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Enterprise Zones: A Review of the Economic Theory and Empirical Evidence

Over the last 25 years, both states and the federal government have adopted enterprise zone programs to stimulate economic activity in economically distressed urban and rural locations. In 2003, the Minnesota Legislature enacted the JOBZ (Job Opportunity Building Zone) program, the latest variant on the enterprise zone concept. In the middle 1980s, Minnesota implemented an earlier, and more modest, enterprise zone program, which expired in the early 1990s. Since the inception of enterprise zone programs, social scientists have questioned their effectiveness. This policy brief reviews the economics literature on enterprise zones, focusing on empirical studies of the effects of zone programs.

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Overview

Theory

Enterprise zone programs designate specific areas as "zones" that qualify for lower taxes and, in some cases, less government regulation. **Basic no-frills economic theory suggests that lower taxes and less regulation will increase jobs and incomes in the zones by attracting capital, labor, and economic activity.** However, this theory is built upon a number of key assumptions, while more complex theories might produce different conclusions. This points out the need for empirical studies to evaluate what in fact occurs.

History of Zone Programs

The seminal idea for enterprise zones has been credited to both right and left leaning scholars. They hypothesized that allowing unfettered free enterprise within a zone might create economic growth. In the United States, states initially enacted enterprise zone programs. In the 1990s, the federal governments designated zones ("empowerment zones" and "enterprise communities"). States have continued to enact new zone programs: Michigan's Renaissance Zone, Pennsylvania's Keystone Opportunity Zone, and Minnesota's JOBZ programs are some of the most recent examples. The incentives provided, types of areas designed, and other parameters vary considerably from program to program.

Empirical Studies

Empirical enterprise zone studies reach inconsistent results.

- **Most social scientists uncover little net benefit to enterprise zones. However, studies and their results vary widely, delivering mixed conclusions.** Research on tax incentives suggests some circumstances in which zones are more likely to be successful. Certain preexisting regional conditions may set the stage for economically successful tax incentive programs. These conditions include areas with low unemployment rates, high levels of investment, and suburbs. These may be locations that investors might already expect to be profitable or close to being profitable.

- A pervasive source of tension for researchers of enterprise zone programs is how to determine what would have happened without the zone. Study methodology is improving, and social scientists are finding that methodology makes a difference. More recent studies using regression methods are more likely to account for what might occur if the zones were never created.

- **Studies provide further useful policy insights.** For example, they suggest conducting periodic evaluation of the performance of the zones, designating incentives to match the goals of the zone, and avoiding creating too many zones.

This policy brief reviews the economics and policy analysis literature on enterprise zones. It is divided into four parts:

- A description of the economic theory of enterprise zones
- A short account of the history of enterprise zones
- A summary of the findings from published empirical studies
- A discussion of policy implications

I. Enterprise Zones and Economic Theory

A no-frills theoretical model would suggest that an enterprise zone program could increase a region's jobs and income. The tax incentives under a zone program may help overcome economic barriers to development of the zone and, thereby, stimulate increases in jobs and income. However, more complex or nuanced theories call into question the assumptions underlying the theoretical model.

As a policy instrument, enterprise zones are intended to stimulate economic activity in economically distressed areas. Compared with the rest of the state, these areas tend to have higher rates of unemployment, lower incomes, fewer jobs or fewer good paying jobs, and more unused land or blighted structures.[1] They may be in rural areas or in urban areas.[2] Enterprise zone programs provide tax incentives[3] to businesses (and perhaps individuals) in these areas to overcome economic barriers that impede job and income growth.

In order to work (i.e., to create jobs or raise incomes in the targeted areas), basic enterprise zone theory ***assumes*** that several conditions hold true for these areas and zone programs.

1. Economic barriers, such as poor transportation access, raise costs and cause the areas' lack of economic activity.
2. State officials can identify zone tax incentives that can overcome these economic barriers.
3. Conditions allow for long-term profitability within these zones. For example, the region does not undergo a severe and sustained recession, and the zone does not simply attract risk-loving enterprises that will inevitably shut down, even with the subsidies.
4. The zones increase overall growth, rather than just speed up when growth occurs or shift it from a nearby location.

[1] Robert T. Greenbaum and John B. Engberg, "The Impact of State Enterprise Zones on Urban Manufacturing Establishments," *Journal of Policy Analysis and Management* 23, no. 2 (2004): 315-39.

[2] Minnesota's JOBZ program is limited to rural areas of the state. However, enterprise zones in other states and Minnesota's first program were targeted at economically distressed urban areas as well.

[3] Some enterprise zones also attempt to reduce costs by providing relief from government regulations. Regulatory relief is not a substantial feature of the Minnesota JOBZ program and has not played into most of the empirical studies. As a result, the discussion here focuses on the effect of tax incentives.

1. Economic barriers are the problem.

The theory assumes that high costs in the area are a key barrier, preventing increases in economic activity. These cost barriers reduce businesses' ability to hire more workers or purchase more materials and equipment; costs are too high to provide an adequate return on investment—products cannot be produced and sold at a sufficient price. These economic barriers could have a variety of sources. Some possibilities include the following:

- Transportation problems: The area may have poor access to roads, rail, and other means to transport goods and services.
- Access to capital: Bankers may be reluctant to loan money to businesses or individuals in the area. Some areas may have a wide pool of potential investors, while others do not.
- Available labor: There may be only a few workers with the skills an entrepreneur needs to set up a successful operation.
- Social problems: The neighborhood may have high crime rates creating concerns about property damage, theft, or personal harm.
- Environmental problems: Available sites may require incurring costly environmental cleanup expenses.

