

Who Benefits When Enterprise Zones Are Zoned-Out? The Case of the Ohio Enterprise Zone Program

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Enterprise zones provide economic incentives for businesses to locate in economically distressed areas and are the most widely used place-based economic revitalization strategy. There are enterprise zone programs in 42 states and approximately 2,840 state zones across the United States (Wilder and Rubin 1996). What distinguishes state enterprise zone policies from other types of economic development programs is that they attempt to stimulate investment in geographically targeted areas. While scholars have devoted considerable attention to the effectiveness of enterprise zones in attracting jobs and investment, they have paid surprisingly little attention to where enterprise zone programs are located. Spatially targeted programs tend to lose their original focus and spread the benefits geographically over time to build political support (Copeland and Meier 1984). The poor record of spatially targeted economic development programs suggests the designation of state enterprise zones is likely to be broadened to increase political support at the expense of helping economically distressed areas.

While enterprise zones were originally intended to provide tax incentives to businesses for locating in impoverished neighborhoods, virtually all state programs have changed their zone designation rules to permit the designation of non-distressed areas as enterprise zones (Talanker 2003). No state is better for examining the dynamics and consequences of the expansion, or untargeting, of enterprise zones than Ohio. The Ohio enterprise zone program was created in 1981, making it one of the oldest and most well-established programs in the country. It is also an expansive program, with 381 active enterprise zones in distressed and non-distressed areas. As importantly, Ohio has an excellent statewide database with the cumulative cost of incentives and benefits from investment and employment at the level of both the enterprise zone and individual firm.

In this paper, we examine three issues. First, if enterprise zones are no longer targeted at economically distressed areas, which areas are designated as enterprise zones? Second, which enterprise zones generate the most new jobs and private investment? Third, we evaluate the performance of zones using developmental, efficiency, and equity criteria to answer the question, where should Ohio designate its enterprise zones? This study does not weigh in on whether state enterprise zone programs work in attracting investment and jobs. For the sake of argument, we will assume that the jobs and investment attributed to the enterprise zone program by the state would not have happened without the incentive program. Instead, this research seeks to orient the discussion toward the question of who, or to be more accurate “where,” benefits under enterprise zones. Few studies have empirically examined the location of the costs and benefits of local economic development activities like enterprise zones (Wolman and Spitzley 1996). Our research contributes to the policy and political debate over the value of spatially targeted economic development programs and the impact of intra-state economic development competition.

The Policy Rationale for Targeted Economic Development Policies

To date, scholars have extensively studied enterprise zones from a policy evaluation framework: do the zones attract new investment and create jobs (Wilder and Rubin 1996; Peters and Fisher 2002; Greenbaum and Engberg 2003). However, the scholarship on this question is decidedly mixed. Even studies of the same program in similar time periods have come to differing conclusions about the economic impact of the program (Rubin 1991; Boarnet and Bogart 1996). Many of the initial studies suggested enterprise zones could reduce unemployment (Papke 1993; Papke 1994) and increase job growth (Erickson and Friedman 1990). However, later more rigorous econometric models of enterprise zones have found zones

have no positive impact on housing market, income, or employment outcomes (Engberg and Greenbaum 1999), the value of incentives or program features have no impact on employment growth (Bondonio and Engberg 2000), and few poor residents actually get the jobs (Peters and Fisher 2002; Greenbaum and Engberg 2003). Wilder and Rubin's (1996) comprehensive review of states' own evaluations of enterprise zone programs found a large variation in job creation and investment results among enterprise zones. They concluded that while some enterprise zones generate significant economic growth, others do not and may have too many problems to overcome with targeted development incentives. However, instead of examining the effectiveness of individual enterprise zones, the evaluation research has focused on the effectiveness of state programs as a whole (Engberg and Greenbaum 1999; Greenbaum and Engberg 2000; Greenbaum and Engberg 2003).

Lost amidst the evaluation research is whether state enterprise zones have stayed true to their original intent of helping economically distressed areas. Little research has been conducted on where states site their enterprise zones. A recent study concluded that states were more likely to designate areas with high population density, low housing values, and a larger number of business establishments as enterprise zones (Greenbaum 2004). However, his analysis only included the ten state programs that limited the number of zones, thereby excluding the other 32 states' enterprise zone programs that were no longer targeted.

This is problematic since economic development policies that were originally targeted at helping poor communities often sacrifice targeting to build political support (Dewar 1998; Couch and Barrett 2004). The theory of universalism suggests that geographically representative legislatures invariably water down the restrictive eligibility criteria for spatially targeted policies to build greater political support for the program at the expense of targeting (Copeland and Meier

1984). At the federal level, the Model Cities program expanded from 6 to 150 cities, and the Economic Development Administration distress criteria was systematically expanded to include 88 percent of all U.S. counties to build congressional support for the program (Rhoads 1985). The federal enterprise zone program has systematically expanded over time to include areas with less distress (Greenbaum and Bondonio 2003). Most evidence suggests the states are no different. A study of states' place-based economic development policies found virtually all have eased the eligibility requirements to permit either less or non-economically distressed areas to be designated as enterprise zones (Talanker 2003). States increase the number of enterprise zones as the program matures and as competition from neighboring states increases (Turner and Cassell 2004).

The debate over whether enterprise zones should be restricted to economically distressed areas or not is part of the larger debate over whether states should target just the neediest jurisdictions or should attempt to maximize economic growth by promoting economic development (ACIR 1979). The argument that enterprise zones should be targeted at economically distressed areas rests primarily on equity and efficiency grounds. The equity argument suggests that the proliferation of enterprise zones within a state places economically distressed areas at a competitive disadvantage. The research on industrial site selection suggests that incentives are only important after a firm narrows its potential sites to a relatively small region based upon markets, workforce availability, transportation, and suppliers. In theory, by lowering a firm's tax rates, enterprise zones encourage firms to invest in economically distressed areas they might not normally consider. However, if there are many enterprise zones within the region, then enterprise zones will have little impact on firms' location choices (see (Anderson and Wassmer 2000) for a similar assessment of tax abatements in the Detroit metropolitan area).

Critics also point out that since Ohio's enterprise zone tax abatements are awarded to new investment, they have no effect on taxes on existing facilities. The program puts the most distressed areas of the state at a competitive disadvantage since the new plants pay lower taxes than older plants in central cities (Hill 1994).

From an efficiency perspective, Sridhar's (1996; 2001) studies of enterprise zones in Ohio find high unemployment areas have the highest benefits-cost ratios. His studies use Bartik's (1991) definition of net benefits (the wage of a newly created job minus the reservation wage, the wage at which a person is willing to accept a job). Sridhar (2001) finds that the benefit-cost ratio of enterprise zones are always low when jobs get created in low unemployment zones, even if the jobs are well paying, because the residents have higher reservation wages. In contrast, enterprise zones in high unemployment zones have higher net benefits and thus high benefit-cost ratios since their residents have lower reservation wages.

Proponents of the balanced growth perspective contend the state's scarce economic development resources should be allocated to maximize economic growth in the state. In other words, developmental concerns are more important than equity issues. This view would suggest that economically distressed areas are a poor investment for scarce state economic development resources (ACIR 1981). Indeed, critics of enterprise zone programs have suggested that tax incentives alone are unlikely to make up for the locational disadvantages of economically depressed areas that discouraged businesses from investing there in the first place (Dabney 1991). By making non-distressed areas eligible for enterprise zone designation, Ohio has shifted their enterprise zone program towards a balanced growth perspective. A survey of local enterprise zone managers found most viewed the program as making Ohio more competitive with Indiana, Kentucky, and Michigan in attracting new investment.

Why Study Ohio?

Ohio has perhaps the best studied state enterprise zone program in the nation due to its longevity and excellent data. Scholars have examined the factors affecting tax abatement generosity (Byrnes, Marvel et al. 1999), policymakers' perceptions of the efficacy of tax abatements (Burnier 1992), the impact on the local tax base (CSU Urban Center 1998), the impact on firm taxation and economic growth (Peters and Fisher 2002), the impact on stimulating intra-state competition (Hill 1994), and cost-benefit analysis (Sridhar 2001). There has also been an extensive review of the costs, benefits and overall impact of the enterprise zone program in Ohio (Economic Development Study Advisory Committee 1999).

Ohio is an ideal state to study the impact of who benefits when enterprise zones are not spatially targeted at economically distressed areas. The state's zone designation criteria are flexible and designed to facilitate zone designation (Hill 1994). As a result, 63% Ohio's enterprise zones are in non-economically distressed greenfield and affluent suburban areas. Moreover, Peters and Fisher's (2002) study of 104 Ohio cities found a hypothetical firm received virtually the same amount of state and local economic incentives for locating in a distressed or non-distressed enterprise zone. Professor Edward Hill's (1994) report on the enterprise zone program noted: "Ohio has . . . managed to find distress in the most unusual places. Lake County, a semi-rural county on the edge of the Cleveland's Primary Metropolitan Statistical Area is 'distressed' . . .poor woebegone Solon, home to Fortune 500 firms and a prototypical "edge city," uses an enterprise zone in abatement to abatement combat with 'impoverished' Twinsburg and Hudson.¹ (8)"

In Ohio, each enterprise zone has a local Tax Incentive Review Council (TIRC) which verifies whether a firm that receives an abatement under the enterprise zone program is meeting

¹ The cities of Hudson, Twinsburg and Solon are three of the wealthiest cities in Ohio.

its employment and investment obligations specified in the original agreement negotiated between the local government and the firm. Each firm must provide annual and cumulative data on the amount of real and personal property investment, new and retained employment, the percentage of real and personal property tax abatement, and the length of the abatement. Ohio law further requires that each TIRCs forward the information to the Ohio Department of Development (DOD), which collects and organizes the information into a statewide database of how much actual investment and job creation occurred and where. The data set is cumulative not annual. Each data point reports on the amount of jobs and investment over the course of the agreement. The data set excludes agreements that expired or were terminated prior to 2001. The omissions bias the results in a direction that puts the program in its best light since agreements determined to be unsuccessful by the TIRCs prior to 2001 are not included in the overall results.

