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Local Enterprise Zone Programs and Economic Development Planning: A Case Study of California and Four Mid-Atlantic States

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Local Enterprise Zone Programs and Economic Development Planning: A Case Study of California and Four Mid-Atlantic States

Abstract

This dissertation explores the underlying concepts of enterprise zones, assesses their effectiveness, and seeks to identify conditions under which enterprise zones work. It covers 70 zones in California, Delaware, Maryland, Pennsylvania and Virginia (roughly one-tenth of the nation's locally administered zones established before 1987). It first reviews previous studies and exposes common methodological problems and theoretical weaknesses they confront. Pulling literature from industrial location, local economic development, and taxation studies, it develops and applies an analytical framework for classifying and evaluating zone performance. It measures zone performance in terms of the difference in the percent changes in employment and business establishment between zones and their regions. Next, it conducts a survey to investigate how zones are structured and managed. Combining survey results and zone performance data, it uses regression models to identify determinants of zone success. Finally, it includes case studies of three zones, all with an above-average performance to further validate previous statistical findings and to provide insights on the operation of 'successful' zones. This research finds that there is considerable variability among zones, but most of them do not adhere to the original laissez-faire conception of enterprise zones. In general, changes in employment and business establishment within a zone differ little from those of its region. However, active management and outreach by zone administrators tends to improve zone performance. Successful zones are typically those which are small, actively managed, with a simple program structure, located in a growing region, and with some basic location advantages. This dissertation research cannot link any specific economic development tool adopted in enterprise zones to their performance. Instead, regression models and case studies find that zone performance is determined by regional growth, initial zone conditions, and the employment size of the zone. Finally, income and employment levels in enterprise zone communities are found barely changing even when zones are experiencing rapid employment growth.

Comments

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A Case Study of California and Four Mid-Atlantic States

by

Chun-cheung Sidney Wong

M. Sc. in Town Planning (University of Wales, U.K.) 1986

M. Soc. Sc. in Urban Studies (University of Hong Kong) 1983

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GRADUATE DIVISION
of the
UNIVERSITY of CALIFORNIA, BERKELEY

Committee in charge:

Professor David E. Dowall, Chair

Professor John D. Landis

Professor John M. Quigley

1996

The dissertation of Chun-cheung Sidney Wong is approved:

David E. Donnell Dec 29, 1995
Chair Date

John D. Smith Dec 15, 1995
Date

John M. Dyer Dec 21, 1995.
Date

University of California, Berkeley

1996

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ABSTRACT

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David E. Donnell 12/29/1995

Chair

Date

To Winnie Ling,
my beloved wife and the best friend, who zealously supported me
throughout my entire doctoral endeavor.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
ARIMA	Autoregressive Moving Average
CBP	County Business Patterns
CDBG	Community Development Block Grant
CDC	Community Development Corporation
COAG	California Office of the Auditor General
CTDED	Connecticut Department of Economic Development
DMI	Dun and Bradstreet Market Identifier
DOE	Department of Environment (U.K.)
EDA	Economic Development Agency
EEIA	Employment and Economic Incentive Act (California)
EEIP	Employment and Economic Incentive Program (California)
HDUA	High Density Unemployment Area
HMSO	Her Majesty's Stationery Office (U.K.)
HUD	Department of Housing and Development
IDB	Industrial Development Bond
IRB	Industrial Revenue Bond
JTPA	Job Training Partnership Act
MSA	Metropolitan Statistical Area
NASDA	National Association of State Development Agencies
OLS	Ordinary Least Square
PIDA	Pennsylvania Industrial Development Authority

SBA	Small Business Administration
SHRA	Sacramento Housing and Redevelopment Agency
SIC	Standard Industrial Classification
SSEL	Standard Statistical Establishment List
TIF	Tax Increment Financing
UDAG	Urban Development Action Grant
USGAO	United States General Accounting Office
USHUD	United States Department of Housing and Urban Development
VDHCD	Virginia Department of Housing and Community Development

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VITA

Before working as a land-use planner, Sidney had obtained a B. Soc. Sc. (Hon.) in Economics and Urban Geography, and a M. Soc. Sc. degree in Urban Studies. Between 1984 and 86, he studied in the Department of Town Planning at University of Wales, where he worked with Professor Michael Batty, Dr. Ian Bracken, and Dr. Carole Rakodi. Upon graduation, Sidney was awarded the Royal Town Planning Institute's prize for academic excellence. In 1986 Sidney returned to Hong Kong and took a position in development control with the government. Meanwhile, he became a certified member of the Royal Town Planning Institute and the Hong Kong Institute of Planners. Since 1987, he has been in charge of the coordination of urban redevelopment schemes and consultant studies for reclamation projects. He has also participated in the formulation of the 2001 and 2011 Metropolitan Development Strategies for Hong Kong. In 1989 he started his doctoral study at the University of California at Berkeley, specializing in land and housing development, urban economics, and public finance. During his years at Berkeley he taught and conducted research with Professors David Dowall, Judith Innes, John Landis, John Quigley, and Michael Teitz. He was also hired by the World Bank in 1991 to review Asian urban lending programs. In 1995 Sidney was awarded the Irvine Postdoctoral Fellow position at the University of Southern California, where he co-teaches local economic development with Dean Edward Blakely. His academic and professional interests include local economic development, land and housing markets, urban finance, and quantitative methods. His current research is on organizational structure of economic development agencies and the relocation of high-tech firms in California. Sidney is also working with Professor Ted Bradshaw of U.C. Davis on an enterprise zone project.

1 INTRODUCTION

Few economic development programs have gained so much support in the political arena and aroused so little attention in academic circles as have enterprise zones. Currently, the Clinton Administration has designated empowerment zones and communities -- essentially one variety of enterprise zone -- in over one hundred cities. During the 1980s, 38 states also set up enterprise zone programs, and it is now estimated that about 2,700 local zones have been established. Despite such popularity, only a limited number of empirical studies of enterprise zones have been conducted, and these leave much to be desired in their research design and data quality. Moreover, not a single coherent enterprise zone theory has ever been developed.

Enterprise zones were first proposed in the late 1970s as an alternative way for alleviating economic distress. The original idea was that they would be small geographical areas within which businesses would receive financial incentives and regulatory relief as a means to stimulate investment and entrepreneurship. It was argued that such a program would first widen employment opportunities, and subsequently stimulate a community revitalization process. Proposed as business havens, enterprise zones gained broad support from both conservatives and liberals. They have been widely adopted at the state level in the United States. Once regarded simply as a temporary measure, they have become in many cases long-standing and established programs. Under the label of empowerment zones, enterprise zones are currently the most important federal economic development program for inner cities and poor rural areas.

In contrast, there has been much less enthusiasm in academic circles for enterprise zones. While some scholars hold views that oppose the concept and its underlying ideology, the majority of researchers have a more reserved opinion. Academically, enterprise zones have not yet been subjected to rigorous scrutiny. Despite their political popularity, enterprise zones remain an under-researched topic. Initially conceived as an experimental solution to inner-city problems, enterprise zones were never founded on conceptually sound or empirically driven theory. In fact, most empirical studies of enterprise zones have been conducted with a narrow focus on the evaluation of enterprise zone performance. Some such studies are flawed in basic research design. At present, with little agreement on how performance of zones should be measured and a lack of accurate data, most studies of enterprise zone programs have had a hard time linking them to economic development.