These barriers can result in costs that prevent businesses from investing or expanding in the zone, creating jobs, and increasing incomes.

2. Tax incentives must overcome the barriers.

The theory assumes that the tax incentives will be high enough to overcome the economic barriers or higher costs of zone locations. From the perspective of a business, the value of tax incentives must be weighed against the higher cost of investing and operating at a zone location. Net profits including the tax incentives must be large enough to provide an equal or higher return than other competing investments. This is a risky proposition for businesses, because they must develop expectations about the future including the political risk of legislative changes or repeal of the zone.[4]

It is difficult for policymakers to determine the amount of tax incentives to provide in order to make a zone program successful. As noted above, multiple barriers may exist. The incentives need to be large enough to induce the desired behavior, but no larger. A profit maximizing enterprise must receive enough benefits to make the zone the most profitable location in the region. But providing benefits above that level simply raises the public cost of the program. Moreover, zone programs are typically applied uniformly to many areas, and the size of

[4] Some enterprises may be risk averse, while others are risk loving. Risk-averse enterprises may not expect a package of incentives to last for an extended period of time and may avoid the zone. Risk-loving entrepreneurs may enter even though the operation is not likely to yield a profit and the benefits may not last long.

economic barriers may vary considerably from area to area and from business to business.[5] Further complicating matters, other competing locations may also have tax or other public incentives, reducing their costs.[6]

In the language of economics, the first, best solution is to find a subsidy that equates marginal social benefits with the marginal social costs to doing business within the zone. Deciding upon the value of the social benefits is a difficult task, let alone determining how much of a subsidy is needed to attract the needed number of businesses.[7]

3. Zone conditions, in combination with the tax incentives, allow for long-term profitability that is necessary to attract investment and economic activity.

Businesses must weigh the location factors and the zone incentives and decide to locate in the zone. By reducing costs, tax incentives clearly can change the profit equation of a zone location for a firm. But knowing what amount is sufficient to induce enough firms to locate in a zone presumes knowledge of the dynamics of business location in the area and of the various individual businesses that might locate within the zone.

The following factors may affect the willingness of businesses to respond to tax incentives by locating in a zone.

- **Direct business costs:** Potential entrepreneurs willing to locate within an enterprise zone include those who choose the zone because it is the most profitable. They will consider the different cost and revenue advantages of zone locations, compared with other sites. Some of these include the benefits of being close to their customers and suppliers, costs related to finding and training workers, and any environmental cleanup costs.

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[5] As only one example, whether an enterprise zone attracts investment may depend upon the pool of potential investor-entrepreneurs. Some areas may have a wide pool of potential investors. It may take little incentive to bring in new entrepreneurs. Other areas may require huge subsidies to bring in entrepreneurs.

[6] Some economists raise concerns that states will lock into a bidding war to provide economic development incentives. This may create a circumstance similar to the classic "prisoner's dilemma." This situation is characterized by the following:

- All states are better off if no state creates an enterprise zone.
- One state is much better off if it is the only state that creates enterprise zones.
- All states are irreconcilably worse off if all states create enterprise zones.

If this logic prevails, all states will be impelled to create enterprise zones (or similar incentive programs), if only to prevent other states from attracting investment they otherwise would have gotten, and all states will be worse off. The net result would be to lower taxes beyond what is needed to provide for public goods. Whether such a bidding war exists may be up for debate. Outside of anecdotal stories, few have been able to statistically and systematically identify any pervasive economic war among the states. *See, e.g.,* Russell L. Hanson, "Bidding for Business: A Second War Between the States?" *Economic Development Quarterly* 7, no. 2 (1993): 183-96.

[7] Determination of social marginal benefits and social marginal costs is very difficult. In an idyllic world without transportation costs or transaction costs (e.g., litigation costs, costs in privatizing and assigning rights to property, and so forth), the market will take care of itself. In the real world where these costs exist, it is difficult to determine how much marginal benefits (or costs) differ from observed marginal benefits (or costs).

- **Public services and amenities:** Some economic development professionals suggest that enterprises locate within an area for more than profits. Some entrepreneurs may choose a location because it has a low crime rate, little traffic congestion, and access to outdoor recreational opportunities. Others may choose locations with theaters, restaurants, museums, and other cultural amenities.

- **Other intangible factors:** Still other nonmonetary or intangible factors may influence business location decisions. Some entrepreneurs may choose to locate their business near their hometown. Others may be willing to forgo some profit potential because they like the area or even for altruistic reasons, such as wanting to help workers in the region.

Entrepreneurs may weigh all of these factors when deliberating over potential locations. **State officials' choice of incentives may make a difference in whether the zones are effective.** For those entrepreneurs who require a place with public services and amenities, tax incentives may make less of a difference. In such cases, tax incentives at the cost of local public services may reduce, rather than increase economic activity. Firms with disproportionately high labor costs may prefer a job tax credit. Theoretically, some subsidies may yield the type of outcomes economic development professionals are hoping for, while others do not. However, the differences in the effectiveness of varying tax incentive among different types of businesses have yet to be tested in the empirical literature.

4. The zones increase overall growth, rather than just speed up when growth occurs or shift it from nearby locations.

If business activity does increase, the question becomes: is it new and sustained investment? Would the activity have occurred anyway or at a nearby location? Like private investors, state officials must look at their rates of return. They are forgoing tax dollars in exchange for economic development. They must count the net amount of tax dollars, weigh the benefit of any increased employment, and place a monetary value on the reduction of blight and other environmental benefits not captured by market values because of legal, information, or other transaction-related costs. One of the uncertainties about such zones is whether the zones brought new business to the region, or whether it merely induced an investor to locate in the zone instead of a place just outside of the zone. Another question is whether the zone results in sustained growth, or whether the benefits result in temporary profitability as zone benefits are competed away with higher in-zone property prices. Another question is whether the incentive attracts disproportionately more risk-loving investors who may mean well, but have chosen businesses that, without the subsidy, will eventually fail.

