reducing production costs and inducing more production can such a subsidy generate jobs. In contrast, a subsidy to labor would be more attractive to labor-intensive firms and would encourage more use of labor relative to capital.

Leslie Papke (1993) builds on Gravelle's work to simulate the effects of enterprise zone tax incentives on zone wages and employment within the context of a standard neoclassical model. The key parameters in her model are, first, the determinants of the demand for labor, namely the elasticity of demand for the products produced in the zone and the ease with which labor and capital can be substituted in production and, second, the elasticity of the supply of labor to zone firms. If zone products tend to be manufactured goods, the demand for zone output is likely to be highly price elastic, as the goods are close substitutes for those produced outside the zone. However, given that much zone production is for local trade and service markets, the relevant elasticity may be quite low.¹⁰ Papke uses a range of elasticities to cover these cases. In all her simulations, she assumes a unitary elasticity of substitution in production. With respect to the elasticity of the supply of labor, she uses a range of estimates, with the higher estimates reflecting possible behavior of disadvantaged or unskilled workers.

Papke's most important finding is that for low price elasticities of product demand, a subsidy to capital *reduces* zone wages. Thus the benefits of the subsidy accrue to the owners of capital or, in the context of a more complete model, to the owners of land in the form of higher land prices. Consistent with economic theory, regardless of the elasticity of demand, zone wages increase much less with a 10-percent capital subsidy than with a 10-percent labor subsidy. Thus, assuming that the goal of the development strategy is more jobs, the works of both Gravelle and Papke provide compelling evidence that labor subsidies should be an important part of the incentive package. Papke also shows that a labor subsidy targeted to zone residents increases zone wages by more than a general labor subsidy.

Many people acknowledge that small firms have difficulty obtaining access to financial capital. Consequently, many of the Federal proposals for enterprise zones during the

1980s included tax incentives to make capital available to small firms. For example, the House version of the bill vetoed by President Bush on other grounds included a 50-percent exclusion of capital gains to encourage people to invest in high-risk areas. Critics of this proposal argue that such a strategy would simply bring venture capitalists from outside the area to invest in small businesses (see the George Peterson interview in Noah and Wartzman, 1993). A preferred alternative, Peterson argues, is to assist community development banks, which are in a better position to foster indigenous businesses.

Supply-Side Tax Reductions Versus a More Active Governmental Strategy

The appropriate policy tools for pursuing the economic development of areas depends on one's policy goals, one's views about the existing obstacles to local economic development, and one's philosophy about the role of government. In England, policymakers argued that the blighted industrial areas remained blighted because of governmental obstacles to entrepreneurial activity. Hence, especially for those who were philosophically opposed to large government, the preferred policy tool was to eliminate taxes and regulatory burdens in the blighted areas in order to stimulate private market activity. In the United States, where a primary goal of enterprise zone programs is to improve the economic well-being of disadvantaged residents in distressed areas, some observers emphasize additional obstacles to economic development, such as small businesses' need for technical assistance, high crime rates, the limited skills of zone residents, and the lack of child care. To reduce these obstacles, a more activist governmental program is needed. This additional government involvement clearly conflicts with the basic philosophy underlying the British version of enterprise zones.

What is known about the effectiveness of supply-side incentives? Recent literature on the effects of taxes on the location and investment decisions of firms implies that, in principle, they could be effective in enticing firms to locate in the designated zones. However, various studies of specific U.S. enterprise zone programs cast serious doubt on the effectiveness of supply-side incentives as a mechanism for helping disadvantaged people in distressed urban areas.

Starting with John Due's 1961 survey of the literature on the effects of taxes, the conventional wisdom among economists held that taxes had little or no effect on the business and investment decisions of firms. A 1988 survey of the literature written before 1986 (Newman and Sullivan, 1988) came to a more agnostic conclusion. Based on a careful review of the methodological issues raised in the studies, Newman and Sullivan concluded that the impact of taxes on industrial location "should be treated as an open rather than a settled question" (p. 232). More recently, Bartik's review of 57 empirical studies, including 36 written after 1986, has generated a new conventional wisdom, namely that taxes have significant and policy-relevant impacts on the interstate and interregional investment and location decisions of firms (1991, chapter 2). Table 1 summarizes Bartik's results, showing that the estimated elasticities range from -0.25 for all studies to -0.51 for studies that include controls for both public service and fixed effects. The -0.25 estimate implies that a 10-percent tax reduction in all State and local taxes would generate a 2.5-percentage point increase in business activity in the long run.