The situation today is one where the rapid development of enterprise zones has outpaced academic research. While thousands of zones have been established, only about 40 empirical studies have been conducted. Such rapid development of enterprise zones has also rendered the original concept obsolete. The term "enterprise zone" is now used to label a wide array of programs that include practically any development effort which involves some form of tax relief. Most studies fail to capture such variation in enterprise zone makeup and thus arrive at simplistic conclusions about whether enterprise zones work. Few studies can clearly demonstrate the connection between economic changes and the specific development tools that operate in enterprise zones. This dissertation study attempts to fill some of these knowledge gaps. It examines 70 zones in five states, and analyzes the nature and effects of enterprise zones. In brief, the study attempts to trace the idea of enterprise zones from theory to local practice. It reviews nearly all enterprise

zone empirical studies and exposes common methodological problems these studies confront. Pulling together literature from industrial location and local economic development theories, it builds an analytical schematic to examine zone performance. It also surveys local zone administrators to understand their experiences with program design and administrative structure. And it evaluates enterprise zone performance by comparing their employment and business establishment growth with their respective regions. Finally, the study conducts case studies of three enterprise zones to identify factors affecting zone performance and ascertain to what extent economic development programs have a positive impact on economic and social conditions.

1.1 Research Questions

This dissertation addresses two sets of issues: conceptual ones regarding the nature of enterprise zones, and practical ones about the design of an effective enterprise zone program. In terms of the first issue, the study seeks to clarify confusion surrounding the concept of enterprise zones. Since enterprise zones were first proposed as a way to test the re-introduction of laissez faire economics in small geographical areas, they lack a coherent and empirically grounded theory. Without such empirical support, the claim that private businesses would respond favorably to the tax incentives and regulatory relief of the enterprise zone appears speculative. Therefore, in the absence of a proven theory, when enterprise zones are put to practice, those officials responsible for individual zones generally organize their program components to fit local circumstances and to maximize business responses. Enterprise zones thus differ greatly in nature, as different programs introduce different mixes of development tools. This divergence from a prototype

has caused great difficulty in the evaluation of enterprise zone performance. If a study does not consider the differences among enterprise zones adequately, it risks drawing generalizations that are not representative. The problem is compounded when such generalizations are compared to an idealized model that has little empirical content. In this regard, this dissertation addresses two research questions:

- a) What are the underlying concepts supporting the creation of enterprise zones, and are they followed in practice?
- b) How do enterprise zones differ from one another, and what typology can be developed to capture these variations?

The second set of issues examined by this dissertation is related to practical evaluation of enterprise zones, and how they can be better designed. Currently, given the multi-purpose nature and diversity of enterprise zones, it is difficult to apply a uniform assessment procedure. And since economic changes are often a product of local and regional conditions, any attempt to attribute growth to the mere presence of an enterprise zone may be dismissed as speculative. A better way to evaluate enterprise zones is to evaluate economic changes comprehensively by assessing the effects of a set of factors. The relative impacts of enterprise zone programs can then be assessed relative to other factors. Such an evaluation should also be refined to make a distinction between different types of enterprise zones in terms of the mix of interventionist and noninterventionist components.

In short, this dissertation attempts to answer a basic question: are enterprise zones an effective means to revitalize distressed communities? This involves answering three subsidiary questions:

- a) How can the performance of different enterprise zones be measured and compared?
- b) What are the relevant factors affecting economic changes within an enterprise zone?
- c) After controlling for these factors, what specific program structures or implementation styles determine performance?

1.2 Case Selection

To derive conclusions that can be generalized, this dissertation uses a comparative study design. As of 1994, about 600 active enterprise zones managed by a variety of local zone administrations, had been created in the U.S. The study identifies five states for enterprise zone study: California, Delaware, Maryland, Pennsylvania and Virginia. These states were selected because of the presence of prior studies of their enterprise zone programs. Another reason for selecting these states is to control for broad structural variations so as to be able to focus on issues related to the variation of local conditions. In comparison with other parts of the United States, all five of these states are highly urbanized and display similar economic structures and development levels. On the other hand, the enterprise zone programs in these five states are sufficiently distinct that this study can focus on the differential effects that result from program variations. As of 1994, 122 enterprise zones had been designated in the five states.¹

¹ In this study, I counted contiguous zones which did not have a local administration as a single zone. Thus, the 30 Targeted Areas in Delaware were aggregated into ten zones. Throughout the study I used this new counting system. According to a NASDA report (1992), there were 145 zones in these five states, but this figure includes zones that were in the process of receiving designation.

However, because socioeconomic information suitable for small area analysis was only available through 1990, this study did not include zones that were designated after that time. Since a program usually takes several years to take full effect, the study was further confined to zones that were designated before 1987. In the end, 72 enterprise zones were selected for study under these criteria.

1.3 Research Design and Research Methods

Since Chapter 3 will discuss methodological issues and the conceptual model behind this study in more detail, in this section I will merely outline the research design and methods. This study adopts a research design that allows for multiple methods. Since the understanding of enterprise zones cannot be confined to one perspective, the idea is to cross-reference and validate conclusions from different perspectives. With a more sophisticated research design and using better-quality data, the study thus seeks to avoid some of the limitations confronted by previous empirical studies.

Basically, the study is organized around the five research questions discussed in Section 1.1. As a first step, it discusses the concept of enterprise zones and reviews empirical studies of them. This effort provides clues to the concepts underlying enterprise zones and how these concepts have been deviated from in practice. As a second step, the study establishes a pure enterprise zone model as a frame of reference to measure program variations. Based on industrial location and local economic development theory, the study then develops an analytical schematic for evaluating performance. The main purpose here is to provide a reference point for typing enterprise zones, and also to

establish a set of variables that affect enterprise zone performance. The study's third step is to survey enterprise zone administrators to find out how programs are organized and implemented. Fourth, the study measures and compares enterprise zone performance in terms of the changes in employment and business establishment in each zone relative to its region during the 1986-1990 period. This step allows the identification of factors affecting enterprise zone performance. After controlling for other factors, it also allows a testing of the hypothesis that program structure and implementation style have differential effects on performance. Finally, in order to corroborate conclusions from the survey and the performance analysis, this study includes three case studies. These case studies provide the chance to explore actual relationships between enterprise zones and economic changes. The following is a discussion of the three areas of research contained in this study.

Program Analysis

The program analysis portion of this study aims at analyzing the implementation of enterprise zones and depicting program variations. Its findings help determine to what extent the original enterprise zone concept is being followed. Another purpose of the program analysis is to generate information to establish variables in the following performance-analysis phase.

As there was no secondary information available, the program analysis was based on two sets of surveys: one at the state level, and another at the local level. In the first survey, information was obtained from state enterprise zone administrators, state legislative documents, program descriptions and evaluations, designation procedures, and annual reports.

In late 1993 I conducted personal interviews with state enterprise zone administrators in the five states (see Appendix 1). These interviews provided crucial insights into the state programs, and helped structure surveys of local enterprise zone administrators.

The local enterprise zone survey that followed was more elaborate, since it covered a large number of zones and investigated many aspects of zone implementation, including initial zone conditions, program targeting, specific program arrangement and mix, utilization of zone benefits, administrative setups, intensity of community involvement, and respondents' views on their enterprise zones. This second survey proceeded through three stages. The first consisted of contacting local zone administrators to request maps and documents about their programs. The second stage entailed mailing a questionnaire to zone administrators (see Appendix 2). This mail survey was conducted between June and October, 1994. (As there were no local zone authorities in Delaware, this portion of the study did not take place there.) Altogether, 70 zone administrators were included in the survey. The final stage of the local survey consisted of follow-up telephone interviews with those zone administrators who had failed to respond to the mail survey five months after initial contact (see Appendix 3). Based on the collected information, a database was created for statistical analysis. Most of the program analysis involved simple statistical analysis of these data. It established the distribution patterns and variations of enterprise zones in terms of specific attributes. The program analysis was useful in developing profiles and typologies of enterprise zones. Also, it provided important independent variables for the regression models used later in the dissertation.