Unlike other enterprise zone studies which either rely on local directors' estimates of job growth or use aggregate data such as unemployment claims (Papke 1994) or census data (Greenbaum and Engberg 2000) that attribute all economic growth to the presence or absence of an enterprise zone, Ohio's firm level reporting requirements provide an accurate measurement of the economic benefits that are directly attributable to the enterprise zone incentives. The data does not permit us to assess whether the economic growth would have occurred without the enterprise zone incentives.²

² The research on the effectiveness of tax abatements in stimulating economic growth is overwhelmingly negative. Most scholars contend that localities adopt decision rules that result in awarding abatements to all firms that request them, rather than only those firms that would locate elsewhere without them (Wolkoff 1985). Abatements are described as a form of symbolic politics to demonstrate a community is business friendly (Eisinger 1988) and as a credit claiming opportunity for local officials to demonstrate they are promoting economic growth (Burnier 1991). Others might contend we are understating the economic impact of enterprise zone designation. Some have suggested that enterprise zones have a policy placebo effect, where "the business community takes the mere existence of the zone program as a signal that the city and state have made a commitment to the zone area. That perceived commitment has a positive influence on decisions about investment and location (Wilder and Rubin 1996, see also Ladd 1994)."

One of the fundamental problems in studying enterprise zones is trying to match the enterprise zone's geographic boundaries with an existing administrative boundary for which data is collected and has a high level of geographical overlap. In Ohio, the TIRCs include data on the school district in which the firm is located since the property taxes that are exempted under the enterprise zone program would accrue primarily to the school districts. The other advantage is that Ohio has excellent data collection efforts at the school district level. The National Center for Education Statistics collects demographic data for all Ohio school districts derived from the Census 2000. The Ohio Department of Taxation also collects annual data on property tax rates and industrial and commercial property values by school district.³ Thus, we used the school district data to impute the demographic and socio-economic conditions as other studies have done (Byrnes, Marvel et al. 1999).

Which Areas of Ohio Are Designated As Enterprise Zones?

The original enterprise zone legislation drafted by Cleveland Mayor Voinovich (R) and East Cleveland representative Ike Thompson (D) provided tax abatements and incentives for employers who opened or expanded operations in urban areas of high unemployment and hired at least 50% of workers who were on unemployment or welfare. While the original proposal would have targeted the thirteen most distressed cities, the final legislation broadened the criteria to "highly distressed areas." Since then, the program has been systematically expanded to allow the creation of rural job and enterprise zones in 1987 and 1989, and extend the expiration date of the program in 1987, 1992, and 1997. The underlying rationale of Ohio's enterprise zone program has also undergone a significant transformation from its original purpose of stimulating economic development in distressed urban communities troubled by long term economic decline,

³ For demographic data, see (<http://nces.ed.gov/surveys/sdds/downloadmain.asp>). For tax data, see http://tax.ohio.gov/channels/research/property_tax_statistics.stm.

to reducing the costs of Ohio's tangible personal property tax to make it more competitive with neighboring states (Bahl 1996; Economic Development Study Advisory Committee 1999).

With enterprise zones, the cost of the incentives to firms that invest in the zone can be paid by the state, through job and investment tax credits, by the local government through tax abatements, or a combination of the state and local incentives. Ohio's enterprise zone program is different in several respects from other states' enterprise zone programs in that the control and cost of incentives is borne almost entirely by local government. Local governments apply to the state to receive enterprise zone certification. Once communities received enterprise zone certification from the state, local officials can offer prospective firms sizable tax incentives in the form of tangible and real property tax exemptions on eligible new investment.⁴ The average firm locating in an enterprise zone receives state incentives worth \$1,268 per job and local property tax abatements worth approximately \$4,900 per job (Peters and Fisher 2002). The combination of state and local incentives reduces the median firm's state and local taxes by 58 percent.

⁴ Local governments apply to the state for either a full authority or limited authority zone for an eligible geographic location that includes areas that are appropriate for business development. To receive full authority, the zones must meet certain distress criteria relating to unemployment, low median income, population loss, vacant commercial properties, vacant industrial facilities, or low school district tax capacity. Limited zones only have to have minimum population requirements, but may not consider projects that involve relocating resources from one part of the state to another, unless a waiver is obtained from the Director of ODOD. In theory, firms that are relocating or expanding within the state are only eligible for incentives if the site the facility in a full authority enterprise zone in a distressed area. However, anecdotal evidence suggests it is not difficult for firms to evade this requirement and receives for locating in a non-distressed zone.

The amount and term of tax exemption are negotiated between local officials and firms. Municipalities can sign contracts with firms in which the municipality offers "Exemption of real and/or personal property assessed values of up to 75 percent for up to ten years or an average of 60 percent over the term of the agreement on new investments in buildings, machinery/equipment and inventory and improvements to existing land and buildings for specific projects." For a detailed description of the process see the ODOD website: <http://www.odod.state.oh.us/edd/ez/AgreemtProcess.pdf>.

From the local governments' perspective, exempting property taxes does not pose a financial problem since most Ohio cities rely on other taxes, particularly income taxes, to fund their operations. School districts, however, are disadvantaged under the program since they rely primarily on property taxes including taxes on a firms' real and tangible personal property. The result is a mismatch within local government between who pays and benefits from enterprise zones. Firms' real and tangible personal property taxes that are exempted under the program would accrue primarily to the school district if they were paid. However, the income tax benefits from new projects go primarily to state and local governments, not the school districts.

The important role played by local governments, as opposed to the state, in the designation process raises an important question: which local governments seek enterprise zone designation? To predict whether a local government has an enterprise zone designation, we performed a logistic regression on the 614 school districts in Ohio. The dependent variable is the presence of an enterprise zone. As of the end of 2001, the 386 school districts in Ohio had an enterprise zone agreement, while 226 districts did not.

We present three hypotheses. First, economically distressed areas are more likely to seek enterprise zone designation to stimulate economic growth and revitalization. Economic distress is measured in three ways: per capita income, percent of families below the poverty line, and percent of adults over 25 years of age out of the workforce. Second, areas with high real property and tangible property tax rates are more likely to seek enterprise zone designation to be able to lower the tax rates on potential firms and thus make the area more competitive with other locales inside or outside of Ohio. Third, since the incentives to firms are paid by tax abatements that remove up to 100 percent of the new investment from the tax rolls for a period of up to ten years, local governments will differ in their financial ability to offer such incentives. We predict

that areas with higher tax capacity are more likely to seek enterprise zone designation because they can better afford to pay the abatements with their larger tax base. Tax capacity is measured as the amount of total taxes levied per capita in model 1, and total tangible and real property taxes levied per capita in model 2. We include measures of population and the percent urban as control variables.

Table 1 here

The findings in Table 1 provide mixed evidence for our three hypotheses. Two of our measures of economic distress, the percent of residents in poverty and percent of residents not in the work force, are both negative and statistically significant. These results suggest that the local governments with high poverty rates and lower levels of workforce participation are less likely to have enterprise zone designation. The coefficient and statistical significance of the per capita income variable depends on how local tax capacity is measured. Similarly, neither of our measures of local governments' tax rates, real mills and tax mills, is statistically significant in either model. Communities with higher real estate tax rates are no more likely to seek enterprise zone designation to reduce their rates and make them more competitive with neighboring areas. Instead, the usage of the program has more to do with a municipality's tax capacity. In model 1, the coefficient for total taxes per capita is positive and statistically significant. Areas with a larger tax base are more likely to have an enterprise zone designation. In model 2, communities with higher tangible property tax per capita were more likely to use enterprise zones, whereas communities with higher real property taxes per capita were lower. The findings in both models 1 and 2 about the positive impact of tax capacity on enterprise zone designation is consistent with other studies of property tax abatements that have concluded they benefit wealthier areas

with larger tax bases (Rubin and Rubin 1987). As expected, population and urban were both positive and significant.

Another way of examining which areas are designated as enterprise zones is by using the Ohio Department of Education's (DOE) school district classification system. Using 2000 Census data, the DOE classifies each school district into one of seven categories based on demographic characteristics such as land use, income, and poverty (See Appendix A for complete descriptions) (Office of Policy and Accountability 2004). The typology is used to identify comparable school districts for comparing educational outcomes at the state and federal level.

Figures 1 and 2 here

The DOE's typology provides an alternative framework for examining spatially the siting of enterprise zones in Ohio. Figure 1 shows the percentage of school districts in each category with an enterprise zone. These results suggest Ohio's enterprise zone program does a better job of ensuring economically distressed areas are designated as enterprise zones than the statistical analysis in Table 1 would suggest. A greater percentage of urban high poverty areas are designated as enterprise zones than any other category of districts. However, the ease of enterprise zone designation has produced a proliferation in non-distressed rural and economically prosperous urban/suburban areas. Slightly more than half of all the school districts in the state in these categories have an enterprise zone.

Figure 2 shows the percentage of Ohio's enterprise zones that are in each category of school districts. What is interesting is how few of the 386 enterprise zones are in high poverty areas. Only 3% of the zones are in the urban-very high poverty category, 19% in the urban low-median income, high poverty area, and 14% in the rural high poverty areas, the three categories

of economically distressed school districts. The remaining 63% are in the affluent suburbs of major metropolitan areas (27%) or greenfield locations (36%). While economically distressed school districts have more zones percentage-wise than non-distressed school districts, the majority of Ohio's enterprise zones are in non-distressed areas. The loosening of enterprise zone designation criteria has benefited communities with greater tax capacity since they can better afford to offer firms greater real and tangible property tax abatements.

Which Enterprise Zones Work Best?

To examine the economic impact of enterprise zones, we use TIRC data from Ohio's Department of Development to assess five types of economic benefits and costs: the number of agreements with firms; the number of new jobs; the cumulative amount of tangible property investment; the cumulative amount of real property investment and the cost of tangible property tax abatements to firms. To make the economic outcomes comparable between zones, we calculated the economic benefits per 1,000 residents in the school district. The level of analysis is school districts with enterprise zones, and school districts without enterprise zone designation are excluded.

We model the economic outcomes at the enterprise zone level as a function of economic distress, local tax rates, and the industrialization of the zone. Many contend tax incentives do not compensate for the locational disadvantages that discouraged businesses from investing there in the first place (Dabney 1991). Thus we predict economically distressed areas will have lower economic benefits associated with the program. We measure economic distress using three variables: per capita income, percent of adults over 25 out of the workforce, and the percent of the population that is non-white.

Second, higher local property tax rates may influence firms' site selection process. While firms receives an exemption from both personal and real local property taxes under the enterprise zone program, the abatement expires after a negotiated time period of no more than ten years, recently changed to 15 years. Thus, we predict that districts with higher tax rates, as measured by real and tangible property tax rates, will have lower economic outcomes associated with the program.

Third, the overwhelming majority of research on site selection suggests that firms' locational decisions are driven by the availability of workforce, suppliers, infrastructure, and markets rather than incentives or tax rates. We measure the level of industrial activity in the zone by including the per capita dollar value of all industrial property in the school districts. We predict that zones that are more industrialized will be more attractive to firms, and thus have higher economic outcomes associated with the program. We also include the per capita value of all commercial property in the school district. We also include the percent urban as a control variable and two specifications of the model, one without the number of agreements (model 1), one with the number of agreements between local governments and firms (model 2).