These results understate the effect of taxes on the investment decisions among suburban communities within a metropolitan area. Compared with the interstate or interregional decisions summarized in Table 1, the choice among suburban communities within a metropolitan area provides more leeway for tax differences to dominate other differences among communities. However, intrametropolitan location studies that focus on the way

that taxes affect the movement of firms between central cities and suburbs typically yield negligible effects (Bartik, 1992, p. 108). Only one of four studies (Luce and Summers, 1987) finds a statistically significant impact. These latter studies imply that cities, which need economic development the most, may be the least able to use business tax reductions to achieve it. At the same time, Bartik's more general conclusion that taxes do matter leaves open the possibility that taxes in small geographically defined zones could induce investments from other parts of the city to shift to those zones. Studies of the English enterprise zone program, summarized below, indicate that that is exactly what has happened. The first major study showed that 86 percent of the firms locating in the zones came from the same county.

Various empirical studies of U.S. enterprise zone programs shed light on the comparative importance of tax reductions or other considerations in generating economic activity in enterprise zones.¹¹ For example, a study of Connecticut's program, one of the earliest, was made after 2 1/2 years of operation. It provided a generally positive picture in terms of jobs created, businesses started, vacant buildings recycled, and investments made, but could not attribute the increased activity to the specific inducements offered. Instead the results were best explained by the "psychological stimulus created by the excitement of a new program" (Eisinger, 1988, p. 196).

The most surprising finding of the Connecticut study was that firms made little use of the tax incentives. For example, few firms in the zones took advantage of the property tax abatements or applied for job incentive grants or low-interest loans. In fact many firms were ineligible for some of the benefits, because fewer than 30 percent of their new hires were zone residents or because the firm leased rather than owned property. The authors of the study concluded that zone designation alone, rather than specific incentives, may have spurred the economic activity. This conclusion also emerged from a 1986 U.S. Department of Housing and Urban Development study of 10 enterprise zones in 9 states (Battle and Underhill, 1986, summarized in Eisinger, 1988, p. 198).

A more recent comparative analysis of four State-specific enterprise zone programs directly compares the effectiveness, or lack thereof, of supply-side incentives relative to an interventionist governmental strategy for promoting local economic development. Elling and Sheldon (1991) examined the effectiveness of supply-side incentives in 47 enterprise zones in Illinois, Indiana, Kentucky, and Ohio. All four States had well-established programs, and all restricted the zones to small, blighted areas: The median-sized zone was 13.4 square miles in Kentucky, 7.5 in Ohio, 5.0 in Illinois, and 3.0 in Indiana. Most of the zones provided local property tax relief, and some had reduced local sales and utility taxes. In addition, some zones provided additional financial benefits to firms through fee waivers and below market-rate financing. Contrary to the spirit of the English form of enterprise zones, few of the zones in this study provided regulatory relief. Elling and Sheldon described the three forms of incentives (direct tax savings, direct nontax savings, and deregulation) as classic enterprise zone program components, or supply-side incentives.

In addition, more than half the zones in Illinois and Indiana improved their infrastructure, and many zones in the four States provided technical assistance and other services. The amount of administrative staffing of the zones varied significantly across zones and across States. For example, the median number of hours per week devoted to administrative staffing varied from 5.5 hours in Ohio to 40 in Indiana. Finally, in some zones special public-private partnerships were set up. Elling and Sheldon characterized these strategies as interventionist.

In a regression model to explain zone success, Elling and Sheldon measured zone success by the number of firms applying for zone benefits each year. Although they justified their measure on the grounds that successful local economic development requires the birth and relocation of many small firms, the limitations of this measure should be noted. Unfortunately they used no additional measures, such as the value of investment per year or the number of jobs created or retained each year. Moreover, they measured some of the key explanatory variables, such as tax abatements, quite crudely by the number of abatements offered.