Performance Analysis

The performance analysis serves two functions: it compares employment and business establishment growth within 72 enterprise zones, and it identifies determinants for enterprise zone success. Two performance indicators were used. These were the differences in net percentage change in employment and business establishment between enterprise zones and their corresponding regions in the period between 1986 and 1990. These two indicators were chosen because job creation and business growth have been the most common and immediate concerns of those promoting enterprise zones.

The performance analysis consisted of two major operations: typology analysis, and multivariate analysis. The typology analysis categorized enterprise zones by attributes such as size, location, length of operation, program characteristics, and implementation style. Statistical techniques such as T-test, ANOVA, and bivariate regression were used to detect whether performance varied among these groups. The multivariate analysis sought to uncover a more comprehensive explanation of performance variations. The multiple regression model examined a range of factors and weighted the relative impact of each factor after controlling others. The multiple regression technique allowed the study to desegregate program elements and test the effects of each element. Since regression analysis depended to a great extent on the underlying conceptual model to discriminate variables in the analysis, the study relied on an analytical schematic developed after a review of literature on industrial location and local economic development theory (see Chapter 3). Briefly, the regression model incorporated factors related to zone size; socio-demographic issues such as racial composition, skill level,

and educational level; and program-related variables such as management intensity and number of development tools. The program analysis also tested a series of dummy variables representing individual economic development tools used in the enterprise zones.

Case Studies

Even the most refined regression analysis has limitations when it comes to explaining causality. The explanatory power of regression analysis relies entirely on the validity of the underlying conceptual model and how precisely data measures reality. By contrast, case study, an analysis technique combining quantitative and qualitative methods, usually generates a better understanding of the relationship between causes and effects. Because of the depth of analysis, however, case studies demand considerable resources, so they usually involve a limited number of cases. Despite the common understanding that case studies are less capable of generating generalizable conclusions, they may be a powerful tool to refute a theory by counter-example, or to corroborate a theory under a carefully designed case-selection process (Yin, 1984).

This study, therefore, included detailed study of three enterprise zones to investigate whether program administration and design affect zone performance. Appendix 4 reports the case study preparation and interview protocol. At the time they were studied, two of the selected zones were experiencing a remarkable growth, while the third was experiencing growth similar to that in its region. The case study section aimed to identify factors present in the two high-performance zones and to determine whether these factors were absent in the third zone. The case studies combined a range of methods. Among these were field observations, review of records and reports, personal interviews (with economic development officials, business operators and other actors), and analysis of local

socioeconomic situation. The case studies mapped out the characteristics of the zones, the historical trends of economic development, the origin of enterprise zone programs, and the structure and administration of the programs. In particular, they examined how businesses responded to the program benefits, and they gauged the impacts of all concurrent economic programs on local employment and business levels. The case studies thus served as additional tools to verify the results of the performance analysis, and they illustrated patterns common to enterprise zone development.

1.4 Data Sources and Unit of Analysis

This study has relied on four types of data: program-related data, employment and establishment data, socioeconomic data, and contextual data. Program-related data, such as that related to the program structure, staff hours, and strength of public-private partnership, had previously not been reported by any secondary source, so these data had to be collected for this study through the surveys and case studies described above. As for employment and business establishment changes, this study did not use data supplied by zone administrators because of its questionable quality. Also, since annual County Business Patterns (CBP) information was too aggregated for small-area analysis, this study has used a special zipcode tabulation of the raw data from the County Business Patterns. This dataset records the number of business establishments by employment size class at the 4-digit Standard Industrial Classification (SIC) level. The dataset does not report employment, so the study prepared its own estimates of the number of employees per establishment. Appendix 5 reports the special features of the dataset and the employment estimation procedures used in the study.

Social-demographic data used in this study were drawn primarily from the 1980 and 1990 U.S. Census. The study used the STF3B data because the reporting unit at zipcode level was consistent with the chosen units of employment data. Contextual data covered aspects such as local economic development, socio-demographic information, and public finance. They were gathered as to related states, counties, and cities. This information was drawn from a variety of sources, including the U.S. Census and the County and City Data Book.

The basic units of analysis used throughout this study are the zone and the region. As no data is generally reported in established sources in relation to these two units, the study used zipcode datasets as the building blocks for these two units of analysis. Zones were constructed as an aggregation of zipcodes. In the case where an enterprise zone fell within a single zipcode, the entire zipcode was used to represent the zone, as prorating would have been arbitrary.² If a zone straddled several zipcodes (as many metropolitan zones do), zipcodes were combined to form a zone. To be consistent with the zones, regions were constructed by combining zipcode units.

In general, the regions loosely corresponded to the county where a zone was located. However, several adjustments needed to be made. First, when a zone was at the county border, the region was defined as the combination of the two adjoining counties. Second, if a county or independent city (a small Virginia administrative unit that is similar to a county) was very small in terms of population or land area, a bigger region would be formed by aggregating a group of contiguous counties or

² This procedure is appropriate for zones in small cities or in rural areas,

independent cities. Third, when the population of a county was too big (both Los Angeles and San Diego Counties have over one million inhabitants), the region was defined as an area roughly ten to fifteen miles around the zone. Following the same principle, the region for zones in Baltimore and Philadelphia was defined as those entire cities.

1.5 Organization of the Dissertation

This introductory chapter has outlined the research questions, the research design, and the methods of this dissertation. The next chapter examines the origin of the enterprise zone concept and the development of American enterprise zones. It discusses empirical studies of enterprise zones and analyzes their findings on program effectiveness. Chapter 2 also comments on methodological difficulties and the limitations of different types of research design. Chapter 3 reviews literature on industrial location, economic development theories, and local taxation studies. Based on this review, Chapter 3 also develops an analytical schematic to guide the regression analysis used in the performance analysis-phase.

Chapter 4 reports the findings of the survey with enterprise zone administrators. It covers background information, program structure, administrative arrangement, and the comments of the administrators of the programs. Chapter 5 focuses on the performance of enterprise zones as measured by differences between job growth and business establishment within a zone and within the surrounding region. It presents the results of statistical tests about the effect of different factors on zone

because the zone is likely the place where most economic activities are found.

performance, and discusses the results of multiple regression analysis of the determinants of zone performances. Chapter 6 reports the case studies of three zones. It examines whether or not the enterprise zone program is the major contributory factor to growth. Chapter 7, the final chapter, is a summary and conclusion. It evaluates the effectiveness of enterprise zones and draws conclusions that may have certain implications for economic development practice.

2. THE DEVELOPMENT OF ENTERPRISE ZONES AND THEIR STUDIES

This chapter surveys the development of enterprise zones and studies of them. It first discusses the origin of the idea and traces how the idea was put into practice in the United States. Then it reviews academic studies on enterprise zones and summarizes their findings in four areas: economic change, cost-effectiveness, business participation, and zone administrator assessment. Third, it discusses the deficiencies in the design of these studies and comments on general methodological issues. Finally, based on these discussions, the chapter proposes some improvements in methodology for enterprise zone studies.