Table 2 Here

To receive an abatement, a firm that is either opening a new facility or expanding an existing one, negotiates an agreement with the local government that specifies the amount of the abatement and the promised level of new jobs and investment. Table 2 presents OLS regression results where the dependent variable is the cumulative number of agreements per 1,000 residents since the opening of each enterprise zone. The results suggest that zones with high levels of industrialization have the most agreements. This finding is consistent with arguments that incentives merely subsidize firms for investments they would have made already, although we

cannot state that conclusively since firms could potential invest in neighboring states' industrialized areas. The results also suggest zones that are more urban and have greater percentages of adults out of the workforce have fewer agreements. Interestingly, real or tangible property tax rates have little effect on the number of agreements. Finally, the coefficient on per capita income is negative and statistically significant which suggests lower income zones receive more agreements.

Table 3 here

Table 3 presents OLS regression results where the dependent variable is the total number of new jobs per 1,000 residents created in each enterprise zone. Once again, zones with higher levels of industrialization attract more new jobs. Similarly, zones with higher levels of adults out of the workforce attract fewer new jobs. However, the coefficient for the zone's tangible property tax rate, which is viewed by manufacturing firms as particularly onerous since it taxes their capital equipment and inventory, is negative and either at or near statistical significance in both models. This result suggests that zones in communities with higher tangible property tax rates attract fewer new jobs.

Tables 4 and 5 here

Tables 4 and 5 present OLS regression results where the dependent variables are the cumulative tangible and real property investment per capita in each enterprise zone. The results are similar, with a few slight differences. Again, zones with higher levels of industrialization have more tangible and real property investment per capita. In both cases, the tangible property tax mills rate is negative and statistically significant or near, which is consistent with our hypothesis that higher tangible property tax rates discourage business investment in zones despite the incentives. Finally, in both cases the urban variable is negative. We suspect this is

because the agreements with firms in urban areas are mostly expanding existing facilities unlike the agreements with firms in more rural areas where they are building entirely new facilities and thus have more investment.

The analysis of which enterprise zones generate the most employment and investment growth illustrates three important points about the potential and limits of enterprise zone policies. First, economic growth is highest in industrialized areas, which suggests enterprise zones are not changing firms' site selection decisions. Second, enterprise zones are not benefiting the poorest areas. Zones with higher levels of adults out of the workforce attract fewer new jobs. Moreover, zones with higher tangible property taxes have lower levels of economic growth which suggest that enterprise zones cannot entirely offset the burden of being a high tax area.

“Where” Benefits the Most?

Another way of examining the economic outcomes of enterprise zones is by using the DOE's school district classification system that classifies each school district into one of seven categories based on demographic characteristics such as land use, income, and poverty. The DOE's typology provides an alternative framework for examining where the benefits of enterprise zones occur in Ohio. The spatial categories provide an alternative way of examining how the location of enterprise zones affects their success. By examining the economic impact of enterprise zones in different types of areas, we can assess the arguments about where enterprise zones should be located. There are three potential perspectives for assessing enterprise zones, developmental, efficiency, and equity, each of which has a different set of evaluation criteria. From a developmental perspective, what matters is which types of zones are generating the most benefits for the state as a whole. From an efficiency perspective, what matters is which agreements have the highest average economic impact. From an equity perspective, what

matters is whether zones in economically distressed areas are able to compete with zones in non-distressed areas. Each criterion has a different level of analysis: developmental perspective → state as a whole; efficiency perspective → average benefits per agreement; equity perspective → economic impact by zone. Once again, we use the Ohio DOE district categories to assess the developmental, efficiency, and equity implications of Ohio's enterprise zones on job creation.

Developmental Perspective

A policy-maker evaluating the enterprise zone program from a developmental perspective would want to know which zones contribute the most growth in the state as a whole. Supporters of the balanced growth perspective would use this perspective as well. Has the inclusion of non-distressed areas increased the amount of growth in the state as a whole? For each of the four economic outcomes associated with the program, the number of agreements, new jobs, tangible property investment, and real property investment, we show the cumulative amount of benefits that have resulted from all the enterprise zones in each of the seven categories of school districts.

Figures 3, 4, 5, 6 and 7 here

A policy-maker viewing Figures 3-6 from a developmental perspective would conclude that the expansion of the enterprise zone program to include non-distressed areas of the state has enhanced the level of economic growth in the state as a whole. Figure 3 shows the cumulative number of agreements with firms in each category of school district. Figure 3 shows that large numbers of firms have located in the urban/suburban high median income areas and the rural/agricultural areas with low poverty, areas that would not be eligible for enterprise zone designation under a targeted program. Figure 4 shows the cumulative or total number of new

jobs in all the enterprise zones in each category of school district. Again, zones in the two affluent suburban categories and the two rural/agricultural areas with low poverty have created more or almost as many jobs as the zones in economically distressed urban and rural areas. From a developmental perspective, Figure 4 suggests that expanding enterprise zones in non-distressed areas means more jobs for the state as a whole. Figures 5 and 6 show the total tangible investment and total real property investment. Again, the enterprise zones in the more affluent districts have the largest amount of tangible property investment. This phenomenon is even more apparent when we examine the total real property investment in all the enterprise zones in each category of school district in Figure 6. Figure 7 shows that the urban distressed categories account for the highest levels of the costs of the program. For economic development practitioners evaluating the program from the developmental perspective of which enterprise zones contribute the most economic growth to the state as a whole, the implications are clear. Designating non-distressed areas as enterprise zones has increased job growth and investment in Ohio. Restricting enterprise zone usage to economically distressed areas would significantly reduce the amount of growth statewide associated with the enterprise zone program.

Efficiency Perspective

A policy-maker evaluating the enterprise zone program from an efficiency perspective would want to know which types of agreements generate the most economic benefits. This view is mostly likely to be taken by a policy-maker trying to consider how to ration the enterprise zones so that they maximize the amount of benefits they produce for the state. Benefits are measured as the average benefits per agreement in each school district category.

Figures 8, 9, 10 and 11

Figure 8 shows the average number of new jobs per agreement in each school district category. The average agreement in an enterprise zone located in the two urban/suburban categories creates 50- 61 jobs, compared to the average agreements in other categories, which averaged 35-40 jobs. Interestingly, the difference in new job creation between distressed and non-distressed rural enterprise zones is not nearly as high. Figures 9 and 10 show the average tangible investment and average real property investment per agreement in each category of school district. Here, the urban/suburban – very high median income, very low poverty districts and the rural/small town – moderate to high median income areas have the highest average amount of tangible property investment per agreement, \$10.5 million and \$11 million respectively. Figure 10 shows that the urban/suburban – very high median income, very low poverty districts have the highest most real property investment per agreement, \$5 million, on average, compared to an average investment of \$2 million for the rest of the non-suburban categories. Figure 11 shows the average cost of tangible property taxes foregone per agreement. Rural high poverty areas, which are mostly located in the Appalachian area of Ohio, forego the most tangible property taxes, on average of \$375,000. The major urban high poverty areas forego nearly \$350,000 in tangible property taxes. Clearly, the poor areas offer the largest incentives on average. For economic development practitioners evaluating the program from an efficiency perspective of how to maximize the amount of economic benefits, the implications are clear. Agreements in non-distressed zones have the largest economic impact per agreement. Restricting enterprise zone usage to economically distressed areas would significantly reduce the efficiency of the enterprise zone program.

Equity Perspective

Proponents of an equity perspective would find fault with the developmental and efficiency analysis presented above. The economic outcomes associated with the non-distressed areas in the developmental analysis are benefits that might have occurred in the distressed areas if the enterprise zone were targeted. Similarly, the apparent higher efficiency of zones in non-distressed areas may be the result of the combination of non-distressed zones attracting better deals and poor communities forced to offer higher levels of incentives to compete with the more desirable communities.

Figures 13-16 here

The equity perspective examines the average number of economic benefits per zone in each category of school district. The results are different than the statistical analysis since we are looking at aggregate benefits per zone, and not per capita. Figure 13 shows the average number of agreements per zone in each category of school district. The major urban- very high poverty rates have an average of 42 agreements, more than four times as many agreements as zones in other areas. Figure 14 shows the average number of new and retained jobs for an enterprise zone in each school district category. Unlike the previous two charts, we also include a measure of retained jobs, despite the concerns about the reliability of these figures. As with the equity assessment of firm location decisions, the major urban economically distressed areas are the biggest beneficiaries on average. Zones in these poorest urban areas have created the most new jobs and retained the most existing jobs. Each major urban -very high poverty area has gained 1,600 new jobs and slightly over 6,000 retained jobs on average since the siting of the enterprise zone. These totals are far greater than zones the other areas, although if we measure the number of jobs per capita, the totals are less impressive. When we examine the average amount of

capital investment in zones, it is the urban distressed areas that have the highest average rate of capital investment. The major urban- very high poverty zones have received on average nearly \$250 million in tangible property investment and \$84 million in real property investment. Figure 16 shows that the major urban- very high poverty zones have also forsaken the highest amount of tangible property tax abatements, averaging nearly \$14 million.

The major urban zones are the oldest enterprise zones in the state. Including an age component might reveal that the success of the most economically distressed zones is the product of their longevity. Although it is not clear whether the greater jobs total is due to the longevity of these zones or the success of the program in attracting investment to economically distressed areas, it is difficult to argue based on these charts that enterprise zones are not benefiting distressed areas.

Summary of Development, Efficiency, and Equity Criteria

In this section of the paper, we attempt to quantify the benefits and costs from the developmental, efficiency, and equity perspectives of designating distressed and non-distressed areas as enterprise zones. We classify the four DOE categories of urban/suburban high median income; urban/suburban very high median income school; rural/small town moderate to high median income districts; and rural/agricultural districts with low poverty as non-economically distressed areas and the three categories of major urban, very high poverty; urban low median income, high poverty; and rural high poverty, low median income districts as economically distressed.

Tables 7-9 here

If we evaluate the economic impact of expanding enterprise zones to include non-distressed areas using developmental criteria, the question is what percentage of the total economic benefits generated by the state's enterprise zone program comes from distressed and non-distressed zones. Table 7 shows the percentage of economic benefits and costs of the enterprise zone program that come from distressed and non-distressed areas of the state. As we can see, the majority of firm sitings, new jobs, personal property investment, and tangible property investment come from zones in non-distressed areas, although the cost in tangible property taxes foregone is almost even. From a developmental perspective, awarding enterprise zones in non-distressed areas has significantly increased the economic impact of the enterprise zone program on the state economy.