Nonetheless their results are suggestive. Focussing on all firms, they found that the interventionist components accounted for much more of the variation in success rates across zones than the supply-side components, which seemed not to work. Instead, the main contributors to overall zone success were the administrative resources devoted to the zone and the services, such as technical assistance, that the zone provides. Disaggregating the analysis to new firms, expanding firms, and relocating firms confirms the importance of staffing levels in each case and also indicates the role of program services for new firms. Only in the regression for firms expanding in the district does any supply-side component emerge as an important determinant. The provision of more nontax incentives in the form of waivers or below market-rate financing apparently contributed to the expansion of existing firms. Nonetheless, the bottom line of this study is that the tax and financial incentives appear to be a relatively ineffective part of the policy package. Additional research along these lines, with more careful attention to the specification of variables, would be desirable.¹²

Can Any Place-Based Strategy Improve the Welfare of Local Residents?

Even if a place-based strategy were successful in increasing the number of jobs and the amount of investment in the zone, the welfare of local residents might not be improved. One reason for this outcome, which has already been mentioned, is that the new jobs may not go to local residents. In addition, even if many of the jobs were to go to local residents, the process of capitalization could transfer some of the benefits to people outside the zone. For example, a place-specific development strategy could transfer benefits in the form of higher land prices or higher rents to nonresident landlords. As a result, with capitalization the benefits of higher wages to local residents would be offset, at least in part, by higher rents, with the impact of residential rents dependent on firms' demand for land.¹³ On the other hand, residents who owned property in the zone at the time the tax incentives were introduced would benefit from the higher property values. Thus, while capitalization clearly affects the distribution of the benefits, its precise implication for improving the real income of disadvantaged local residents remains an empirical question.

Evaluation of Specific Enterprise Zone Programs

Determining the effectiveness of enterprise zones is complicated by the fact that both the goals and the characteristics vary across programs. In addition, two serious methodological issues arise: How can one distinguish the effects of the zone and its various incentives from what otherwise would have occurred in the zone, and how can one determine whether the jobs in the zone are new or simply have been moved from nearby locations? Several recent studies have grappled with these issues using various methodologies in the context of specific enterprise zone programs. The following sections summarize the studies.

The English Experience¹⁴

The English enterprise zone program offered firms three tax incentives: an exemption from the property tax, full expensing of capital expenditures on industrial and commercial buildings, and exemption from the development land tax. The program also reduced the burden of regulatory controls in various ways, such as by streamlining procedures and by relaxing certain reporting and planning requirements.¹⁵ These incentives were designed to generate economic activity in the zone and create jobs. According to Rubin and Richards (1992), the goal was clearly to generate *new* activity, not simply to redistribute activity or jobs from one part of the region to another.

A 1984 government-funded study, the Tym Report, produced some pessimistic conclusions. First, employment grew at a slower pace in the zones (13 percent) than in comparable firms outside the zones (24 percent). Second, the majority of new jobs in the zones could not be attributed to either the enterprise zone designation or the specific incentives provided. Third, and perhaps most devastating, most of the new economic activity in the zones simply represented activity that had been relocated from nearby counties. Specifically, during the first 3 years of the program, 86 percent of the firms relocating to the zones came from the counties in which the zones were located.

More recent studies reinforce the criticism of the English enterprise zone program, confirming that most of the new economic activity in the zones simply relocated from nearby counties. In addition, several studies emphasize that, contrary to the original zone philosophy, the government invested large amounts of money to build infrastructure and buy land. Hence most of the positive impacts of zone designation probably have more to do with public spending than with incentives. The only incentive that appeared to have an impact was the property tax, and it proved most attractive to the larger firms, particularly those with higher capital-to-labor ratios and smaller job-generation potential per dollar of new investment.

Various authors have made estimates of the cost per job, with one study concluding that the cost per zone job between 1981 and 1986 for the original 11 zones was £45,000, or \$67,000. This estimate counted as costs foregone tax revenues and public expenditures and assumed, based on the Tym Report, that only 25 percent of the jobs in the zones could be attributed to zone designation. A 1987 study covering all 24 zones reported a cost per job of only £23,000 per job, but recalculations by Rubin and Richards to make it comparable to other cost figures raised the figure to £50,000, or \$75,000 per job. Both the original estimate and the new one subtract from the total of new jobs those attributable to relocation. The modified estimate, however, excludes from the job count those attributable to multiplier or spillover effects. Neither estimate corrects for the fact that many of the jobs would have been generated in the zone even in the absence of zone designation and thus represent underestimates of the costs of generating jobs in the zone. Given the 5-year time horizon of the study, the \$75,000 translates into an annual cost per job of about \$15,000. Adjusting for the fact that only 25 percent of the jobs should probably be attributed to zone designation, the annual cost per job generated rises to \$60,000 per job.