Finally, if there is enough sustained revenue, then the test of a worthwhile venture is if the benefits exceed the costs. These benefits take into consideration expectations for the future, the ups and downs of tax revenue and business activity over time. They also monetarily value the benefits of nonmonetary items such as reduced crime, reduced blight, and other social benefits.

Summary

Basic, no-frills economic theory suggests that lowering taxes will raise aggregate income. However, the magnitude of that increased income may be small. In some cases, providing zone incentives may require cutbacks in the provision of public services or assets (or raising taxes outside of the zones). This could result in reduced education funding, decreased provision of parks, or any of a variety of other state or local services. The reductions in public services (or increases in taxes outside the zones if that budget option is elected instead) may, in turn, have a negative impact upon the state's economy.

In any case, the theoretical justification for enterprise zones is built upon assumptions. Because assumptions may or may not reflect reality, it is useful to look at the empirical literature to see whether research results support the theory.

II. The History

Enterprise zones originated in Great Britain in the 1970s. Individual states began enacting zone programs in the early 1980s; the federal government adopted a zone program in 1993. Incentives and other program features vary considerably from state to state.

Enterprise zones originated in Great Britain.

The seminal idea for enterprise zones is credited to Peter Hall, an urban planning professor in Great Britain. Professor Hall was taken by the rapid economic growth in the "freeports" of Asia such as Hong Kong, Singapore, and Taiwan. He attributed this growth to the low taxes and the relative lack of governmental interference in the economies of these city/states. By analogy, he felt that permitting "fairly shameless free enterprise" in poor neighborhoods could resurrect those neighborhoods. In 1977, Hall proposed using enterprise zones as an "extremely last-ditch solution" to be tried "only on a very small scale."[8] These zones were to be free of nearly all taxes and government regulation.

In 1980, the new Conservative Party government of Margaret Thatcher enacted the first enterprise zone law in Britain with designation of the first zones in 1981.[9] Seven sites were

[8] Stuart M. Butler, "Enterprise Zones: Pioneering in the Inner City," *Economic Development Tools* (1981): 25-41.

[9] It is worth noting that enterprise zones have received support from both ends of the political spectrum. Professor Hall was a Fabian Socialist. The Thatcher government, on the other end of the political spectrum, enacted legislation adopting the zone program in Britain. Both the Reagan and Clinton administrations proposed zones with the latter succeeding in enacting them. Congressmen Jack Kemp (a conservative Republican) and Robert Garcia (a liberal Democrat) were coauthors of the initial federal proposals. Similar patterns occurred in some state legislatures.

selected across Great Britain.[10] Evaluations of the success of these enterprises were said to be somewhat mixed.[11]

American states first adopted enterprise zone program, followed by the federal government.

Some credit Stuart Butler, then a policy analyst with the conservative Heritage Foundation,[12] with importing the enterprise zone idea to the United States in 1980.[13] Butler thought zones could be used to alleviate urban poverty. He suggested that urban poverty is caused by flight from the inner city to the suburbs. Wealthier families able to afford the higher priced housing, larger sized lots, and city amenities of the suburbs moved out of central city neighborhoods leaving behind those families with too little income to follow. Butler suggests that employers followed by locating in suburban centers throughout the metropolitan area, resulting in ever expanding pockets of blight in some central city neighborhoods.

In 1981, Representative Jack Kemp (R-NY) and Robert Garcia (D-NY) introduced the Urban Development and Enterprise Zone Act.[14] The goal of this legislation was to increase employment and income of nearby residents by creating zones in which businesses would qualify for tax concessions and relaxed regulations. The incentives were thought to attract new businesses into the zones and not reduce tax collections much because little revenue was generated from these areas anyway.[15] During 1981 and 1982, the Reagan Administration also proposed enterprise zone legislation. Although widely publicized, neither the Kemp-Garcia bill nor the Reagan Administration proposal made it out of committee.

In the absence of a federal program, states created their own programs. Connecticut enacted the first program in 1981. By 1985, at least 40 states, including Minnesota, had passed some type of enterprise zone legislation.[16] Each of these zone programs included elements unique to the state.

In 1993, in response to a Clinton Administration proposal, Congress passed a community and empowerment zone program. The federal programs contained some unique features. For example, the federal program explicitly gave local residents more control over local community

[10] The sites were located in Newcastle, Liverpool, Belfast, and east London. Butler, "Enterprise Zones."

[11] Jill Zuckman, "Enterprise Zone Alchemy: '90s-style Urban Renewal; In Washington, Policy-makers Debate Whether the Idea Works, How Many Areas to Target and Which Incentives to Use," *Congressional Quarterly Weekly Report* 50 (1992): 2354-7.

[12] Butler was himself a British import. He received his PhD (in economic history) from the University of St. Andrews in Scotland.

[13] Zuckman, "Enterprise Zone Alchemy."

[14] From 1980 to 1984, over 14 enterprise zone bills, each with their own version of tax incentives and regulatory reductions, were introduced in Congress.

[15] Theodore R. Carter, III, "Job Creation and Urban Renewal in the 1980s: The Kemp-Garcia Urban Jobs and Enterprise Zone Bill," *St. Louis University Public Law Forum* 3 (1983): 177-98.

[16] Kevin D. Bird, "Bringing New Life to Enterprise Zones: Congress Finally Takes the First Step with the Housing and Community Development Act of 1987," *Washington University Journal of Urban and Contemporary Law* 35 (1989): 109-27.

organizing and community development in the zones. To this point, empirical studies of the federal programs have not been published.