If we evaluate the economic impact of expanding enterprise zones to include non-distressed areas using efficiency criteria, the question is which agreements provide more economic benefits on average. Table 8 shows the average economic benefits and costs of the enterprise zone program for each agreement with a firm in distressed and non-distressed areas. As we can see, the average agreement with a firm in a non-distressed area provides 23% more jobs, 22% more tangible property investment, 38% more real property investment, and costs 22% percent less in abatements to the firm. From an efficiency perspective, agreements with firms in non-distressed zones have a larger economic impact than agreements with firms in distressed areas.

If we evaluate the economic impact of expanding enterprise zones to include non-distressed areas using equity criteria, the question is which enterprise zones provide more economic benefits on average, enterprise zones in distressed or non-distressed areas. Table 9

shows the average economic benefits and costs for an enterprise zone in distressed and non-distressed areas. As we can see, the average enterprise zone in a distressed area has 44% more agreements, 18.4% more new jobs, 36% more retained jobs, 18.9% more tangible property investment, and 5.5% more real property investment, although they have also offered 86% more in tangible property tax abatements.

Conclusion—Whither Place Based Economic Development Strategies?

In theory, enterprise zones target economically distressed areas. In practice, they have not. In this paper, we have sought to examine who, or to be more accurate “where”, benefits when enterprise zones are zoned-out. Our results suggest when enterprise zones stop being targeted, communities with greater tax capacity, not economically distressed communities, are more likely to seek and receive enterprise zone designation. Moreover, enterprise zones in areas with higher levels of industrialization and lower tax rates are more successful in attracting new jobs and investment.

Our findings also shed light onto the political and policy implications of zoning-out enterprise zones. To date, most explanations suggest targeted economic development policies become un-targeted in order to build broader political support in the legislature. Our results suggest that by abandoning targeting for a balanced, or statewide, strategy, Ohio has attracted more jobs and investment to the state and signed better agreements with firms without sacrificing the original equity goals of the program. The implication is that enterprise zones, and by extension economic development programs that target economically distressed areas, work better when they are not targeted. These findings suggest that place based strategies will face increasingly political pressure to gradually retreat from an equity approach to a developmental approach. Since economic development practitioners are judged primarily by development and

efficiency criteria (Rubin 1988), they are likely supporters of efforts to ease targeting restrictions.

These findings raise important questions about whether place based strategies still make sense if they (almost) inevitably become non-place based. One argument would suggest that states should abandon place based equity strategies for people based equity strategies. Under this rationale, states should design their economic development policies from a developmental perspective to increase the size of state economies regardless of the location, and use the additional state revenues to invest in human capital and transportation policies that would disproportionately benefit low income workers. While such an approach would like meet with approval from economists, the political reality is that poor places are better able to make demands on the political system than poor individuals.

A second view is that the expansion of enterprise zones to non-distressed areas is not problematic as long as the new jobs are spatially and functionally available to residents of economically distressed areas. In Ohio, the majority of agreements, jobs, and investments are in the urban/suburban edge cities that are adjacent to the central city, high poverty areas. If there is sufficient transportation, these policies may benefit low income individuals and communities by providing spatially accessible jobs that are paid for through abatements offered by higher income communities. Implicit in this approach is that what matters is the spatially accessibility of the jobs, not the location of the firms.

Table 1 Which Communities Enterprise Zone Designation

		Model 1			Model 2				
Variables		B	S.E.	Sig.	B	S.E.	Sig.		
Economic Distress	% not in labor force	-4.03	1.94	0.04	**	-4.23	1.99	0.03	**
	Per capita income (1,000s)	-0.13	0.03	0.00	***	0.00	0.04	0.98	
	% in Poverty	-4.19	2.64	0.11		-3.40	2.70	0.21	
Tax Rates	Real Mills Tax Rate (%)	0.01	0.03	0.61		0.06	0.03	0.07	*
	Tangible Property Tax Rates (%)	-0.01	0.01	0.57		-0.01	0.01	0.54	
	Total Taxes Charged Per Capita	0.00	0.00	0.04	**				
Tax Capacity	Total Tangible Property Taxes Levied Per Capita (1,000s)					5.70	1.17	0.00	***
	Total Real Property Taxes Levied Per Capita (1,000s)					-3.55	1.17	0.00	***
Controls	Population (1,000s)	0.03	0.01	0.01	**	0.03	0.01	0.01	**
	% Urban	1.29	0.34	0.00	***	1.05	0.35	0.00	***
	Constant	3.30	0.94	0.00	***	0.84	1.12	0.45	
% Predicted Correctly		69.40%			74.00%				

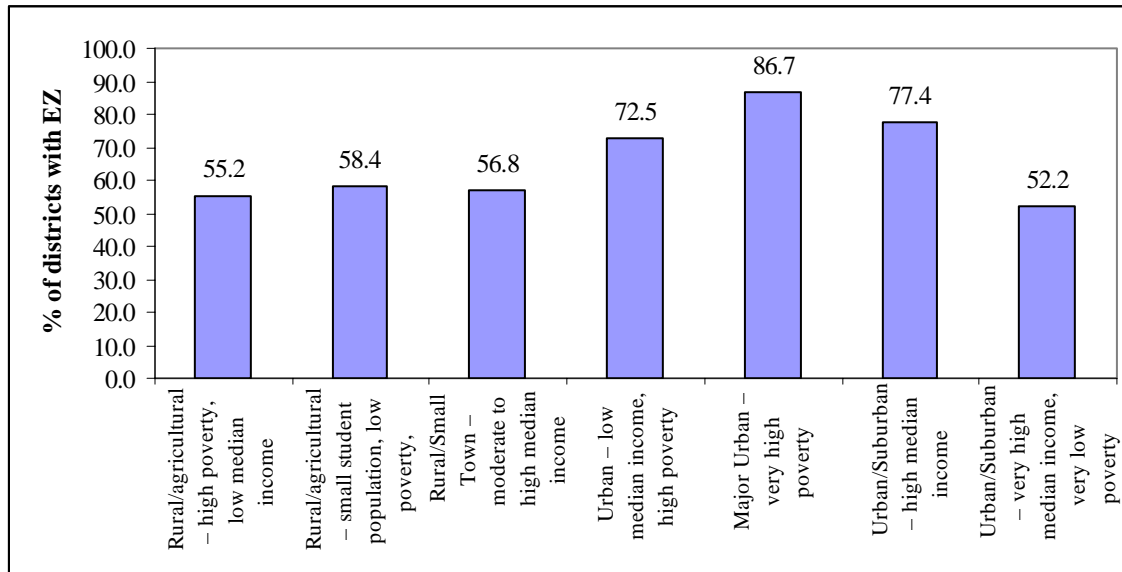
Dependent Variable: presence of enterprise zone in school district (1=yes, 0=no)

Method: Logistic Regression

Unit of Analysis: School districts, N=612

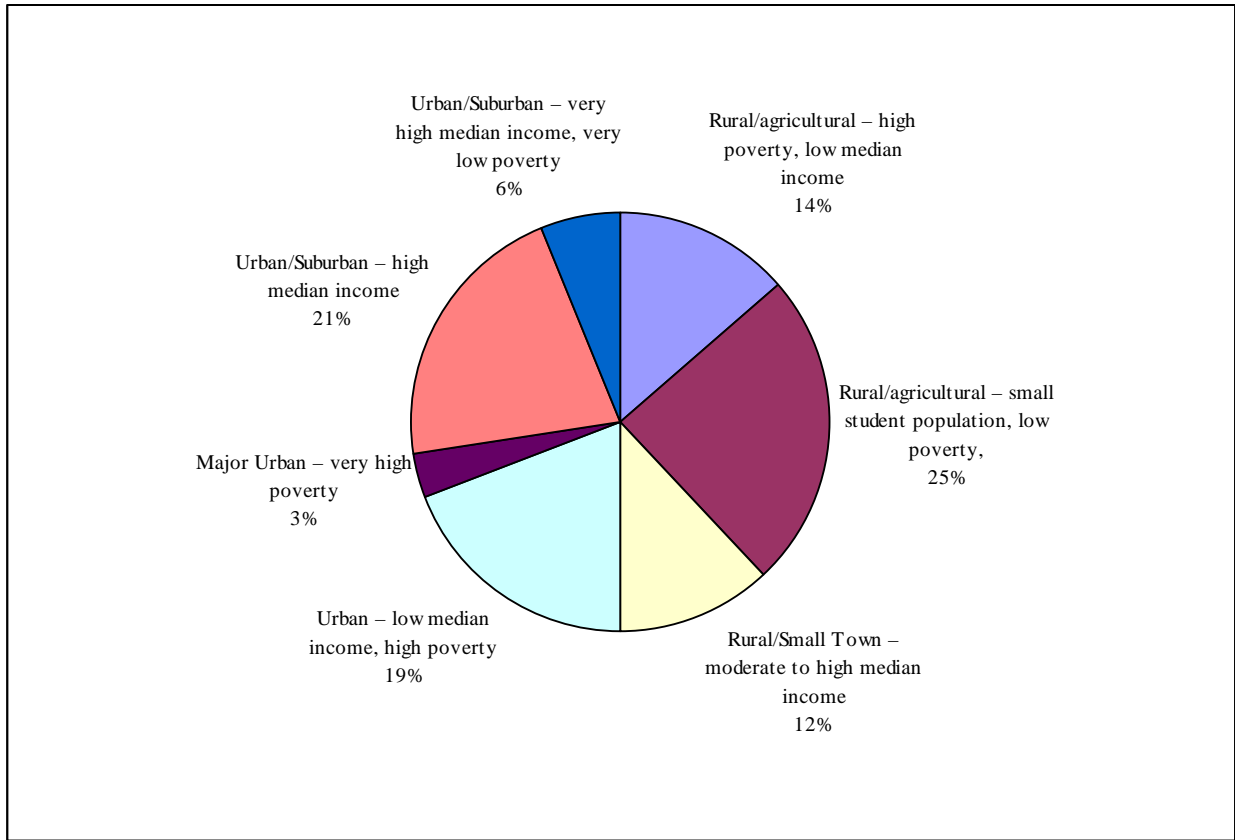
Probabilities based on a 2-tailed test: *p<.10, **p<.05, ***p<.01.

Figure 1 Percent of School Districts with Enterprise Zones by School District Type



Columns show the percentage of school districts in each category with an enterprise zone.

Figure 2 Distribution of Enterprise Zones by School District Type



This chart shows the percentage of Ohio’s enterprise zones that are in in each category of school district.