Maryland

A 1987 study by the U.S. General Accounting Office provides one of the most pessimistic evaluations of a State's enterprise zone program. The Maryland program offers investment credits and also employment credits aimed at hiring both disadvantaged and nondisadvantaged workers. Over a 4-year period, employment by participating businesses in Maryland zones increased by a low of 8 percent (63 workers) in one zone and a high of

76 percent (555 workers) in another, but factors other than the program apparently accounted for most of these increases.

The study focussed on three Maryland zones: Hagerstown, Cumberland, and Salisbury. The program offers investment credits and also employment credits aimed at the hiring of disadvantaged and nondisadvantaged workers. Using monthly data from the State's unemployment insurance program, dealing with participating firms, the researchers used interrupted time series analysis to determine abrupt and gradual changes in employment following the implementation of the program at each site.

The analysis of employment effects in Hagerstown illustrates this approach. The Hagerstown enterprise zone (EZ) covers about 2,000 acres, which include the old central business district, several industrial areas, and a large industrial park. In 1982, at the time of EZ designation, about 3,300 workers were employed in businesses with at least 5 employees. The initial analyses of employment by the 64 participating firms showed that employment increased in August and October 1984, 8 and 10 months after the program was implemented. The question, then, was whether these employment jumps could be attributed to the program. In fact, two new employers accounted for the two employment jumps. Interviews with both employers indicated that the program was not the catalyst for the change. In one case, the employer was not aware of the program at the time of the hiring. In the other case, the firm indicated that it would have located in Hagerstown without the program. When data for these two employers are removed, the employment trends reveal no employment effect of the program. Comparable results are found for Cumberland and Salisbury.

The absence of employment effects implies that the program would not pass a cost-benefit test. In effect the program represents a transfer of resources from Maryland taxpayers to participating firms or to local landowners to the extent that the geographically targeted tax savings are translated into higher land prices.

Indiana

The Indiana program was established in 1983 to create and retain jobs in some of the State's most distressed urban communities. Zone size was limited to 3 square miles, and 14 zones had been created by 1990. Unlike most other States, the Indiana property tax includes business inventories as part of the local property tax base. In response to business criticism of this tax, the major tax incentive under the zone program is a generous 100-percent credit against the local inventory tax for all inventories in the zone. In addition, the EZ legislation provides an exemption of all incremental income from the corporate income tax, a tax credit for lenders of 5 percent of the interest income from loans to participating lenders, an income tax credit for hiring zone residents, and an income tax deduction for zone residents. Because of the generosity of the inventory credit, the revenue foregone by local governments accounts for about 85 percent of State and local program costs.

A recent program evaluation of Indiana enterprise zones (Indiana Department of Commerce, 1992) provides information on the costs of the program, number of new jobs, and number of new jobs for zone residents. The total costs in 1990 were \$20.6 million, and 2,024 new jobs were reported. Of the new jobs, only 19 percent (385) were held by zone residents. Based on these official figures, the average cost per job in the Indiana program is \$10,178, and the cost per new job for a zone resident is \$53,506.

Recognizing that some of the Indiana programs may be more cost-effective than others and that not all new jobs in a zone should be attributed to the creation of the zone, Rubin

and Wilder (1989) applied shift-share analysis to one of the more successful zones within the Indiana program, seeking additional insight into the potential cost-effectiveness of the Indiana zones program. The shift-share methodology addresses one of the two major methodological challenges associated with the evaluation of enterprise zones, namely isolating the changes that occur in the zone as a result of zone designation from those that would have occurred in any case. The basic approach is straightforward. The total growth in zone jobs is decomposed into that associated with overall growth in the regional economy, that associated with differential growth rates by economic sector, and a residual not attributable to either regional or sectoral growth. The unexplained residual, according to the authors, plausibly represents the effects of the zone.