III. The Empirical Studies

Empirical studies of enterprise zones reach inconsistent results. Most of the more sophisticated studies show no increases in employment or per capita income. However, several such studies reach opposite conclusions or at least find a temporary increase in employment.

This section of the policy brief is divided into four parts. The first discusses the methodology used in the empirical studies and how this affects their results. The second describes in more detail the results of the most sophisticated of the studies, those using regression analysis. The third part discusses some insights or explanations that the empirical researchers have for zone programs. The fourth part summarizes some of the general literature on the effect of tax incentives on economic growth.

1. Methodology makes a difference.

As discussed above, enterprise zones are intended to stimulate economic activity in distressed areas. As a policy matter, enterprise zones are best used if the benefits outweigh the costs. The task, then, for the empirical researcher is to accurately measure the benefits—i.e., generally increases in employment and income in the zone *that result from the zone status*—and the costs. However, accurately measuring benefits presents some serious methodological challenges, because the effects of the zone must be isolated from background effects (overall or local economic factors, characteristics of the areas, and so forth). Put another way, a pervasive challenge for enterprise zone researchers is to assess what would have happened but for the zone. Areas that have grown might have done so regardless of whether the zone was present or not. Alternatively, the area's employment and income might have been even lower but for the zone.

Although economists continue to develop improved statistical methods, they still cannot completely separate the effects of a zone from growth in the community itself. It is much like testing the success of a medical treatment for a severe disease. Typically, there would be a group that receives the medical treatment and a control group that does not. But the enterprise zone researcher may not have a realistic control group. Enterprise zones are often in blighted and economically depressed areas. Areas designated as zones may fundamentally differ from those not receiving zone designations. It would be as if the medical study control group systematically differed from the group receiving treatment (or if, as is sometimes the case, the control group must be given the treatment for ethical reasons part way through the study), and the researcher somehow must adjust for that bias. However, methods are improving. Social scientists are developing better ways to compensate for the lack of an identical twin region. Regression methods and other approaches are being examined, and likely will continue to be examined in the near future.

The empirical studies use three basic methodologies in evaluating enterprise zones:

- Surveys
- Shift-share analysis
- Regression analysis

Studies relying on survey methods have serious limitations.

Survey studies are more likely to show larger increases in employment or income. But there is little assurance these increases are attributable to the zone. Survey methods generally cannot determine whether a business would locate within the region absent the zone. Also, surveyors cannot isolate how much of the increased employment is due to the zone versus regional economic conditions or other factors. Moreover, survey researchers must largely rely on representations made by businesses and other respondents; these may be biased or otherwise not reliable. Even assuming this problem away, they do not provide insight in what others (those not represented in the survey) would have done.

Shift-share analysis controls for some effects, but it too has important limitations.

Shift-share analysis attempts to isolate job growth within the zone from job growth related to the larger geographic region and from national or regional shifts in the competitive mix of industry employment. It essentially constructs measures that attempt to isolate job growth attributable to the zone.[17]

Although shift-share analysis is more sophisticated than survey research, it fails to control for potentially important factors. First, it assumes that growth within the zone is proportionate to growth within the larger geographic region and with national employment trends. The assumption of proportionality may not reflect reality; part of the zone's growth may be attributed to regional and industry forces, but not in a simplistic proportionate relationship. Second, even if shift-share analysis effectively isolates regional and industry factors, the estimate is an over-inclusive measure of employment change. It does not control for many other factors that may cause the growth in the zone, including the work-readiness of potential employees, the presence of productive entrepreneurs, and the quality and availability of building space within the zone. All of these may be independent of the creation of a zone. Third, shift-share analysis can compare only two time periods. For example it can compare job growth from the inception of the zone to five years after. It might be desirable to compare several year-to-year changes, especially if the two comparison years are unrepresentative of future economic conditions.

On balance, if shift-share analysis shows an increase in employment in the zones, this may justify further study. However, it is probably inappropriate to consider it conclusive of a net benefit for an enterprise zone program.

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[17] Barry M. Rubin and Margaret G. Wilder, "Urban Enterprise Zone: Employment Impacts and Fiscal Incentives," *Journal of the American Planning Association* 55, no. 4 (1989): 418-31; Sheilah S. Watson, "Local Economies: An Analysis of Two Missouri Enterprise Zones," *Policy Studies Journal* 23, no. 1 (1995): 652-67; Margaret G. Wilder and Barry M. Rubin, "Rhetoric Versus Reality: A Review of Studies on State Enterprise Zone Programs," *Journal of the American Planning Association* 62, no. 4 (1996): 473-91.

Statistical studies using regression analysis are likely to produce more valid results.

Because of the limitations with surveys and shift-share analysis, researchers have turned to more sophisticated statistical techniques, specifically regression analysis. Regression analysis can measure statistically the extent to which a variety of factors affect the desired variable (here, income or employment). In essence, regression analysis attempts to supply statistically a "control group" of sorts by estimating how much other factors (background factors such as the underlying economic factors, demographics, and so forth) contributed to a zone's economic performance. This allows isolating the effect of the zone designation and incentives, researchers hope. (As with all statistical measures, there are limitations, of course.)

The most troubling, but crucial aspect is to identify a causal relationship: Do enterprise zones cause job or income growth. And if so, how much? Alternatively would the growth have occurred anyway? Some areas designated as enterprise zones may be ripe for development. Enterprises would have located within the zone regardless of whether there were tax incentives or eased regulatory restrictions. Going back to the fundamentals, what drives this question is whether enterprise zones deliver net benefits to the region.