Table 2 Predicting the Number of Agreements in an Enterprise Zone

		B	Std. Error	Sig.	
Economic Distress	Per Capita Income (\$1,000s)	-0.01	0.01	0.05	**
	% Non-white	0.00	0.36	0.99	
	% Of adults not in labor force	-1.68	0.55	0.00	***
Tax Rates	Real Mills	0.01	0.01	0.41	
	Tang Mills	0.00	0.00	0.35	
	Industrial Value per capita	0.00	0.00	0.00	***
Industrialization	Commercial Value, per capita	0.00	0.00	0.87	
	% Urban	-0.30	0.10	0.00	***
Control Variables	(Constant)	1.40	0.30	0.00	***

Dependent Variable: number of agreements between firms and local governments per 1,000 residents

Method: OLS Regression

Unit of Analysis: School Districts with enterprise zones; N=381, Adjusted R2= .201

Probabilities based on a 2-tailed test. *p<.10, **p<.05, ***p<.01.

Table 3 Predicting the Per Capita New Job Creation in An Enterprise Zone

		Model 1			Model 2		
		B	Std. Error	Significant	B	Std. Error	Sig
Economic Distress	Per Capita Income (\$1,000s)	0.01	0.41	0.97	0.23	0.40	0.56
	% Non-white	1.95	19.96	0.92	-29.71	20.23	0.14
Tax Rates	% Of adults not in labor force	-79.92	30.47	0.01 **	-60.79	29.68	0.04 **
	Real Mills	0.11	0.47	0.81	-0.01	0.46	0.98
	Tang Mills	-0.33	0.20	0.09 *	-0.27	0.19	0.16
Industrialization	Industrial Value per capita	0.01	0.00	0.00 ***	0.01	0.00	0.00 ***
	Commercial Value, per capita	0.0009	0.00	0.46	0.0006	0.00	0.61
Policy	# of Agreements				-9.94	5.58	0.08 *
Control Variables	% Urban	-5.71	5.71	0.32	0.76	0.15	0.00 ***
	(Constant)	57.38	16.55	0.00 ***	46.60	16.13	0.00 ***
R2			0.119			0.176	

Dependent Variable: number of new jobs per 1,000 residents

Method: OLS Regression

Unit of Analysis: School Districts with enterprise zones; N=381

Probabilities based on a 2-tailed test. *p<.10, **p<.05, ***p<.01.

Table 4 Predicting Cumulative Per Capita Tangible Property Investment

		Model 1			Model 2		
		B	Std. Error	Sig	B	Std. Error	Sig
Economic Distress	Per Capita Income (\$1,000s)	79492.83	113167.21	0.48	116858.79	112420.45	0.30
	% Non-white	5391531.78	5506123.53	0.33	-52555.23	5703097.28	0.99
Tax Rates	% Of adults not in labor force	-5137424.35	8419972.43	0.54	-1849153.96	8382638.14	0.83
	Real Mills	224294.40	130949.17	0.09 *	203229.57	129541.46	0.12
	Tang Mills	-106850.16	54547.29	0.05 **	-96479.54	53988.92	0.07
Industrialization	Industrial Value per capita	2860.37	380.20	0.00 ***	2741.73	377.47	0.00
	Commercial Value, per capita	-362.21	344.05	0.29	-413.99	340.29	0.22
Policy	# of Agreements				130844.95	41167.53	0.00
Control Variables	% Urban	-4731162.96	1579859.50	0.00 ***	-5458971.61	1577537.29	0.00
	(Constant)	4070195.14	4575318.41	0.37	2216642.42	4557670.76	0.63
R2			0.194			0.213	

Dependent Variable: total tangible investment Per 1,000 residents

Method: OLS Regression

Unit of Analysis: School Districts with enterprise zones; N=381

Probabilities based on a 2-tailed test. *p<.10, **p<.05, ***p<.01.

Table 5 Predicting Cumulative Real Property Investment Per Capita

		Model 1			Model 2		
		B	Std. Error	Sig	B	Std. Error	Sig
Economic Distress	Per Capita Income (\$1,000s)	32717.61	26748.76	0.22	42543.87	26488.79	0.11
	% Non-white	1920434.14	1300941.38	0.14	490384.06	1343323.85	0.72
	% Of adults not in labor force	-3126074.88	1990392.31	0.12	-2267374.52	1975142.62	0.25
Tax Rates	Real Mills	10298.68	30925.94	0.74	4809.91	30496.33	0.87
	Tang Mills	-21358.14	12892.65	0.10 *	-18630.31	12720.46	0.14
Industrialization	Industrial Value per capita	399.71	89.89	0.00 ***	368.54	88.97	0.00 ***
	Commercial Value, per capita	71.45	81.34	0.38	57.81	80.20	0.47
Policy	# of Agreements				34365.91	9702.65	0.00 ***
Control Variables	% Urban	-770655.31	371584.15	0.04 **	-962329.17	369928.53	0.01 **
	(Constant)	2188830.33	1078895.30	0.04	1702496.33	1071368.54	0.11
R2		0.11			0.141		

Dependent Variable: total real property investment per 1,000 residents

Method: OLS Regression

Unit of Analysis: School Districts with enterprise zones; N=381

Probabilities based on a 2-tailed test. *p<.10, **p<.05, ***p<.01.

Table 6 Predicting Total Tangible Tax Foregone Per 1,000 Residents

		Model 1			Model 2		
		B	Std. Error	Sig	B	Std. Error	Sig
Economic Distress	Per Capita Income (\$1,000s)	1570.53	5134.84	0.76	2995.48	5121.36	0.56
	% Non-white	234924.29	249834.18	0.35	27313.47	259806.80	0.92
	% Of adults not in labor force	-39248.45	382046.81	0.92	86150.08	381874.33	0.82
Tax Rates	Real Mills	6025.21	5941.67	0.31	5221.90	5901.31	0.38
	Tang Mills	-2445.12	2475.02	0.32	-2049.63	2459.49	0.41
Industrialization	Industrial Value per capita	100.57	17.25	0.00 ***	96.05	17.20	0.00 ***
	Commercial Value, per capita	-13.59	15.61	0.38	-15.57	15.50	0.32
Policy	# of Agreements				4989.79	1875.40	0.01 **
Control Variables	% Urban	-156849.79	71684.35	0.03 **	184604.85	71865.32	0.01 **
	(Constant)	96713.68	207599.94	0.64	26028.25	207626.46	0.90
R2			0.11			0.123	

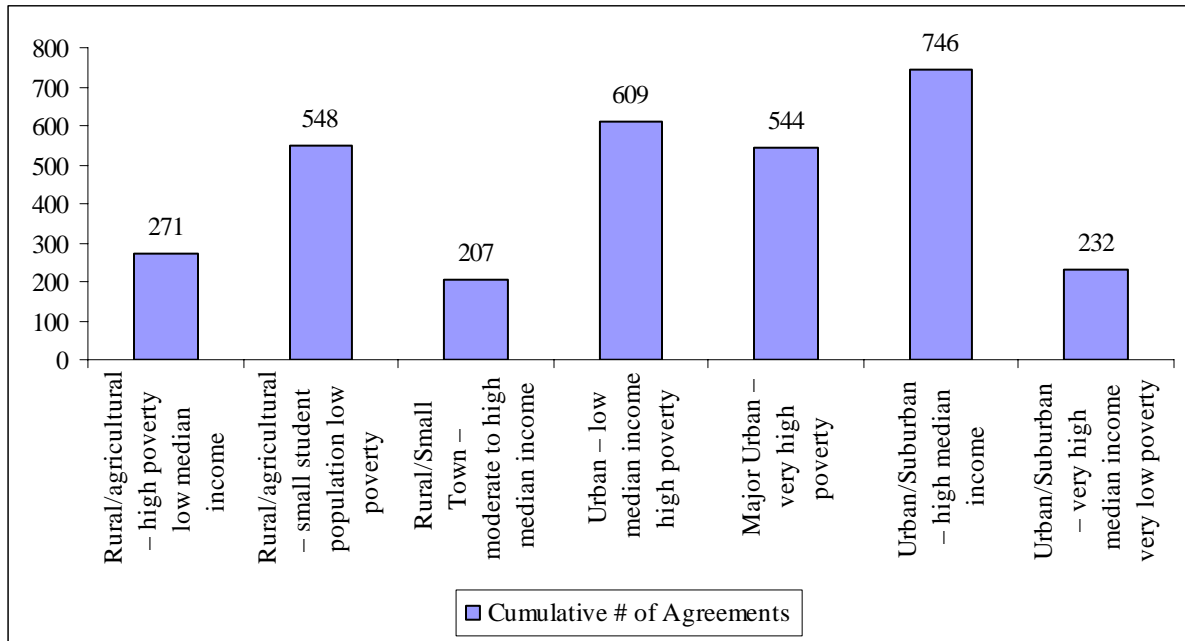
Dependent Variable: total tangible property taxes foregone per 1,000 residents

Method: OLS Regression

Unit of Analysis: School Districts with enterprise zones; N=381

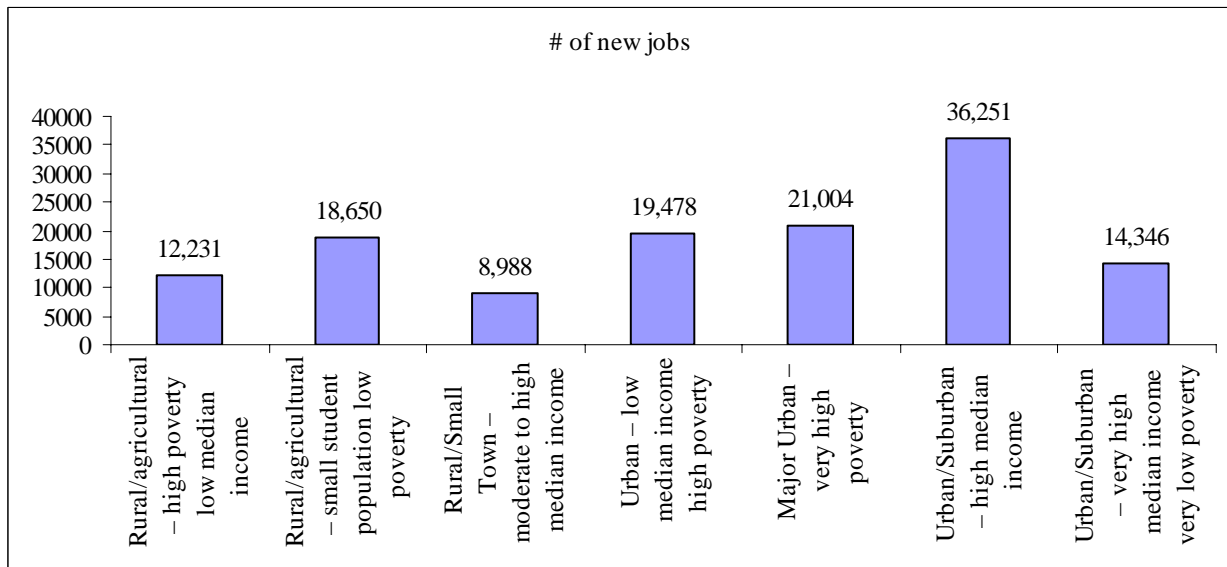
Probabilities based on a 2-tailed test. *p<.10, **p<.05, ***p<.01.