For the 1983–86 period, the authors determined that 1,430 of the 1,878 new jobs in the Evansville zone could not be explained by either growth or industry-mix effects and, hence, plausibly represent the impact of zone policies.¹⁶ It is noteworthy, however, that 1,005 of these jobs are in the transportation, communications, and utility sector, which includes warehousing and distribution; 605 of the jobs were accounted for by a single regional distribution center. Given that the largest tax break in the Indiana enterprise zone program is a full exemption from the local property tax on inventories, it is not surprising that the distribution center should choose to locate in the zone. Indeed, the corporate head of the firm explicitly stated that the enterprise zone was the primary reason for the firm locating in Evansville (Rubin and Wilder, 1989, p. 428).

Although they recognized that not all zones are as successful as Evansville, Rubin and Wilder used that site to argue that zones can be a cost-effective generator of jobs. The Evansville program, they argued, cost the city \$4,117 over a 3-year period per job created, which translates into an annual cost of only \$1,372. One criticism of this figure is that it understates the full cost of the program by excluding foregone revenues to the State. Assuming that the local revenues foregone represent 84 percent of the total costs (based on budgetary figures for all Indiana zones summarized in Papke, 1991), the annual cost should be increased to \$1,633.

A much more serious criticism, however, implies that Rubin and Wilder grossly understated the cost per *net* new job, as distinct from new jobs in the zone. Given the large contribution of warehouse activity to the zone, it is highly likely that the warehouses would otherwise have located somewhere else in the region. Stated differently, the Rubin and Wilder methodology is reasonably well suited to isolating the effects of the zone on activity in the zone but has nothing to contribute to the methodological challenge of determining whether a net increase in jobs occurs. If all the warehouse jobs simply represent relocations, the cost per net new job would be much higher. For example, if one uses this logic to exclude all the new zone jobs in the transportation, communications, and utility sector as well as those in wholesale trade, Rubin and Wilder's figures imply only 282 jobs and a cost per net new job of \$8,280. How many of these jobs accrued to zone residents is not clear. However, using the statewide average for all enterprise zones of 19 percent, the cost per new job per zone resident increases to \$43,579.

Papke (1991, 1993) has undertaken the most thorough analysis of Indiana's enterprise zone program. Her 1991 study used three outcome measures of the effects of enterprise zones in Indiana: unemployment claims, capital investment, and inventories. Her interest in inventories simply reflects the peculiarities of Indiana property tax law and tax incentives under the zone program. According to Papke, 1,000 firms participated in EZs annually, with retailers most heavily represented. Over time the program experienced an increase in the proportion of manufacturing and wholesale distributors. Consistent with the philosophy of enterprise zones, many of the participating firms were small, with

almost two-thirds of them having fewer than 20 employees. However, a majority of the jobs were provided by larger firms.

Controlling for zone-specific and time effects, Papke estimated the average effect of the enterprise zone on each of the three outcome measures. According to the simplest model, enterprise zones generated a 9.8-percent decline in machinery and equipment investment, an 8.3-percent increase in inventories, and a 25-percent decrease in unemployment claims, where unemployment claims include those from nearby offices as well as in the zones themselves. Models somewhat richer in the specification of the time variable and in the timing of the effects of the zone yield similar results. The findings for investment in inventories versus machinery and equipment were consistent with expectations: Those firms that will benefit most from the tax incentives, mainly the warehouses, will replace those that receive fewer benefits from zone investment.

The most hopeful finding was the reduction in unemployment claims. To the extent that this reduction translates into increased output that otherwise would not have been produced, it represents a benefit for society. A subsequent analysis (Papke, 1993, p. 37) using census data to compare changes in the well-being of zone residents with people in other areas of Indiana cities between 1980 and 1990, is less sanguine. Over the 10-year period, population loss was greater for the zones, and per capita income, which started at a lower level in 1980, fell in the zones while it increased in the control areas. Unemployment fell more in the zones than in the control groups, but the difference was small. On balance, the zones seem to have had little positive impact on the economic well-being of their residents.

New Jersey

Marilyn Rubin's 1990 article on New Jersey enterprise zones summarizes the results of a major survey-based study of that State's urban enterprise zone (UEZ) program. Two specific characteristics of the study are noteworthy. First, Rubin attempted to estimate indirect as well as direct effects of the program. Second, she attempted to isolate the effects that are attributable to the program. Somewhat surprisingly her overall evaluation of the program was based heavily on a narrow budgetary perspective.