2.1 The Enterprise Zone Idea

The idea of enterprise zones was first raised by Hall in 1977 as an alternative to existing British economic development strategy. Hall proposed small experimental zones as a "last-ditch solution" to revitalize distressed inner cities. Zones were proposed as "[s]mall selected areas of inner cities [which] would be simply thrown open to all kinds of initiative, with minimum control to recreate the Hong Kong of the 1950s and 1960s inside inner Liverpool or inner Glasgow" (Hall, 1977).¹ Hall's proposal contained three elements: allowing private business to take a leading role in economic development, streamlining and reducing government regulations, and removing barriers to labor mobility.

¹ Hall's brief experience with Hong Kong did not allow him to comprehend factors that were unique in Hong Kong's success. The Hong Kong government was an active player in framing economic institutions, stabilizing the price of key production factors, investing in physical infrastructure, and providing half of the population with affordable public housing (Schiffer, 1984; Castells, 1986). Also, the informal sector and access to venture capital through family and kinship played important roles in the Hong Kong economy.

Howe (quoted in Butler, 1991: 27) packaged Hall's idea into a politically feasible proposal. He proposed that enterprise zones would serve as laboratories for innovation, allowing successful experience to be transplanted elsewhere. Howe laid down the following parameters for an enterprise zone program: a square mile in area, suspension of public land-use control, transfer of public-owned land to the private market, removal of rent control, exemption or reduction of property and capital gains taxes, favorable tax treatment, and the elimination of minimum-wage regulations.

The emergence of the enterprise zone idea represented a reaction to failing government economic policies. It appeared at a time when the British economy was declining after a long period of public-sector control and excessive regulation. During 1960s and 1970s, the Labor Party had adopted a series of welfare and pro-labor policies that had undermined incentives for investment. In the early 1970s, under the protection of legislation guaranteeing minimum wages, the right to strike, and collective bargaining, labor unions had become militant and successfully launched several major strikes. As a welfare state, Britain relied on high taxes to support social programs. The government had nationalized declining industries such as railways, coal mines, auto production, utilities and telecommunications. It had restrained industrial development in the Greater London Region and forced growth to decentralize to less favorable regions. It had instigated a restrictive and centralized land-use control system based on the nationalization of private development rights and heavy levy on increases in property value. And its public housing program and strict rent-control policy had resulted in poor labor mobility. The enterprise zone idea not only represented a reaction to the intrusion of government in the economy, but it also provided a response to the inability of government programs to

combat inner-city decay. The idea suggested a revival of private initiatives and voluntarism on the one hand, and tax reductions and relaxation of government regulations on the other.

In 1979, the Conservative Party regained control of Parliament and began the so-called "Thatcher Era." It quickly endorsed the enterprise zone idea because it fit its libertarian ideology and provided a useful model for curtailing government regulations. Enterprise zones soon became the most important urban program in Britain. The government designated eleven enterprise zones in 1981 (DOE, 1991). These zones were small, located in derelict or underdeveloped areas in inner cities or abandoned docklands. The boundaries were drawn to exclude residential areas and to limit the control of local authorities. Separate autonomous enterprise zone agencies were appointed to administer these zones. The program provided four major incentives: property-tax exemption, capital allowance, exemption from capital gains taxes for land transactions, and simplified land-use regulations. It also provided several lesser incentives such as an exemption from fees for industrial training, a streamlining of permitting processes, relief from customs duties, and a reduction in government statistical requirements (PA Cambridge, 1987).

In 1979, a conservative think tank in the U.S., the Heritage Foundation, instigated a debate on enterprise zones and a discussion of how the British idea could be transplanted to the U.S. (Butler, 1979). Proponents of enterprise zones argued that taxes, regulatory compliance, and permitting and licensing requirements created prohibitive costs for business investment (Sternlieb, 1981). Therefore, reduction or removal of these public-sector constraints and the provision of financial incentives in some special zones should stimulate growth because of a reduction in operating costs. These zones would provide a "leveling

plane" on which investors could compete with other locations (Butler, 1981a). Apart from tax breaks and regulatory relief, other incentives, such as a suspension of minimum-wage requirement and land-use controls, a negative income tax, and a creation of foreign trade zones, did not gain much support. The debate also raised concerns about the possibility of tax evasion by large firms which might set up branch operations in the zones. To summarize, in the United States, the early enterprise zone idea contained four basic elements: a) geographical targeting; b) reduction of government regulation; c) creation of tax incentives; and d) emphasis on small business (Bendick & Rasmussen, 1986; Green & Britnall 1987).

2.2 The Federal Enterprise Zone Programs

The initial response to the enterprise zone proposal was favorable, and it drew endorsements from opposing ideologies. The Reagan Administration found the concept offered a promising substitute to established urban programs such as Community Development Block Grants (CDBG) and Urban Development Action Grants (UDAG), which the administration planned either to scale back or curtail altogether. Various enterprise zone bills were submitted to the Congress in the early 1980s. Among them, the Kemp-Gracia Bill of 1982 was the most representative. It proposed the following incentives: the elimination of capital gains taxes on investment; a 10-percent income tax credit for hiring new workers; a 50-percent income tax credit for hiring members of economically disadvantaged groups; a 5-percent credit on employee income taxes; federal government guarantee of local industrial revenue bonds; and the relaxation of federal regulations. These proposals placed strong emphasis on providing job opportunities for disadvantaged people, and most zone benefits were dependent on special hiring practices. Unlike

the British programs, these enterprise zone bills conferred the obligation for program planning and implementation onto existing local authorities.

Despite this early interest in the enterprise zone idea, the U.S. Congress did not pass any federal enterprise zone legislation until 1987. One reason was that the 1986 Comprehensive Tax Reform Bill cast uncertainties as to the possible impacts of enterprise zone tax exemptions. Also, some legislators began to question tax costs and the effectiveness of the proposed program. Finally, however, in 1987, the Congress passed provisions for a bare-bones enterprise zone program as part of the Housing and Community Development Act. It authorized the Department of Housing and Urban Development (HUD) to designate 100 zones (of which one-third were to be in rural areas). This program provided only two incentives: the waiver of certain HUD rules and regulations, and better coordination of HUD programs. Arguing that the provisions were inadequate and ineffectual, the Secretary of HUD refused to grant any zone designations. Afterward, interest in a federal enterprise zone program subsided.

The 1992 Los Angeles riot briefly reawakened the nation's awareness of inner-city problems. During the presidential campaign that year, both candidates endorsed enterprise zones as a means to revitalize inner cities. And in 1993, the Clinton Administration unveiled a \$3.5 billion federal Empowerment Zone program, whose core components included a jobs tax credit and provision for social services. The proposal was passed by the Congress as part of the 1993 budget legislation. As enacted, it set aside \$2.5 billion for tax incentives and \$1 billion in Title XX funding for social services. Local governments were invited to apply for the empowerment zone designation under a competitive process. In December

1994, the Administration announced the designation of nine empowerment zones and 95 enterprise communities (Clinton, 1994; James, 1994; Peirce, 1995). The nine empowerment zones were located in the cities of Atlanta, Baltimore, Chicago, Detroit, New York, and Philadelphia-Camden, and in three rural areas in the states of Kentucky, Mississippi and Texas. Under the Clinton program, each zone receives a \$100 million social services block grant and is eligible for other federal assistance. Qualifying businesses in the zones can write off up to \$20,000 expenses and obtain a 20-percent credit on the first \$15,000 of wages paid to employees who are economically disadvantaged. In addition, two supplemental empowerment zones in Cleveland and Los Angeles receive grants but not tax breaks. Each of the 95 enterprise communities receives a \$3 million social services block grant and tax-exempt bond financing. Four enterprise communities (in Boston, Houston, Kansas City, and Oakland) get additional cash awards from the HUD Economic Development Initiative Program.