Figure 3 Spatial Distribution of Agreements from the Developmental Perspective



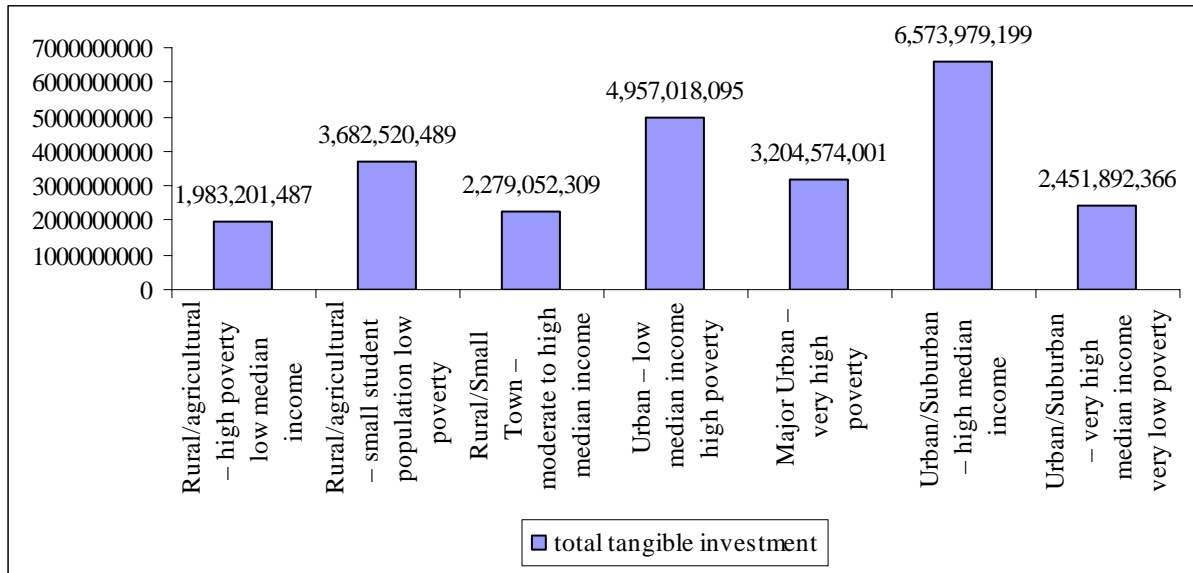
Columns represent the total number of firms that have located in all the enterprise zones in each category of school district.

Figure 4 Spatial Distribution of Developmental New Job Creation Benefits



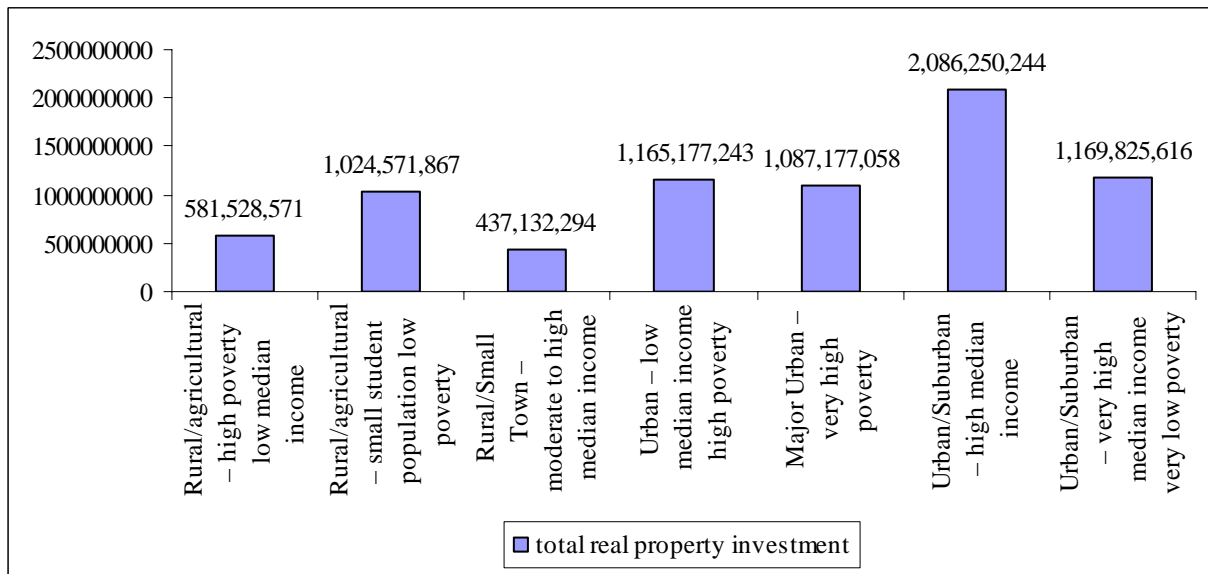
Columns represent the total number of new jobs in all the enterprise zones in each category of school district.

Figure 5 Developmental Assessment of Tangible Property Investment



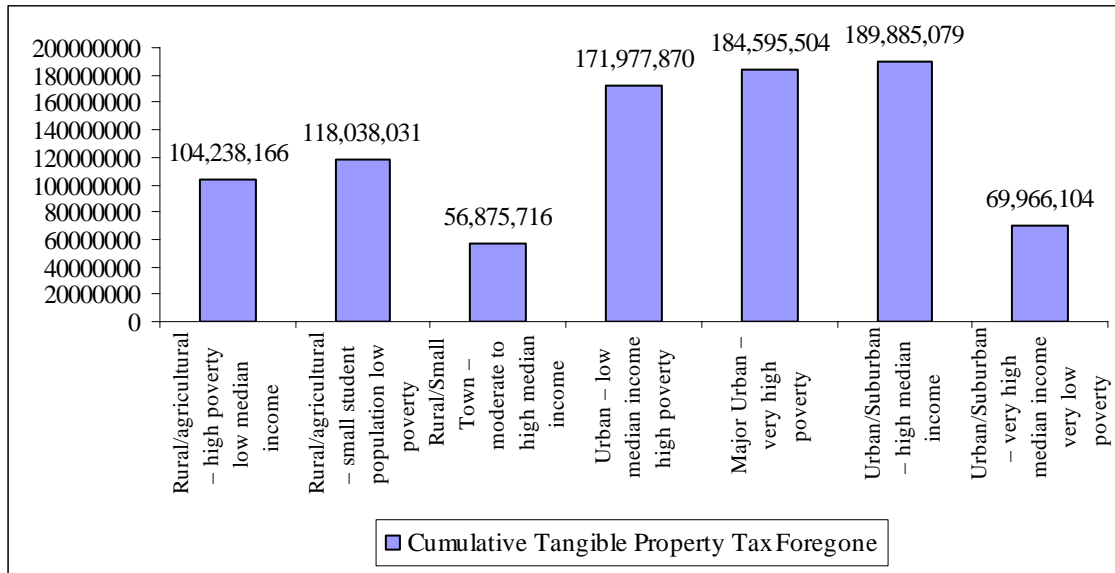
Columns represent total Tangible Investment in all the enterprise zones in each category of school district.

Figure 6 Developmental Assessment of Real Property Investment



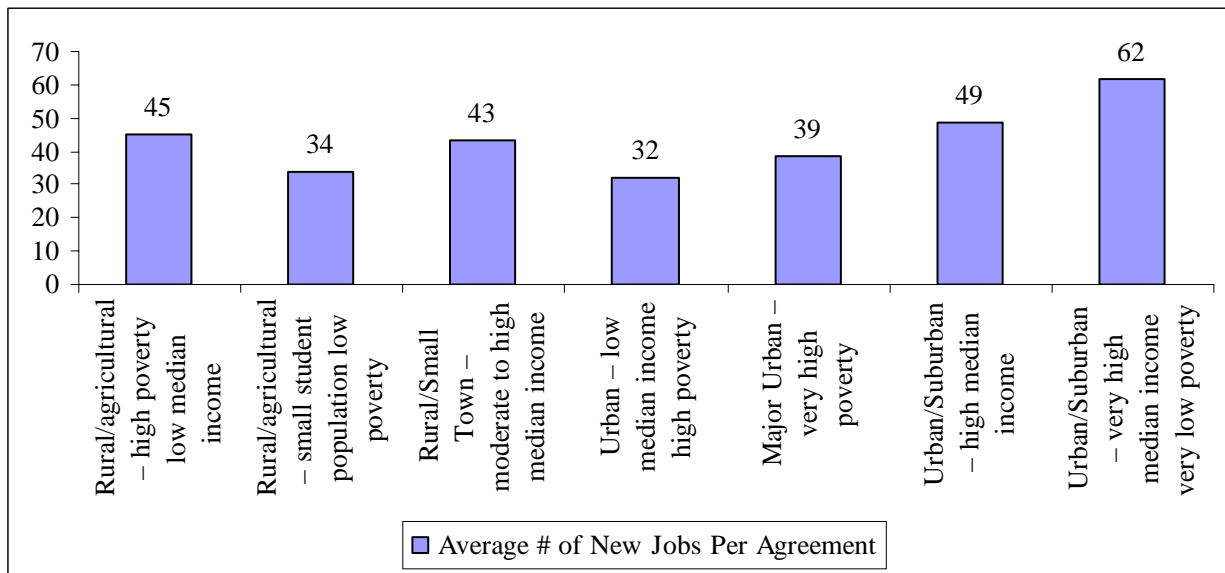
Columns represent total Real Property Investment in all the enterprise zones in each category of school district.