The New Jersey UEZ program is based in 10 cities selected by the State from 18 proposals. The program provides eight major benefits to qualified UEZ businesses; two involve reduced regulation, three provide incentives to businesses to hire workers with specific characteristics, and three provide general investment incentives. The costs of the program are the administrative costs plus the foregone revenues associated with sales tax exemptions or rate reductions, corporate tax credits, and rebates on unemployment insurance taxes.

The direct results of the program are based on survey data collected during 1987 and 1988 from almost 500 participating firms. Because those firms that responded to the survey accounted for only 49 percent of all participating firms, responses had to be extrapolated to the nonresponding firms. Fortunately, the nonresponding firms were similar in size and type of industry to the responding firms. Based on the survey responses, adjusted to account for the nonrespondents, Rubin reported that participating firms provided more than 9,000 new jobs, \$242 million in additional wages, \$1,776 million in additional production, and \$803 million in investment.

According to Rubin, these direct effects produce indirect ones through a multiplier effect on the State economy. Using a 127-sector input/output model, she estimated the impact of

the direct effects on the outputs of other sectors in the economy. The first simulation determined the induced effects associated with the increase in disposable personal income of workers in UEZ businesses. The second simulation determined the induced impacts associated with the spending of workers hired as a result of the first round of induced effects. The total estimated effects are huge, both in absolute terms and relative to the direct effects. For example, the total number of jobs that emerged from this exercise was 42,700, or more than 4 times the number of new jobs in participating firms.

Two criticisms can be lodged against this methodology. First, the direct effects may not all be attributable to the EZ program. Indeed, only 32 percent of the businesses reported that UEZ benefits were the primary or only reason for their location or expansion decision. In light of this finding, Rubin redid the analysis basing it only on the firms whose behavior was affected by the program. This adjustment reduced the total number of jobs generated to 16,280. Even that estimate represents an overstatement, because some of the job increase in the relocating or expanding firms presumably responded to the booming New Jersey economy rather than to the UEZ program.

A second criticism, more serious yet not emphasized by Rubin, is that the case for adding indirect impacts is weak. Almost certainly, most of the second-round effects would be offset by reduced activity elsewhere in the State economy. The potential for offsetting reductions applies as well to the direct effects but is potentially less compelling for them, provided that jobs go to people who were otherwise unemployed or underemployed. This criticism implies that the study overestimates the true effects of the UEZ program.

To provide an overall evaluation of the program, Rubin concentrated initially on a narrow budgetary perspective. If the indirect effects are not counted, the additional taxes generated fall short of the costs of the program. However, when the indirect effects are included, additional revenue exceeds costs by 90 percent. Rubin preferred this latter result and concluded that the benefits of New Jersey's UEZ exceed the costs. However, a more careful consideration of the displacement issue could lead to a less favorable conclusion.

Interestingly, Rubin provided information on the economic effectiveness of the program almost as an afterthought. Her estimates suggest that the cost per job is \$13,070 if only the direct effects are considered and \$3,171 if both direct and indirect effects are included. Given the displacement issue, the higher figure is probably the more plausible. Even this figure, however, could substantially understate the true cost, given Rubin's inability to rule out the employment growth that would have occurred anyway under New Jersey's booming economy at that time.¹⁷

Cost-Effectiveness of the Enterprise Zone Programs

The experience to date with enterprise zones provides a reasonably clear indication that, as implemented in England and in the United States, the zones have not proved to be a cost-effective means of providing jobs. The cost-effectiveness estimates from the various studies are summarized in Table 2. As shown, the basic estimates range from a low of \$1,633 for the Evansville program to a high of infinity for the Maryland program. However, as indicated in the right-hand column, various adjustments to these figures suggest that the true annual costs per new job fall into the \$40,000 to \$60,000 range. The \$60,000 figure for the English program refers to the cost per net new job. Given the greater focus on zone residents in the U.S. programs, the preferred estimates for the State programs refer to the cost per job for a zone resident. Unfortunately, lack of data on the number of jobs for residents make it impossible to convert the New Jersey cost per job to the pre-

ferred measure of the cost per job for a zone resident. Nonetheless, the conclusion is clear: None of the programs generates jobs in a cost-effective manner.