Advanced statistical methods help to isolate the effect of an enterprise zone. The methods are not perfect, but appear to be improving. In years to come, there may be more of a consensus with respect to these programs.

2. Summary of studies using regression analysis: The results are mixed and inconclusive.

The most sophisticated statistical studies fail to identify a reliably narrow band of estimates on the employment performance of state enterprise zones. A few studies find some increase in jobs or income. However, most studies suggest no significant and prolonged increases in employment from enterprise zones.

Predicting the success of an enterprise zone always entails some uncertainty; there is no way to foretell the future. Unexpected events and downturns in the economy may render profitable businesses unprofitable, employed workers unemployed, and successful enterprise zones unsuccessful. Judging the impact of an enterprise zone has additional uncertainty that studies of existing enterprise zones find both negligible and significant employment increases. Although most studies suggest negligible gains, a few studies that do find statistically significant gains. By including all such studies, one cannot deny that some zones in occasional situations may be at least temporarily successful, without speculation about the merits of these studies.

In the last ten to 15 years, a number of economists and policy analysts have analyzed various state enterprise zone programs using regression analysis. These studies have produced mixed estimates of the benefits of enterprise zones**.** Five studies find no increase in jobs, while three studies find at least a temporary increase in jobs and income. What causes the difference in results is uncertain. It might be partly related to the statistical method, the data used for analysis, the particular program, or the economy within and surrounding the zone.

At the end of this paragraph is a bulleted list of the studies with short summaries of their outcomes. Some studies examined more than the change in employment or income. These results are listed because they may provide useful insights for policy development. Tabulating the study results, four studies find an increase in employment (or decrease in unemployment), and six studies find no significant increase in employment.

- Papke examined Indiana's enterprise zone program and found a reduction in unemployment claims.[18]
- Moore found a positive increase in the number of finance, insurance, and real estate establishments and wholesale and retail trade establishments. The number of manufacturing establishments was negative, but not statistically significantly related to the creation of a zone.[19]
- Sridhar studied Ohio's enterprise zone and estimated a temporary 3.39 percentage point decrease in unemployment rates over the course of about three to five years.[20]
- O'Keefe found temporary increases in employment with these gains turning negative sometime between seven and 13 years. She found no positive effect upon earnings.[21]
- Greenbaum and Engberg found an increase in establishment births, but a decrease in retention of existing establishment, which resulted in no net change.[22]
- Beck found that zone employment increased faster than the remainder of the county, but the only significant predictor of growth was quality of life factors such as job training for residents, upgrading infrastructure, simplified government procedures, visible improvement of amenities, and strong citizen development. He notes that these may be provided either within or outside the zone.[23]
- Boarnet and Bogart reported no significant or discernable employment impact to New Jersey's enterprise zone program.[24]

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[18] Leslie E. Papke, "Tax Policy and Urban Development: Evidence from an Enterprise Zone Program" (working paper 3945, National Bureau of Economic Research, 1991).

[19] William S. Moore, "Enterprise Zones, Firm Attraction and Retention: A Study of the California Enterprise Zone Program," *Public Finance and Management* 3, no. 3 (2003): 376-92.

[20] Kala Seetharam Sridhar, "The Incentive Programs and Unemployment Rate," *Review of Regional Studies* 30, no. 3 (1999): 275-98.

[21] Suzanne O'Keefe, "Job Creation in California's Enterprise Zones: A Comparison Using a Propensity Score Matching Mode," *Journal of Urban Economics* 55, no. 1 (2004): 131-50.

[22] Greenbaum and Engberg, "Impact of State Enterprise Zones."

[23] Frank D. Beck, "Do State-designed Enterprise Zones Promote Economic Growth?" *Sociological Inquiry* 71, no. 4 (2001): 508-32.

[24] Marlon G. Boarnet and William T. Bogart, "Enterprise Zones and Employment: Evidence from New Jersey," *Journal of Urban Economics* 40, no. 2 (1996): 198-215.

- Engberg and Greenbaum examined California, Florida, New Jersey, New York, Pennsylvania, and Virginia's enterprise zones and found no significant increase in per capita employment rates. They also found no changes in the housing market.[25]

- Bondonio and Engberg studied California, Kentucky, Pennsylvania, New York, and Virginia's enterprise zones, finding no significant changes in employment growth, per capita income, or poverty rates.[26]

- Peters and Fisher found no significant increase in employment when examining enterprise zones across the country and a separate examination of Ohio found no significant increase in employment either.[27]

3. Insights from the studies: Various factors may affect zone programs' chances for success.

Although the empirical research has not reached a consensus on the employment effects of enterprise zones, the research still can provide insights into the conditions and program features that may increase employment in zones.

- **Larger financial incentives may be necessary.** Theoretically, large benefits will attract entrepreneurs and increase employment.[28] Offer an employer a large enough incentive per employee, and there will be an increase in employment. However, any large cost must be justified by the benefits.

- **Areas with fewer barriers are more likely to be successful.** Many zones are in blighted areas, significantly increasing the risk that entrepreneurs will shut down their businesses. Poor access to customers, polluted site cleanup, and fewer skilled laborers are a few examples. Sites seen as risky investments may require more or larger incentives or other economic development efforts to create new jobs.

- **Employment growth may shift rather than add employment within the region.** Creating an enterprise zone may cause some employers, who would have located just outside the zone, to locate within the zone, and take advantage of tax incentives and other benefits. This may not further the policy goals of the program.

- **Benefits may last for only a short time.** Enterprise zones may be less successful after several years (e.g., three to six years). There may be many reasons for short-lived

[25] John Engberg and Robert Greenbaum, "An Evaluation of State Enterprise Zone Policies," *Policy Studies Review* 17, no. 2-3 (2000): 29-46.