Figure 7 Development Assessment of Tangible Property Tax Costs



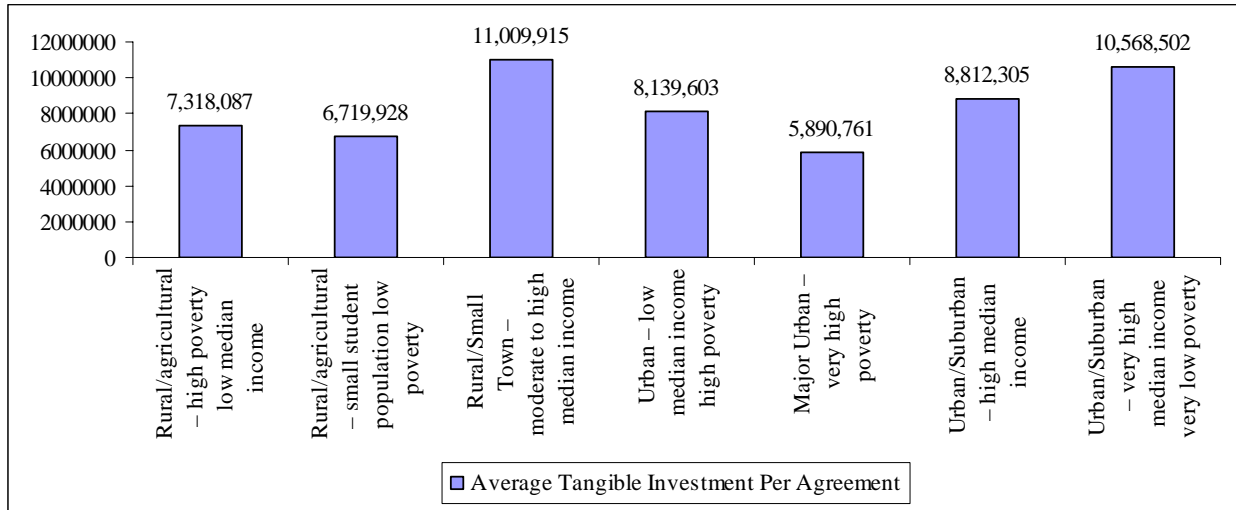
Columns represent the cumulative amount of tangible property tax foregone in all the agreement in all the enterprise zones in each category of school district.

Figure 8 Spatial Distribution of Efficiency New Job Creation Benefits



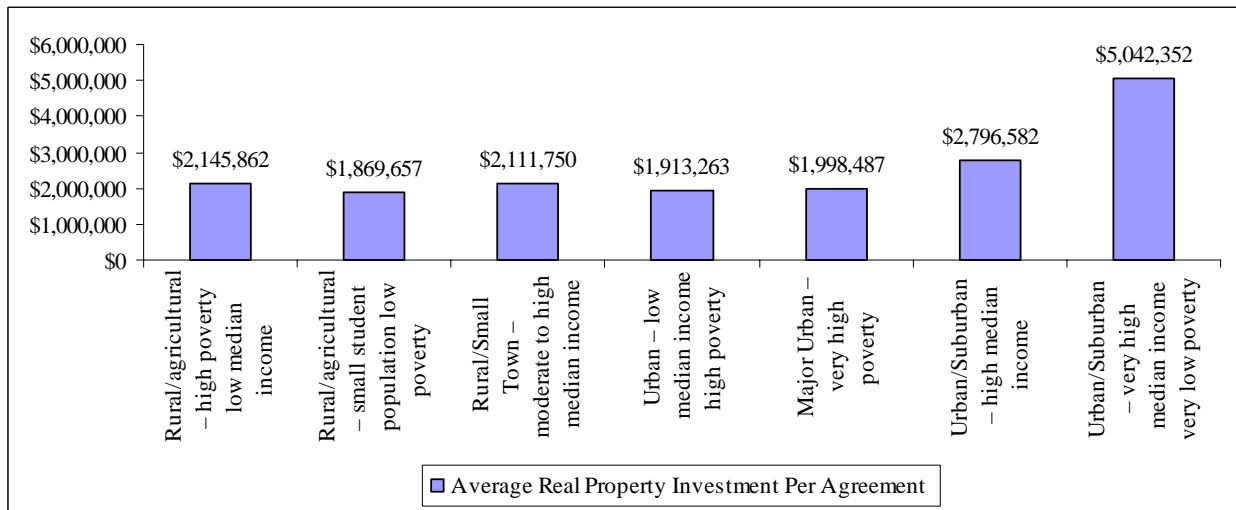
Columns represent the average number of new jobs per agreement in each school district category.

Figure 9 Efficiency Assessment of Tangible Investment



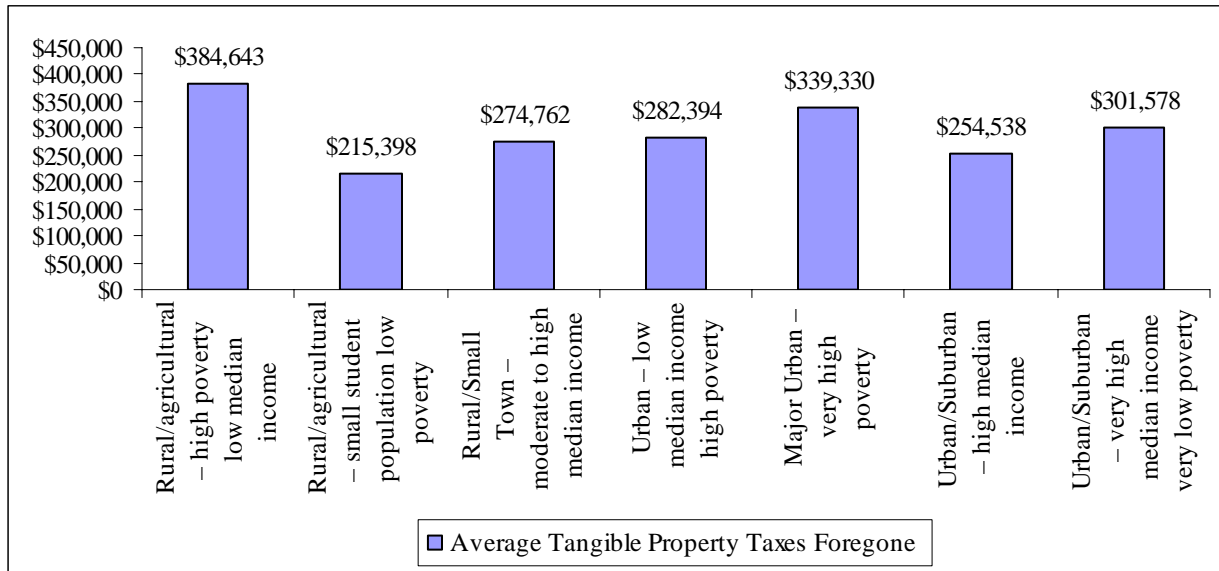
Columns represent the average tangible property investment in dollars per agreement in each school district category.

Figure 10 Efficiency Assessment of Real Property Investment



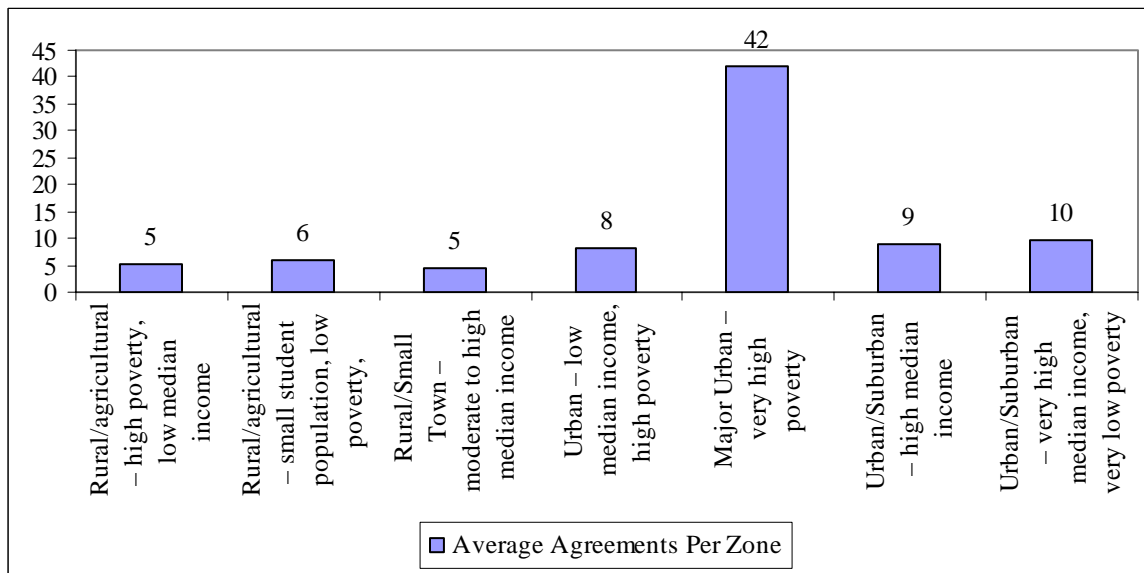
Columns represent the average real property investment in dollars per agreement in each school district category.

Figure 11 Efficiency Assessment of Tangible Property Taxes Foregone



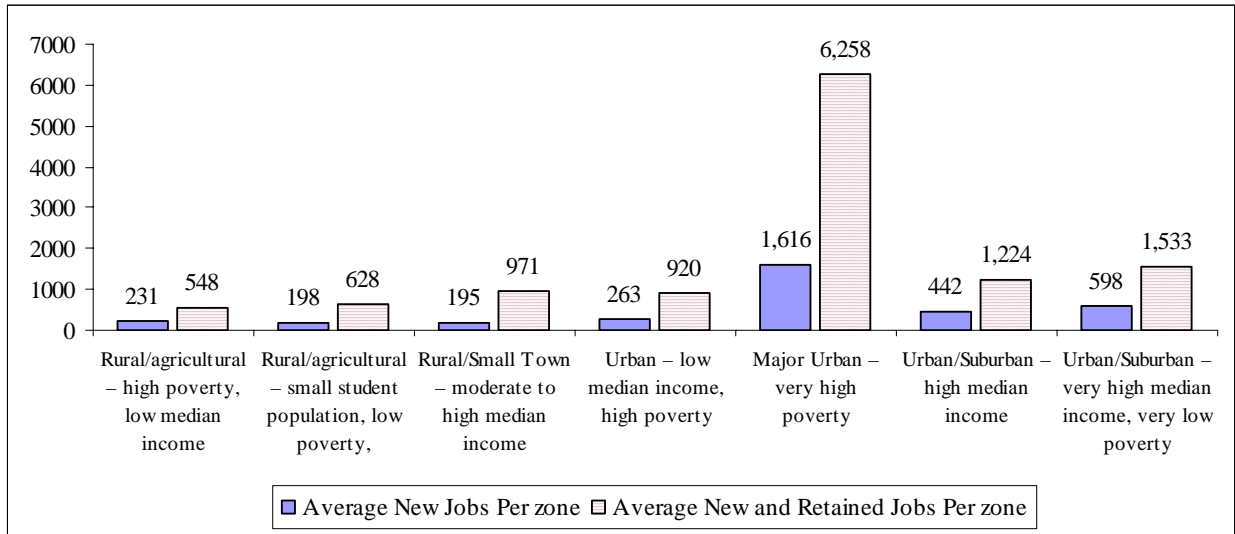
Columns represent the average amount of tangible property tax foregone per agreement for enterprise zones in each category of school district.