Conclusion

Pure place strategies of the type represented by the English enterprise zone program are not an effective approach to pockets of urban distress. The main effect of the tax and regulatory relief provisions is simply to relocate firms to the zones from nearby locations. The combined place and place-based people strategies implicit in the State versions of the enterprise approach do not fare much better. Supply-side incentives alone appear to be a costly and not very effective means of generating net new jobs or improving the welfare of disadvantaged zone residents. The Clinton Administration appears to have understood these lessons from the State experience and, consequently, has included more community-building components in its new Federal empowerment zone program. However, whether or not the new program, with its larger zones and its greater emphasis on improving the local social environment, will fare any better remains to be seen. Unfortunately, the limited information available on the role of the social environment as an economic development tool does not encourage great optimism (see Lynn's article "Social Structures as Economic Growth Tools" on page 245 in this volume).

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Notes

1. The U.S. Congress authorized an enterprise zone program in 1987. However, because it included no tax incentives, the Bush administration chose not to implement it.
2. Although enterprise zones are sometimes used in rural areas, this article focusses only on urban areas.
3. The two principal transportation problems are that disadvantaged city residents typically do not have access to a car and that standard public transportation systems poorly serve the reverse commuter, who often cannot walk from a suburban transit stop to a job. Proposed solutions such as publicly funded car pools, flexible jitney service along major suburban routes, and employer-provided transportation for inner-city workers are worth exploring but tend to be expensive or difficult to implement. See Bahl and Ihlanfeldt, 1993, for a discussion of these options.
4. In a recent study of the Red Hook area of Brooklyn, Philip Kasinitz concluded that “in a loose labor market it is easier and more efficient for employers to find new employees through informal referral systems, particularly when local residents are perceived as unreliable and prone to crime” (1993). He argues that a more promising approach to connecting ghetto residents with private-sector jobs than one that tries to bring jobs to ghettos would be to create proxy networks that can “inform, socialize, and vouch for employees in much the same way social and ethnic networks now do.”
5. In his 1981 article, Birch concluded that between 1969 and 1976 “small business” created 8 out of 10 new jobs. Brown, Medoff, and Hamilton point out that Birch overstated the case by defining business size in terms of the number of people working at a given location (such as a Sears outlet) rather than the total number working for the firm. Moreover, they point to the high failure rate of small firms and argue that one should focus on the growth of nontransitory jobs, to which small firms make a smaller contribution (Brown, Hamilton, and Medoff, 1990, pp. 2–3).
6. The Clinton administration has not restricted itself to spatially targeted strategies. While it supports and will implement the empowerment zone legislation, it is simultaneously developing a larger set of strategies that may or may not be limited to the designated zones. These strategies include working with the Small Business Administration to develop one-stop investment centers, making billions of dollars available for home ownership in distressed communities, and working with various cabinet secretaries to bundle programs that can be targeted to the cities. (Based on a speech by Paul Dimond at the Hudson Institute National Urban Enterprise Zones Conference, October 21–23, 1993, Indianapolis, Indiana.)
7. However, if a firm is large enough to internalize the externalities, the question arises as to why the firm would not invest there without government subsidy. British proponents of enterprise zones claimed that large firms were hindered by government regulation and high taxes.