[26] Daniele Bondonio and John Engberg, "Enterprise Zones and Local Employment: Evidence from the States' Programs," *Regional Science and Urban Economics* 30, no. 5 (2000): 519-49.

[27] Alan H. Peters and Peter S. Fisher, *State Enterprise Zone Programs: Have They Worked?* (Kalamazoo: Upjohn Press, 2002).

[28] Peter S. Fisher and Alan H. Peters, "The Cost of Enterprise Zone Incentives and an Alternative Use of the Money" (presentation, National Tax Association: Proceedings of the 93rd Annual Conference, 2000): 67-73.

benefits. One reason might be that investor entrepreneurs wait for the right moment. Additional subsidies might push some into investing in a site. Afterwards, growth may slow because fewer or no investors are ready and waiting for the right moment and subsidy. In the meantime, the state or a neighboring state may produce other incentive packages or other enterprise zones for entrepreneurial investors. At that point, the competitive advantage bestowed upon the original enterprise zones will lessen and unemployment may rise again.[29]

- **Zone development may not occur if the quality of public services suffers.** Job training services, good roads, good schools, low crime rates, scenic amenities, and other public services may help pave the way for development. Quality of services may suffer if businesses formerly considering neighboring locations no longer have as much of a tax burden and contribute less to the upkeep of the jurisdiction.

- **Subsidy strings may not assure greater job growth.** Enterprise zone programs often impose restrictions and conditions on recipients of incentives. These are intended to ensure better use of government resources. But these requirements do not seem to yield greater employment growth rates.

4. Tax incentives in general: They appear to have small positive effects, particularly in more economically healthy areas of the state.

The parameters of enterprise zone programs vary from state to state. The economic effects of one program may be attributable to a unique feature of the program. Minnesota's recently enacted enterprise zone program offers a broad array of tax incentives—more and richer incentives than most state programs.[30] Because of this, the literature regarding the economic effects of general tax incentives are briefly reviewed. These studies may provide further insight into or validation of the zone studies.

Some fundamental differences may hamper the ability to draw upon this literature. The obvious one is that tax incentive studies typically examine policies that cover an entire state, county, or municipality. The limited size of and the conditions in enterprise zones may affect the response to tax incentives. For example, statewide incentives are not solely restricted to blighted areas. However, these studies may provide insight into which subsidies might make a difference or whether subsidies ever make a difference.

Overall, a consensus appears to be forming that tax incentives have negligible to small positive effects upon the state economy. Some research finds certain pre-existing regional conditions set

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[29] Greenbaum and Engberg find mixed results for this hypothesis. (Greenbaum and Engberg, "Impact of State Enterprise Zones.") Papke and Moore, who find positive effects without mention of the time benefits last, have less than five years of data, which may make it difficult to isolate what may occur for longer periods of time. (Papke, "Tax Policy and Urban Development"; Moore, "Firm Attraction and Retention.")

[30] The exceptions are the Michigan Renaissance Zone, Pennsylvania Keystone Opportunity Zones, and New York Empire State Zones, which the Minnesota JOBZ program was loosely modeled after. No peer-reviewed published empirical studies have been done of any of these three programs, however.

the stage for economically successful tax incentive programs, including areas with low unemployment rates, high levels of investment, and suburban regions. However, the exact set of regional conditions still remains somewhat elusive, since extending enterprise zone tax credits to neighborhoods outside of California's EZ program did not increase investment.[31]

In a review of the literature, Papke suggests a consensus may be forming that tax incentives, if anything, have a small positive effect upon the state economy.[32] Based on past studies, Papke suggests an elasticity somewhere between -0.1 and -0.6. That is, a 1 percent increase in taxes results in a 0.1 percent to 0.6 percent drop in business activity.

The perennial problem in tax incentive studies, as well as enterprise zone studies, is whether the same growth would have occurred without the incentives. As noted above, research techniques are improving in this area.

Several researchers suggests that some regions are more likely to grow in response to tax incentives than others:[33]

- Regions with already low unemployment rates
- Regions with historically high levels of investment in manufacturing facilities and equipment
- Suburban areas instead of central cities

These studies suggest that tax incentives may be most effective in already economically viable areas. It is worth noting that these are typically the areas that do not qualify as enterprise zones. The type of tax incentive may make a difference.

- **Reducing property taxes may increase employment.** There are many studies on this subject. Literature reviews suggest that higher property taxes may reduce employment or business activity, although any effect likely is small. Two recent studies on this subject find significant effects on employment, although the differences in economic activity more likely occur between states or counties, as opposed to smaller geographical units such as municipalities.[34]

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[31] James H. Spencer and Paul Ong, "An Analysis of the Los Angeles Revitalization Zone: Are Place-Based Investment Strategies Effective under Moderate Economic Conditions?" *Economic Development Quarterly* 18, no. 3 (2004): 368-83.

[32] Leslie E. Papke, "Low-tax States' Economic Development Incentives: The Effect of State and Local Public Policies on Economic Development: An Overview," *New England Economic Review* (March-April 1997): 135-37.

[33] Ernest P. Goss and Joseph M. Phillips, "The Impact of Tax Incentives: Do Initial Economic Conditions Matter?" *Growth and Change* 32 (Spring 2001): 236-50; Ernest P. Goss and Joseph M. Phillips, "Do Business Tax Incentives Contribute to a Divergence in Economic Growth," *Economic Development Quarterly* 13, no. 3 (1999): 217-28; Daniel V. Rainey and Kevin T. McNamara, "Tax Incentives: An Effective Development Strategy for Rural Communities?" *Journal of Agricultural and Applied Economics* 34, no. 2 (2002): 319-25.