The current federal empowerment zone program places strong emphasis on job matching, local planning, and social services delivery. It requires concerted local efforts to bring all social and economic development programs together. In inviting application for zone designation, the federal government stated clearly that assessment would be based on how well a local government could draw up a development strategy and demonstrate how local businesses, banks, universities, and foundations would leverage the federal money (USHUD, 1994). Some commentators (Hetzl, 1994; M. Rubin, 1994) argue that such a program is similar to the Johnson-era Model Cities program. In any event, it is clear that the current empowerment zone program is not structured around tax exemption and regulatory relief, as is the original enterprise zone idea. Rather, the Clinton program incorporates a number of interventionist elements

such as strategic planning and mobilization of public and private resources. Since the program is in its early phase of implementation, assessment of its effectiveness will not be possible for several more years. However, during the last decade, states have taken the initiative to set up their own local enterprise zone programs. The next section will discuss this state experimentation with the idea of enterprise zones.

2.3 Enterprise Zone Programs at the State and Local Level

The delay in setting up a federal enterprise zone program during the 1980s did not prevent states from taking their own initiatives. In fact, states were eager to set up enterprise zone programs. As of late 1992, HUD recorded that 38 states and the District of Columbia had set up such programs (USHUD, 1993; NASDA, 1992).² About half of these state programs were in place during the 1981-83 period, because states had initially rushed to tie their programs into an anticipated federal program. However, the popularity of enterprise zones gradually waned after the mid-eighties, and only two additional states adopted programs after 1990. Nevertheless, once considered only a temporary measure, enterprise zones have now become an established economic development tool in the states that have adopted them. Most states have also extended the time frame of their enterprise zone programs after initial program periods of ten or fifteen years expired.

State programs exhibit significant variations. For example, the number of zones per state ranges from one (Michigan) to thousands (Louisiana).

² Maine and Minnesota terminated their programs under ten-year sunset provisions, while West Virginia never designated a zone under its program. Programs in Mississippi and South Carolina have been restructured to include job tax credits for the entire state.

The shape and area of zones also vary. And the boundaries can be extremely peculiar, as local authorities sometimes try to combine residential neighborhoods with industrial or commercial sites nearby. Zones may cover a group of census tracts or an entire county (Oklahoma), or even the whole state (Mississippi and South Carolina). Most states use eligibility criteria which are based on the criteria of the former federal UDAG program, composed of indicators that track income status, poverty level, and unemployment of the residents, and other community indicators such as population decline, disinvestment, and vacancy of property.

Broadly speaking, there are two types of designation processes. The difference between them can be crucial because it affects the size, scope, nature, and the administration of zones. On the one hand, an automatic process usually results in a large number of zones (Arkansas, Kansas and Louisiana) without much uniformity in land area, types of land use, or economic activities. These zones are composed of census tracts which comply with distress criteria. They cut across local jurisdictions and do not have a specified local zone administration. On the other hand, under a competitive selection process, states usually require communities to demonstrate local commitment and to prepare a development plan or resource coordination strategy. Such programs usually limit the total number of zones to be designated and impose constraints on the population size and land area of each zone. Apparently, this selection process deliberately excludes areas that are too derelict and that are considered distressed beyond remedy. Zones created in this way are more likely to package other incentives and development programs together with the tax incentives provided by the state enterprise zone legislation. This is precisely the reason that Erickson and Friedman (1991) found that states which use a large number of criteria to designate zones tend to

have a more complex program.

Apart from having a common goal of job creation and retention, state programs differ greatly in their other economic and social objectives. Individual states offer incentives that vary in magnitude, time period of benefits, targeted activities, and compliance conditions (Gunn, 1993). Erickson (1992) groups these incentives into three categories: investment promotion, financial/capital support, and labor focus. In addition, other development programs such as capital financing, state grants and loans, and infrastructure or public service improvements may be concurrently put into place (Rubin & Richards, 1992).

Green and Britnall (1987) observed that states were experimenting with and structuring their own forms of public-private sector relations through enterprise zone programs. Their study not only showed the diversity in the nature of enterprise zone efforts, but also demonstrated that the original concept was not being consistently applied. In a later study (Britnall and Green, 1988), they arrived at a classification of four general types of programs based on the intensity of public-sector management and the extent of private sector involvement: "an *activist* program with high levels of state management and of private group involvement; a *managed* structure, with high levels of state management and low levels of private group involvement; a *private* structure, with low levels of state management involvement and high levels of private group participation; and a *hands-off* structure, with low levels of both state management and private group involvement in the program." They found states in the southern U.S. tend to maintain a hands-off approach,

while states with larger populations and a more liberal inclination, have taken a more activist role.

As of 1991, about 3,700 local zones have been created in the United States, and about 2,700 are still in effect.³ However, the number of zones managed by a local agencies are estimated to be only around 600 to 700 because states like Arizona, Delaware, Kansas, Louisiana and Ohio (which do not require a local implementation agency) account for about 2,000 zones. At the local level, enterprise zones exhibit even more diversity. Distressed communities are often eager to receive enterprise zone designation under their state programs because such designation requires little expenditure of funds or cost and institutional rearrangement at the local level. Local zones vary in terms of land-use patterns, the mix of other local incentives, and administrative style. Zones in the same state may thus look very different, as local authorities take different approaches in managing their zones (Levitan & Miller, 1992; Erickson & Friedman, 1989; Sheldon & Elling, 1988). One zone may operate passively within state parameters, while another may actively mobilize local resources and aggressively market its program. Local authorities determine and adjust zone boundaries, design development packages, promote local commitment, and organize public-private partnerships. These local variations are the main reason that enterprise zones are so difficult to assess. Any generalized conclusion that assumes that there exists a single type of enterprise zone would be severely misguided.

Despite these variations, experimentation with enterprise zones has gradually shaped an American version of the original British idea

³ The estimates are based on the 1991 NASDA report. A separate HUD report put the number at 3,172 (USHUD, 1992). It is difficult to have an accurate count

(Butler, 1991; Rubin & Richards, 1992). Unlike their British counterparts, American enterprise zones stress job creation for zone residents as one of, if not the most important goal. In particular, widening of employment opportunities for economically disadvantaged persons or minorities takes a high priority in most state programs. As such, zone benefits will be awarded only if businesses are willing to create jobs, commit to hiring special groups, or contribute to community development. In fact, there is an underlying mistrust of business motives in the U.S., so that most programs limit the scope of tax benefits. Regulatory relief, such as a loosening of land-use controls and a suspension of environmental and safety requirements, is not common, though most zones do streamline the business-licensing process. In terms of location, the U.S. enterprise zones are not confined to inner cities. They can be found in many small or medium-size cities and in rural areas. Unlike the British zones, the American zones are more connected to community needs and use the income and poverty level of the zone residents as designation criteria. Especially in the competitive designation process, local authorities play an important role in the daily administration of the zone.

2.4 Previous Enterprise Zone Studies

This section reviews empirical studies of enterprise zones conducted between 1985 and 1994. Table 2.1 summarizes the findings and methods of about fifty such empirical studies. These studies have taken a number of approaches, ranging from study of a single zone, to study of a number of zones within one state, to study of zones across states. They have also

of those that are still in force because of entries and exits of zones from state programs, and because of and restructuring of the state programs themselves.

been designed differently and have adopted different research methods, such as case study, business survey, interview of zone administrators, institutional analysis, time-series analysis, and regression analysis. Moreover, these studies have measured zone performance differently and arrived at a variety of conclusions as to the effectiveness of enterprise zones. The following review is grouped according to four aspects: economic changes, cost-effectiveness, business reaction, and zone administrator assessment.