8. The following discussion relies heavily on Butler, 1991.
9. A major problem is that often a large percentage of the jobs go to suburban rather than city residents. Ladd and Yinger (1991, p. 25) document that in 48 of 86 large cities in 1982, more than half of the payroll paid by private employers in the city accrued to nonresidents. In a recent study that compared changes in the economic well-being of residents in cities that revitalized their downtown areas between 1980 and 1990 with those that did not, Wolman, Ford, and Hill (forthcoming) concluded that, with the exception of Atlanta, Baltimore, and Boston, the revitalized cities performed no better with respect to change in the economic well-being of their residents than did other cities that were equally distressed in 1980.
10. Papke reports, for example, that in Indiana, 74 percent of total receipts of firms participating in the program are derived from firms inside the zone.
11. Also see discussion below on the English enterprise zones.
12. Wassmer (1992) provides a somewhat more optimistic view of the power of tax incentives or abatements to promote local economic development, albeit in the context of communities, rather than small enterprise zones. Based on pooled time series cross-section data for communities in the Detroit metropolitan area and a 10-equation model, he concludes that tax abatements can increase a community's manufacturing and commercial property tax base, especially when the abatements are used to overcome adverse characteristics of an area that are not already capitalized into lower property values. Wassmer emphasizes, however, that the impact of such abatements on the real income of local residents is unclear, given that such abatements in his sample appeared to lead to higher local crime rates and decreases in the value of owner-occupied homes.
13. The concept of capitalization technically refers to the impact of a flow (in this case, a subsidy) on the price of an asset (in this case either land or land and buildings). Although impacts on rents are technically not an example of capitalization, they are usually included in the term. Ross (1993) has built a formal urban model to examine the impact of local economic development strategies on resident welfare. Based on his assumption that all the land is owned by absentee landlords, he concludes that the direction of the impact of local economic development on resident welfare is indeterminate, because the increased demand by firms for land in the zone generates higher prices for all property in the zone.
14. The following discussion relies heavily on Rubin and Richards, 1992.
15. The English program is now being phased out.
16. This inference can be criticized on two grounds. The first is based on the problem of regression to the mean. Because enterprise zones are likely to be established in areas with unusually high unemployment or at times when unemployment is at a peak, employment is likely to go up relative to other areas or over time, even in the absence of the program. Working in the other direction is the possibility that the regional growth trends may overstate the expected growth in distressed areas in the absence of the program. Given that the criticisms work in opposite directions, the direction of the bias cannot be determined.

17. In a recent empirical study based on municipal data, Boarnet and Bogart (1993) found no measurable effects of the New Jersey Urban Enterprise Zone program on jobs, wages, or property values. Hence not all researchers agree with Rubin that the program generated a significant number of new jobs.

Table 1

Summary of results from various types of recent studies of State and local taxes on the economic activity of a State or metropolitan area

Type of study	Percentage of studies with at least one negative and statistically significant tax effect	Mean elasticity of economic activity with respect to taxes (standard error of mean)	95-percent confidence interval for mean
All studies	70 percent [57 studies]	-.25 (.053) [48 studies]	-.14 to -.36
Studies with public service controls	80 [30 studies]	-.33 (0.85) [25 studies]	-.15 to -.51
Studies with fixed effect controls	92 [12 studies]	-.44 (.106) [11 studies]	-.20 to -.68
Studies with both public service and fixed effect controls	100 [7 studies]	-.51 (.134) [6 studies]	-.17 to -.85

Notes:

Figures in brackets are the number of studies used in the calculations. This table is derived from Bartik, 1991, Table 2.3. The elasticity numbers used are the long-run percentage effects on each study's measure of local business activity (employment, etc.) of a 1-percent increase in all State and local tax measures used in the study. The calculation of the mean elasticity includes all studies in which such elasticity can be calculated, including studies in which taxes had a positive effect. Studies with public service controls include as a control variable at least one measure of the level of public services for each State or metropolitan area. Studies control for fixed effects by differencing all variables from the previous year's value or the sample mean for that State or metropolitan area, or by including a set of dummy variables for each State or metropolitan area.

Reproduced from Bartik, 1992, Table 1.

Table 2

Cost-effectiveness of enterprise zone programs
(Annual cost per job or per job for zone resident)

Program or study	Basic estimate	Adjusted preferred estimate
England	\$15,000 per job	\$60,000 per job (assumes only one in four jobs attributable to the zone)
New Jersey (Rubin)	\$13,070 per job ^a	>\$13,070 per job ^b (no adjustment for growth of New Jersey economy)
Indiana Commerce Department	\$10,170 per job \$53,507 per job for zone residents	\$53,506 per job for zone residents
Evansville (Rubin and Wilder)	\$1,633 per job ^c	\$43,579 per job for zone residents (subtracts warehouse jobs and assumes 19 percent of jobs accrue to zone residents)
Maryland	Infinite	Infinite (no new jobs)

Notes:

- ^a Direct effects only for reasons given in the text.
^b No reasonable way to estimate cost per job for zone resident.
^c Adjusted upward to account for State share of costs.

Sources:

Papke, 1991; Rubin and Wilder, 1989; Rubin and Richards, 1992; Rubin, 1990; and U.S. General Accounting Office (GAO), 1988.

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