[34] Richard F. Dye, Therese J. McGuire, and David F. Merriman, "The Impact of Property Taxes and Property Tax Classification on Business Activity in the Chicago Metropolitan Area," *Journal of Regional Sciences* 41, no. 4 (2001): 757-78; Stephen T. Mark, Therese J. McGuire, and Leslie E. Papke, "The Influence of Taxes on Employment and Population Growth: Evidence from the Washington, D.C., Metropolitan Area," *National Tax Journal* 53, no. 1 (2000): 105-34.

- **Reducing sales tax rates may increase employment growth rates.** A recent article by Mark, McGuire, and Papke analyzing Washington, D.C., and eight surrounding counties finds a statistically significant effect to higher sales tax rates.[35]

- **Personal property taxes may reduce employment growth.** Mark, McGuire, and Papke find higher employment growth rates with lower personal property tax rates.

- **Job tax credits may increase employment.** Studies of national and state programs lead some to suggest that job tax credits may result in modest increases in employment.[36] The success of a tax credit may partly depend upon the regulations or conditions imposed on recipients of the credit.[37] Too many conditions on a credit may limit its use.

- **Research and development tax credits stimulate investment in research and development.** Studies of the federal research and development credit find increased investment by lowering the tax rate charged to enterprises.[38] Research and development is believed to lead to income and productivity growth by creating new products or new production processes. The tax credit stimulates investment, which theoretically may lead to growth. These new developments go towards the creation of new products and production processes that increase sales or lower production costs. Federal research and development incentives have had some problems. During the early years of the federal research credit, some companies attempted to take advantage of the credit by re-characterizing expenses as research and development.[39] However, some suggest that there still is increased investment with the credit. How much income and employment growth results from the credit remains uncertain.

IV. Policy Implications

Considering all the studies using regression analysis, the economic effect of enterprise zones remains unclear. Most studies find no significant increase in employment, while a few do. Moreover, the prospect for success seems greatest in already economically viable areas, rather than traditional zone locations—areas with stagnant or declining economies.

Uncertainty, or a band of error, in itself has policy implications. Moreover, the literature can provide policy insights for existing enterprise zone programs, such as JOBZ.

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35 Mark, McGuire, and Papke, "The Influence of Taxes."

36 Dagney Faulk, "Do State Economic Development Incentives Create Jobs? An Analysis of State Employment Tax Credits," *National Tax Journal* 55, no. 2 (2002): 263-80.

37 Keith R. Ihlanfeldt and David L. Sjoquist, "Do State Economic Development Incentives Create Jobs? An Analysis of State Employment Tax Credits," *Economic Development Quarterly* 15, no. 3 (2001): 217-28.

38 Philip Berger, "Explicit and Implicit Effects of the R&D Tax Credit," *Journal of Accounting Research* 31, no. 2 (1993): 131-71.

39 Browynn H. Hall, "Research and Development Investment at the Firm Level: Does the Source of Financing Matter?" (IBER working paper no. 92-194, 1992).

The following are some policy insights or implications that can be drawn from the economics literature on enterprise zones.

- **Regularly evaluate the zone program's effects.** An overall theme of the literature is a basic uncertainty as to whether enterprise zones significantly increase employment or not. Some suggest that job growth in the zones otherwise would have located in nearby areas.[40] Sometimes, displacement of jobs from one region to another may result in more equitable development of regions, even if overall incomes do not increase. Given these considerations, it would seem prudent to carefully evaluate a new zone program to assess its effects after a short time (five years, perhaps, allows enough time for the incentives to have an effect). Such a study might help decision makers to assess the contribution of the zone to the state or to help better design enterprise zone policies.[41] If the policy is completely unworkable, it is better to know sooner rather than later.[42] To assure an objective evaluation, the study should be conducted by a nonpartisan organization with a capable staff that can carry out a regression analysis, which includes control areas that were not designated as zones.

- **Sunset the program.** Given that enterprise zones may not increase jobs, the state may wish to reconsider the policy after five years. Or, upon evaluation, close the enterprise zone(s).[43] One study finds that enterprise zones may be most effective in their first five years. Other studies do not include data for an extended number of years.[44]

- **Find ways to limit the incentives only to firms that are induced to locate in the area because of the program.** Several researchers suggest that new zone businesses may simply be firms that would have located nearby, but chose to locate in the zone to take advantage of the zone benefits.[45] One possible policy that may work for the initial creation of a zone is to disallow benefits to any investor unless it was in addition to any site being considered outside the zone. State departments of economic development can check for applications for loans or other business assistance and be given legal authority to deny the application based on its assessment of whether the firm would have located in or near the zone without the incentives. Also, like many zoning laws, this requirement

[40] Sridhar, "The Incentive Programs."

[41] Butler notes that enterprise zones are experiments that may need revision and regulations.

[42] If the zone program is not working, the state could cut off zone benefits to new businesses or additional investments in the zone. To induce businesses to locate in a zone, incentives likely must be offered for a fixed period of time; a firm seems unlikely to be willing to make a capital investment if the state can take away the zone benefits at any time. Eliminating the benefits would likely be considered a breach of the promise that they would be available for a fixed duration. But that would not stop a state from cutting off the incentives for new businesses or investments.

[43] Most zone programs promise benefits for longer periods than five years. For example, the JOBZ program's incentives are available for the 12-year duration of the zone. However, the program could be sunset so that new entrants to the zone or additional investments don't qualify. *See* the discussion in note 42.