Economic Changes Caused by Enterprise Zones

Since economic revitalization and job creation are considered the primary functions of enterprise zones, the majority of empirical studies have examined changes in employment, new business creation, investment, and changes in property values. Most studies have found levels of positive growth in enterprise zones. For example, M. Rubin and Armstrong (1989) stated that in two years' time, ten New Jersey zones created 9,193 new jobs. Similarly, Wilder and Rubin (1988) recorded 6,629 jobs created in ten Indiana enterprise zones during a three-year period. And HUD reported in 1993 that 663,885 jobs had been created in 26 states since the inception of their programs (USHUD, 1993). Even a General Accounting Office study, which concluded that enterprise zones were not effective, reported job increases in three Maryland zones (USGAO, 1988). However, the issue of whether employment and investment growth can be linked to the initiation of any enterprise zone program depends largely on how the study of that zone is designed. One reason is that it is difficult to separate the impacts of enterprise zone programs from other factors such as overall regional change. It is even more difficult to break programs down into different components and assess the impacts of each on zone performance.

Table 2.1 Summary of Selected Empirical Studies of Effectiveness of Enterprise Zones

Author	Coverage	Methodology	Findings	Comments on Methodology
Boarnet & Bogart (forthcoming)	224 New Jersey municipalities	Regression analysis of EZ dummy on employment and property value	No evidence of positive effects of EZ on employment or property value.	Regression models use EZ and time dummies but no other variables; model specification is an improvement over that of L. Papke.
Bostic (1992)	30 small cities in California	Regression analysis of annual percentage changes in business license and non-retail taxable sales, non-residential building permits	The EZ dummy variable was positive and significant in new building and sales after other factors were controlled, but it failed to induce new business.	Sophisticated model specification, but results restricted to small and isolated townships.
California Office of the Auditor General (1988)	13 zones in California	a) Comparison of zone and county in various of economic indicators b) Business survey and review of internal records	Though an upward trend was observed, zones did not outperform the county; links between growth and the program were not found. Percentage of firms using zone benefits was very low.	Simple and diverse methodology adopted with multiple data sources.
Dabney (1991 & 1989)	8 enterprise zones in various states	ANOVA of business change rates	No difference in rate was found between the zone and other parts of cities, or between pre- and post-designation periods.	Entirely relies on processed and aggregated data from Jones et al. (1985) which originated from Dun & Bradstreet's DMI file.
Dowall et al. (1994)	13 California enterprise zones	a) Shift-share analysis of employment during the 1986 and 1990 period b) Survey of zone administrators and tax records c) Business survey	Zone incentives were not successful to counteract locational disadvantages. Only 6 percent of gross job increase could be directly linked to zone benefits. Less than half of the firms surveyed used zone benefits, and nearly all indicated that the program did not affect their business decision.	Employment analysis uses better-quality zipcode data from County Business Patterns; shift-share analysis helps to isolate the impact of regional and industrial growth.

Table 2.1 (cont'd) Summary of Selected Empirical Studies of Effectiveness of Enterprise Zones

Author	Coverage	Methodology	Findings	Comments on Methodology
Elder & Cohen (1988)	12 Illinois enterprise zones	a) Comparison of new jobs, unemployment, tax receipts between zones and the state b) Survey of zone administrators and firms	No discernible difference was found between the zones and the state. Zone incentives and government regulation played a minor role in business decisions; traditional development programs were considered more important.	Data for comparative study from various sources display considerable variation in quality; extensive interviews provide a great deal of observation and qualitative data.
Elling & Sheldon (1991); Sheldon & Elling (1989); Sheldon, Elling & Bread (1988)	47 enterprise zones in Indiana, Illinois, Kentucky, and Ohio	a) Regression analysis of the annualized growth of qualifying firms b) Survey of zone administrators	With great variability, EZs were found to be moderately successful. Staffing level is the most crucial determinant of success. Successful EZs used combinations of incentives, traditional local economic development efforts, and aggressive zone management.	Regression model is vigorous but focuses on variables relating to program structure only; regional trend effects were not considered; data collected from zone administrators may not be verifiable.
Erickson (1992); Erickson & Friedman (1991, 1990a & 1990b); Erickson, Friedman & McCluskey (1989)	About 90 enterprise zones in different states	a) Regression analysis of annualized growth of zone establishments and jobs with state program characteristics and zone characteristics, using HUD survey data b) Interview with local coordinators of 21 high performance zones	Factors positively associated with better performance were number of incentives and restriction of number of zones within a state. The Pennsylvania program seems to work favorably. Successful zones had minimal locational advantages, strong public-private partnership; seizing opportunity of zone designation was important.	Though this model captures a wide range of factors, performance indicators relied on data reported to the HUD survey, which may have been overestimated.
Funkhouser & Lorenz (1987)	Maryland enterprise zones	Cost-effectiveness analysis	Few firms used tax incentives, and the cost-effectiveness ratio of hiring credit was high (\$57,000 per job).	It narrowly focuses on the cost aspect without looking into the operation of zones.

Table 2.1 (cont'd) Summary of Selected Empirical Studies of Effectiveness of Enterprise Zones

Author	Coverage	Methodology	Findings	Comments on Methodology
Heath (1990)	3 zones in Philadelphia	Case study using observation and interviews with zone administrators and business	Business reported a favorable opinion about the program.	Dominated by historical and descriptive analysis; data quality a bit low for meaningful conclusion.
Jones et al. (1985, 1986)	8 enterprise zones in various states	Comparison of zone establishment and employment changes before and after zone designation with those of the control area (the rest of the city)	Though most zones did better after zone designation, the growth reflected the trend in the city and it was difficult to link the program to growth.	Data at firm level from Dun and Bradstreet's; research design excellent.
Kim (1993)	Florida enterprise zones	a) Comparison of old and current zones b) Regression analysis of percent change of number of business in 13 zones c) Case Study	Current zones did not differ from old zones in income, unemployment, poverty, and population growth. Variables such as license-fee abatement, regulatory relief, capital investment, and local services had positive impacts on business growth. A community redevelopment plan, active local actors and non-profit organizations, and public resources were factors of success.	Performance indicator in regression model relies on zone reports; regional trend and socio-economic attributes not included in the analysis.
Lister (1990)	California enterprise zone program	Business survey of 137 firms	55 percent of responding firms indicated that EZ program had no impact; and 44 percent had used at least one tax incentive; the actual number of jobs created was about 76 percent of those reported officially.	The business survey is well conducted and produces detailed data at firm level.
O'hUallacháin & Satterthwaite (1990)	About 200 MSAs	Regression analysis of determinants of employment growth by industry	EZ (dummy variable) had positive but insignificant effects.	The level of analysis at MSA is too aggregated; model well specified.