Figure 12 Spatial Distribution of Equity Firm Siting Benefits



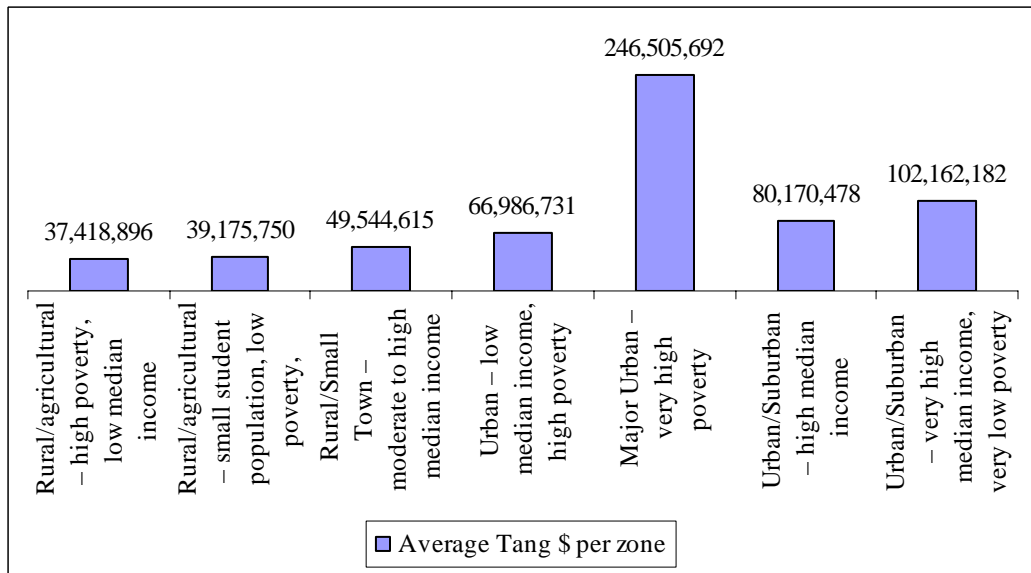
Columns represent the average number of agreements for an enterprise zone in each school district category.

Figure 13 Spatial Distribution of Equity New Job Creation Benefits



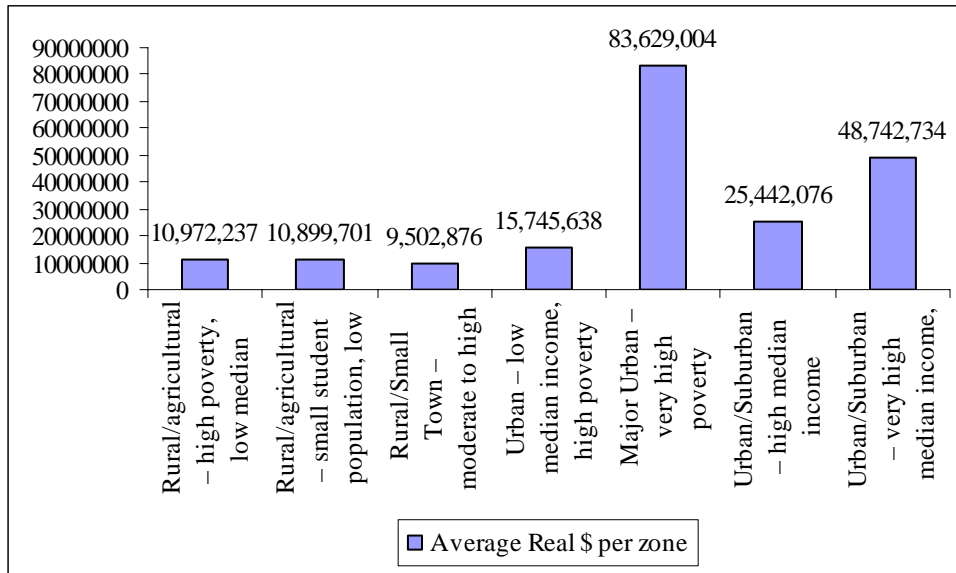
Columns represent the average number of new and retained jobs for an enterprise zone in each school district category.

Figure 14 Equity Assessment of Tangible Property Investment



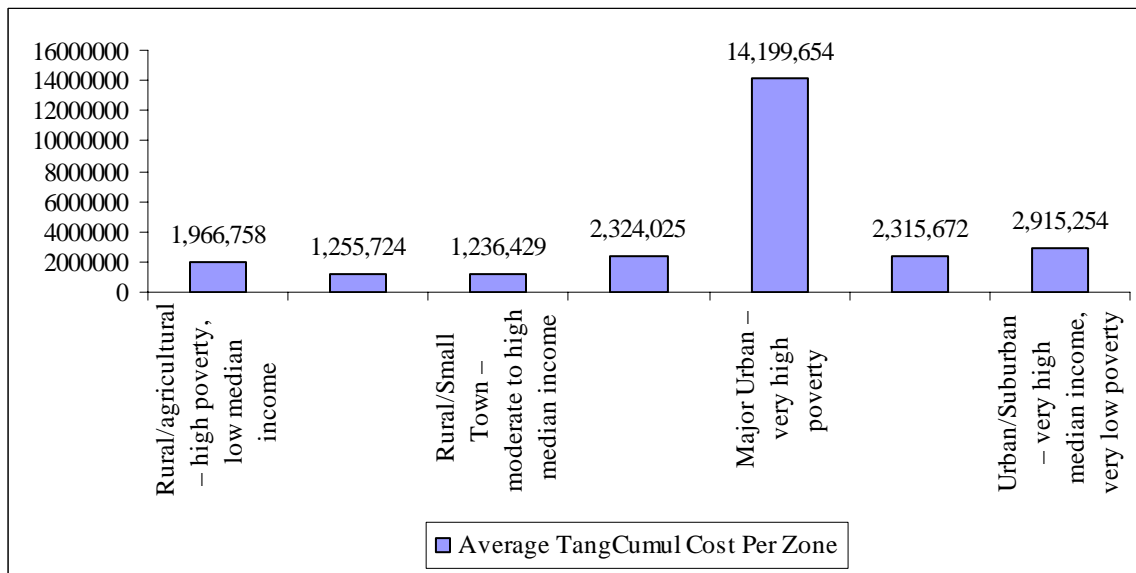
Columns represent the average amount of tangible property investment for an enterprise zone in each school district category.

Figure 15 Equity Assessment of Real Property Investment



Columns represent the average amount of real property investment for an enterprise zone in each school district category.

Figure 16 Equity Assessment of Tangible Property Tax Costs



Columns represent the average cumulative cost of tangible property tax abatements for an enterprise zone in each school district category.

Table 7 Comparison of Developmental Benefits in Distressed and Non-Distressed Zones

% of Benefits from each part of state	Distressed Areas	Non-Distressed Areas
Agreements with Firms	45%	55%
New Jobs	40.3%	59.7%
Cumulative Real Property Investment	37.5%	62.5%
Cumulative Tangible Property Investment	40%	60%
Cumulative Tangible Property Tax Foregone	51.5%	48.5%

Table 8 Comparison of Efficiency Benefits in Distressed and Non-Distressed Zones

Average Benefits Per Agreement	EZs in Distressed Areas	EZs in Non-Distressed Areas	% Improvement in Economic Outcomes of Agreements in Non-Distressed Areas
# of new jobs	37	45	23%
total tangible investment	\$7,124,153	\$8,698,459	22%
total real property investment	\$1,990,086	\$2,738,120	38%
Cumulative Tangible Property Tax Foregone	\$323,604	\$252,330	-22%

Table 9 Comparison of Equity Benefits in Distressed and Non-Distressed Zones

Average Benefits per Zone	EZs in Distressed Areas	EZs in Non-Distressed Areas	% Advantage of Distressed Areas
Cumulative # of Agreements	10	7	44.4%
# of new jobs	377	318	18.4%
# of retained jobs	899	661	36.0%
New and Retained Jobs	1275	979	30.3%
total tangible investment	\$72,462,811	\$60,924,571	18.9%
total real property investment	\$20,242,021	\$19,177,968	5.5%
Cumulative Tangible Property Tax Foregone	\$3,291,511	\$1,767,337	86.2%

Appendix A

The following descriptions are taken from the Ohio Department of Education typology (2004)

1. **Rural/agricultural – high poverty, low median income** These districts are rural agricultural districts and tend to be located in the Appalachian area of Ohio. As a group they have higher-than-average poverty, the lowest average median income level, and the lowest percent of population with college degree or higher compared to all of the groups. N=96.
2. **Rural/agricultural – small student population, low poverty, low to moderate median income** These tend to be small, very rural districts outside of Appalachia. They have an adult population that is similar to districts in Group 1 in terms of education level, but their median income level is higher and their poverty rates are much lower. N=161.
3. **Rural/Small Town – moderate to high median income** These districts tend to be small towns located in rural areas of the state outside of Appalachia. The districts tend to have median income levels similar to Group 6 suburban districts but with lower rates of both college attendance and managerial/professional occupations among adults. Their poverty percentage is also below average. N=81.
4. **Urban – low median income, high poverty** This category includes urban (i.e. high population density) districts that encompass small or medium size towns and cities. They are characterized by low median incomes and very high poverty rates. N=102.
5. **Major Urban – very high poverty** This group of districts includes all of the six largest core cities and other urban districts that encompass major cities. Population densities are very high. The districts all have very high poverty rates and typically have a very high percentage of minority students. N=15.
6. **Urban/Suburban – high median income** These districts typically surround major urban centers. While their poverty levels range from low to above average, they are more generally characterized as communities with high median incomes and high percentages of college completers and professional/administrative workforce. N=107.
7. **Urban/Suburban – very high median income, very low poverty** These districts also surround major urban centers. They are distinguished by very high income levels and almost no poverty. A very high percentage of the adult population has a college degree, and a similarly high percentage works in professional/administrative occupations. N=46.

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