[44] Peters and Fisher, "State Enterprise Zone Programs"; Beck, "Do State-designed Enterprise Zones"; Boarnet and Bogart, "Enterprise Zones and Employment"; Engberg and Greenbaum, "An Evaluation of State Enterprise Zones"; Bondonio and Engberg, "Enterprise Zones and Local Employment."

[45] Peters and Fisher, "State Enterprise Zone Programs."

can be enforced when a group contests a company's receipt of benefits within the zone. If found in violation of law, the state can decide after a business is discontinued from the program whether the tax incentives it received should be repaid.

- **Choose the right set of tax incentives and other benefits.**[46] Some tax incentives may be more effective in producing economic growth than others. In choosing tax incentives or other benefits, it may be worth considering who directly benefits. If business owners or small business owners directly benefit, it may be worth considering whether the benefits are passed onto the employees. Economic models in international trade and public finance often examine economy-wide impacts of capital tax incentives and find that the return for capital will increase. In such models there is an output and a substitution effect, as businesses will buy more new equipment and other capital and less labor. The output effect results from the region producing more and needing more workers to do so. Whether the result ends in an increased demand for labor depends on whether the output effect outweighs the substitution effect.

- **Do not let the quality of local public services drop so much that it outweighs the benefits of the zone.** Some suggest that local public services may make households better off and enhance economic growth.[47] This may be relevant if the zones result in a loss in tax revenue by dampening the number of new businesses that locate just outside the zone, which may result in fewer dollars for publicly provided goods and services.

- **Areas with more barriers may need more benefits or incentives.**[48] Some hard-to-develop areas may not respond well to a basic incentive package. To be successful, these areas may require more incentives or other benefits. Because of this potentially large and costly endeavor some may consider forgoing the development of a region for more viable projects.

- **If the goal is to hire local residents, then additional policies may be needed.** Some studies have found, at least in urban areas, that enterprise zones do little to increase local employment.[49] Other barriers, such as a lack of hard or soft skills, may limit their ability to increase local employment. Increasing access to jobs may not be enough to fix the problem for many residents.

- **For areas with multiple and severe barriers, consider other policies.** Since enterprise zones may do little to increase regional employment, one may want to consider other policies if the goal is to provide overall help to a region. For example, if the goal is rural development, then enterprise zones may not be the best program, since they may provide

[46] *See* Douglas R. Snow, "Strategic Planning and Enterprise Zones," *Policy Studies Review* 17, no. 2/3 (2000): 13-28; Terry F. Buss, "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions: An Overview of the Literature," *Economic Development Quarterly* 15, no. 1 (2001): 90-105; Faulk, "State Economic Development Incentives."

[47] Edgar K. Browning and Liqun Liu, "The Optimal Supply of Public Goods and the Distortionary Cost of Taxation: Comment," *National Tax Journal* 51, no. 1 (1998): 103-16; Beck, "Do State-designed Enterprise Zones."

[48] Butler, "Enterprise Zones."

[49] Peters and Fisher, "State Enterprise Zone Programs."

only local benefits to the zones. To cover wider swaths of rural regions, the state may want to consider more general approaches.

- **Keep regulations and restrictions to a minimum.** Some suggest that enterprise zones may not develop business activity when too many regulations inhibit businesses from taking advantage of the benefits. For example, if too many forms must be filled out or too many requirements satisfied to qualify for a job tax credit, firms may forgo using it. Costs incurred in satisfying difficult requirements reduce (and may outweigh) the value of the benefits.

- **Think the tax incentive and subsidy game through to the end.** A number of studies warn that state economic development incentives will be matched by incentives from other states. Although at least one empirical study has found no systematic credence to this game, it may nonetheless be played. Economists have worked through the moves and counter-moves by competing jurisdictions and have come up with slightly different conclusions. Before undergoing an enterprise zone venture, the state may benefit by developing a decision tree of "what-if" scenarios to help further refine their risk of failing to provide enough benefits to justify the costs.[50]

- **Do not create too many enterprise zones.** One trend in zone programs is for states to later expand the programs by adding new zones. Some suggest that adding new zones may dilute the effect of the incentives in preexisting zones.[51] This is similar to the concern that the benefits to enterprise zones may not be long-lived. As more zones are created in the state or in competing states, fewer comparable advantages remain in the original zones.

For more information about enterprise zones, visit the taxes area of our web site, www.house.mn/hrd/issinfo/tx_othr.htm.

[50] Flavio M. Menezes, "An Auction Theoretical Approach to Fiscal Wars," *Social Change and Welfare* 20, no. 1 (2003): 155-66; Jeffrey D. Perchey and Perry Shapiro, "State Tax and Policy Competition for Mobile Capital," *Economic Record* 78, no. 2 (2001): 175-85; Andreas Wageneer, "Double Bertrand Tax Competition: A Fiscal Game with Governments Acting as Middlemen," *Regional Science and Urban Economics* 31, no. 2-3 (2001): 273-97; Elhanan Helpman and Paul Krugman, *Trade Policy and Market Structure* (Cambridge: MIT Press, 1989); Melvin L. Burstein and Arthur J. Rolnick, *Congress Should End the Economic War Among the States* (Minneapolis: Federal Reserve Bank, 1994); and Hanson, "Bidding for Business."

[51] Essentially, creating more zones expands the supply of incentives: if a large number of zones are created, more incentives will be chasing a limited number of firms that are interested in investing. If the success of an individual zone requires a critical mass of investment, this reduces the likelihood of success. Moreover, it could divert investment from preexisting zones to new zones. This is particularly true if the tax incentives in the new zones have longer durations than the preexisting zones (e.g., if the old zones have had several years of their duration run and the new zones qualify for the full duration).