Table 2.1 (cont'd) Summary of Selected Empirical Studies of Effectiveness of Enterprise Zones

Author	Coverage	Methodology	Findings	Comments on Methodology
PA Cambridge Economic Consultants (1987)	23 British enterprise zones	Business survey of over 1000 firms and review of public records for estimation of costs	Cost per job was about £30,000. About 77 percent of the jobs added were resulted from relocation; firms' evaluation of the program was favorable.	Detailed business survey to disaggregate types of jobs.
Papke, J. (1988, 1989 & 1990)	10 Indiana enterprise zones and other 100 communities	a) Cost-effectiveness analysis using corporate income tax and survey data b) Multiple designs such match comparison, pre- and post-designation comparison, and regression analysis on inventories and depreciable property	The average annual cost per-new-job in period from 1986 to 1988 was \$3,414. Zone designation did not trigger sharp or sustained increases in investment; compared to the control township, EZ had the same trend of unemployment and inventory investment; regression analysis could not identify impact of zone designation.	Vast amount of raw data with diverse quality; regression model uses time, township, and EZ dummy variables.
Papke, L. (1991b; 1993a & 1993b)	About 100 Indiana communities including 10 enterprise zone	Regression analysis of effects of EZ on inventories, machinery and equipment, and unemployment claims	EZ had positive effects on employment but negative effects on machinery and equipment investment; direct cost per-new-job and per-new-zone-resident-job were \$4,564 and \$31,113 respectively.	Regression model employs a series number of time and EZ dummy variables; data from the same source of J. Papke above, but model more restrictive and does not contain regional factors.
Redfield & McDonald (1991)	8 Illinois enterprise zones	a) Comparing employment trend between zone and county b) Case study with mail survey with businesses and interviews with zone administrators	Study could not identify impact of the zone designation on employment. Zone administrators were positive about the program, but many firms were not aware of or using the program; 60 percent of those used the program indicated that incentives had no influence on business decisions.	Data source from Department of Employment Security and at zipcode level; surveys are detailed and cover wide range of issues.

Table 2.1 (cont'd) Summary of Selected Empirical Studies of Effectiveness of Enterprise Zones

Author	Coverage	Methodology	Findings	Comments on Methodology
Rubin, B. & Richards (1990)	15 economic development organizations including EZ agencies	Case studies	Successful zones tend to be characterized by active entrepreneurial organizations, professional management, and public-private partnerships.	Performance indicators developed by a two-tier approach using objective and subjective evaluations.
Rubin, B. & Wilder (1989)	Evansville (Indiana) Enterprise Zone	a) Shift-share analysis of the growth of jobs with the metropolitan area, using industry-specific, firm-level data acquired from surveys and tax returns b) Cost-effectiveness analysis	Job increase was due to the comparative advantage of the EZ; greatest gain was in transportation, wholesale, and retail trades; but benefits might leak out of the zone via multi-plant firms; the research could not establish a relationship between new job generation and the EZ incentives. Annual cost-per-job-created ranged from \$881 to \$1,372.	Dis-aggregated analysis separated regional and industrial mix effects; employment data is from verified zone surveys.
Rubin, M. (1990 & 1991); Rubin, M. & Armstrong (1989)	10 New Jersey enterprise zones	a) Cost-effectiveness analysis to compare program benefits (jobs, investment, and their multiplier effects) with program costs (revenue foregone) in 1987 and 1988 b) Business survey to examine the impacts of zone incentives	Benefit-cost ratio ranged from 0.71 to 1.0 and the cost-per-job-created ranged from \$3,171 to \$13,070 depending on different assumptions. 32 percent of responding firms indicated that zone benefits were the primary reasons for relocation or expansion.	Benefits estimates are sensitive to the assumptions in the input-output model; employment data is estimated from business survey; the analysis does not consider regional trend effects.
Seyfried (1990)	8 Indiana enterprise zones	Comparison of employment changes of EZ counties with simulated forecasts derived from a time-series model based on data of the previous 13 years	Except for one zone, all zones had no difference between the actual and the predicted data.	Elaborated time-series models used but the unit of analysis is county not zone

Table 2.1 (cont'd) Summary of Selected Empirical Studies of Effectiveness of Enterprise Zones

Author	Coverage	Methodology	Findings	Comments on Methodology
Sheldon & Eiling (1988)	Benton Harbor (Michigan) Enterprise Zone	Case study with business survey	The program served as a catalyst for public efforts, yet the utilization of the tax incentives was low and the program failed to induce firm expansion.	A very intensive case study based on interviews and surveys.
Staley (1988)	Dayton (Ohio) Enterprise Zone	Business survey of 33 firms	70 percent of the responding firms regarded tax incentives as significant in expansion or relocation decision, though few of them identified the incentives as a top priority.	
USGAO (1988)	3 enterprise zones in Maryland	<p>a) Time-series analysis of employment trend of participating firms during the 1980 and 87 period, followed by interview with employers</p> <p>b) Mail survey of business operators to determine factors affecting the location decision, and to assess the significance of EZ incentives</p>	<p>The increases in employment were not affected by the enterprise zone program.</p> <p>Operators indicated that zone incentives did not alter their business decisions, and only 13 percent of responding firms participated in the program.</p>	Detailed and high quality of data (monthly job figure from unemployment insurance records) and vigorous statistical methods, but the ARIMA model did not take into account regional trend effects.
USHUD (1986a)	10 enterprise zones in various states	Case study and interviews with zone administrators, business and community representatives	Investment patterns varied across EZs, and the single most important factors to investment appeared to be the designation.	The qualitative approach produces important observations and in-depth understanding of each zone; results may be hard to generalize.

Table 2.1 (cont'd) Summary of Selected Empirical Studies of Effectiveness of Enterprise Zones

Author	Coverage	Methodology	Findings	Comments on Methodology
Virginia Department of Housing and Community Development (1987)	Virginia enterprise zones	<p>a) Survey of 21 firms and 8 accounting firms</p> <p>b) Review of tax records and cost-effectiveness analysis</p>	<p>About half of the businesses found the zone benefits had no impact on their decision; businesses expressed concerns about the lack of publicity and the complexity of eligibility requirements.</p> <p>393 jobs were identified linked directly to the program in a 2 year period and the cost per job was about \$437.</p>	A descriptive analysis but looks into the mechanism of how tax incentives are utilized.
Virginia Department of Housing and Community Development (1990a)	18 Virginia enterprise zones	<p>a) Cost-effectiveness analysis</p> <p>b) Interview with zone administrators</p> <p>c) Business survey</p>	It could not establish a causality between economic growth and the program; cost per job varied between \$212 to \$11,098; program did not minimize administrative burden.	
Wildner & B. Rubin (1988)	10 Indiana enterprise zones	<p>a) Cost-benefit analysis, using data acquired via state government sources for tax purpose</p> <p>b) Case study of Evansville by interview with participants</p>	<p>Most zones experienced modest growth in jobs and investment but huge public investment was significant; leverage ratios of private sector investment to public sector investment ranged from 0.4/1 to 160/1.</p> <p>Despite remarkable job growth, tax incentives were not instrumental to the success; successful zone programs need to target areas that have development potential, contain concentrations of industrial and commercial activities, and where the support of a professionally managed zone administration can be guaranteed.</p>	Detailed review of employment records and in-depth case study though lack of statistical vigor.
Williams (1988)	San Jose (California) Enterprise Zones	a) Survey of 82 firms	Only 21 percent of the firms were familiar with the program, and most did not rank tax benefit important in locational decision.	The survey failed to use the business survey effectively to address enterprise zone issues.

In reviewing the array of studies, it is apparent that many studies have compared economic changes in the zone to a reference area, which may be the rest of the city or county where the zone is located (COAG, 1988; Dowall et al., 1994; Jones et al., 1985; J. Papke, 1988, 1989 & 1990; Redfield & McDonald, 1991; Rubin & Wilder, 1989). All these studies have found that zone growth is similar to or randomly distributed around the level of growth in the reference area. These studies have produced little evidence to suggest that zones perform consistently better than their reference areas.

A second group of studies has used a time-series model to examine economic changes in enterprise zones (Seyfried, 1990; USGAO, 1988). In essence, these studies have compared post-designation economic changes to a projected path based on pre-designation trends. These studies have also found that zone designation has little effect on economic change.

A third major group of studies has compared economic changes within enterprise zones to changes in similar areas that were not designated. These studies have produced very different results. Multiple regression was a common method used in these studies, but the model specification varied. All these studies employed dummy variables to denote the presence of an enterprise zone, but some added a series of dummy variables to represent the time of designation. The general conclusion of this type of analysis was that enterprise zone communities performed moderately better than nonzone communities (Bostic, 1992; O'hUallacháin & Satterhwaite, 1990; L. Papke, 1991b, 1993a & 1993b). However, a recent study using a similar but improved research design (Boarnet & Bogart, forthcoming) could not identify any differences between the two groups of communities. Since these studies did not examine the enterprise zone program per se, and since their results depended on the kind of

communities that were included, they were cautious in their conclusions as to whether differences in economic development could be attributed to the enterprise zone program.

A last major group of studies has attempted to break down program elements of enterprise zone programs to study the effect of each on economic change.⁴ All these studies have used multiple regression as a method of evaluation. For example, Elling and Sheldon (1991) found that staffing level, number of tax incentives, and interventionist components had positive impacts on the growth of new businesses in enterprise zones, though their model did not incorporate nonprogrammatic variables. Kim (1993) arrived at the similar conclusion that business growth benefits from license-fee abatement, regulatory relief, capital investment, and local services, though the overall explanatory power of these instruments was low. Erickson and Friedman (1990b) found that the number of zone incentives had positive effects on job and firm growth. Yet the statistical significance decreased rapidly in other model specifications. Because of the differences in model specifications, the results of these studies are not directly comparable. Broadly speaking, these studies suggest that staffing level, the number of tax incentives, and other development programs do contribute to the success of an enterprise zone.

In general, the conclusion that emerges from a broad examination of these studies above is that enterprise zones are not nearly as effective a tool as their advocates have claimed. In general, those studies that did demonstrate positive economic changes conclude cautiously that

⁴ There are a number of studies on the effectiveness of other economic development programs using the same research design. To cite a few, there are studies on the methodology to evaluate different development programs (Rasmussen et al., 1984), UDAG in redevelopment (Freiser, 1982) rural UDAG (Howland, 1990), tax increment financing (Klemanski, 1990), state development programs (Milward, 1989), industrial development bonds (Marlin, 1987), and infrastructure improvement (Munnell, 1990).

noninterventionist program elements were the most important factors. Only two empirical studies concluded strongly that enterprise zones were working. One, the PA Cambridge study (1987) of 23 British enterprise zones, provided a detailed survey of firms and categorized employment changes in great detail. It found that program incentives caused significant job increases in enterprise zones, as firms responded to program incentives in location and expansion decisions. This study also found that businesses in enterprise zones had performed relatively better than firms elsewhere. The second positive study, from New Jersey, also used a business survey. It reported that about 32 percent of firms indicated that zone benefits were the primary reason for their expansion or relocation in the zone (M. Rubin & Armstrong, 1989). The New Jersey study argued that between 1987 and 1988 over 9,000 new jobs and \$800 million in investment were created as a result of the enterprise zone program. However, these two studies might be unrepresentative because they did not include measures of business failure in their samples. Also, by attributing job and investment increases to the program purely on the basis of business responses, these two studies may have overlooked other equally important factors affecting business decision making. In particular, the New Jersey study may have grossly overestimated the impact of the zone, since it employed questionable income and employment multipliers.

Cost-Effectiveness of Enterprise Zone Programs

Another issue of concern among researchers on enterprise zones has been cost effectiveness. Studies in this area have attempted to estimate the cost of the program, commonly measured in terms of the cost per job created or retained. Since these studies have used different assumptions in the measurement of job creation and cost incurred, they have provided

an extremely wide range of estimates from couple hundred dollars to over fifty thousand dollars. For example, the P.A. Cambridge study (1987) estimated that it took £23,000 to £30,000 to create one new job. In the U.S., the Indiana program is perhaps the most well-studied in terms of cost effectiveness. Early studies of it (J. Papke, 1988 & 1989) arrived at cost-per-job figures that ranged from \$389 to \$13,531. A revised estimate was later established at \$4,564 to \$31,113 (L. Papke, 1991b), while another estimate for the Evansville program in the same state lowered the figure to a range of \$881 to \$1,372 (Rubin & Wilder, 1989). Among other studies, a California survey found that on average each direct job created by tax incentives cost about \$8,583 (Dowall et al., 1994). A Virginia study put the range between \$212 and \$11,098 (VDHCD, 1990a). And figures from New Jersey ranged from \$3,171 to \$13,070 (M. Rubin, 1990), while estimates from Maryland ranged from \$1,400 to \$57,000 (Funkhouser & Lorenz, 1987).

One must be extremely cautious in drawing conclusions from these studies. Costs may be underestimated if a study includes only tax revenue foregone and direct administrative expenses and fails to consider the expenses and funding of other economic development programs. Benefits, however, may be overestimated if a study includes relocation of jobs from other areas and jobs creation unrelated to the program and fails to take account of job losses.

Business Reaction to Enterprise Zone Programs

A third issue that has been investigated is how businesses react to enterprise zone incentives (Dowall et al., 1994; Elder & Cohen, 1988; Funkhouser & Lorenz, 1987; Lister, 1990; Redfield & McDonald, 1991; M. Rubin, 1990; Sheldon & Elling 1988; USGAO, 1988). Usually, these studies have sampled a number of businesses within a zone and examined their

changes in hiring and investment. Unfortunately, there has been no uniform way in which businesses have been sampled. For example, questionnaire design has varied from asking about businesses' awareness of the program, to how businesses have evaluated tax incentives, to how they rank factors important to their decisions on location or investment. Because of variations in the quality and scope of these studies, their results are not directly comparable. Nevertheless, these studies do seem to agree in certain respects. First, despite great variations, these studies reported that between one fifth to less than one half of all businesses within enterprise zones had applied for or received zone incentives. Second, more than one half of the businesses within the zones have never heard of the program or have found it too difficult to understand. Of those who had examined the program and chose not to participate, they concluded that its benefits were insignificant or not worthwhile. Third, the studies found that the business decisions of the majority of participating firms had not been altered by program benefits. Surveys consistently found that in business location decisions, tax incentives were considered secondary to other critical factors such as location, accessibility, and infrastructure.

Zone Administrator Assessments

A final consideration among studies of enterprise zone has been the perspective of zone administrators (CTDED, 1985; Elder & Cohen, 1988; Elling & Sheldon, 1991; Erickson et al., 1989; Ferrara, 1988; Redfield and McDonald, 1991; Rubin & Richards, 1992; Sabre Foundation, 1983; Sheldon et al., 1988; USHUD, 1986a; Wilder & Rubin, 1988). Studies in this area have reported that most zone administrators recognized that tax incentives are an insufficient tool to counteract economic decline. Zone administrators broadly believed that an active program had a better

chance to succeed. They further pointed out that a successful program required more public resources, better public-private partnerships, and strong local participation. Some studies reported that the early phase of the program was critical (USHUD, 1986a; Wilder & Rubin, 1988).⁵ This was the time, they reported, when local enterprise zone agencies seized the chance to mobilize resources, and the time at which they attracted the greatest attention and visibility. Zone administrators found that at this time it was easy to reach out to businesses and market program benefits. The studies by the HUD (1986a) and Wilder and Rubin (1988) also found that there were certain preconditions to the establishment of successful zones. Among them were minimal and basic infrastructure and services, institutional capacity to implement the program, a potential for community participation, and the presence of manufacturing activities. These observations refer back to the relative importance of traditional economic development tools as opposed to tax incentives. These studies demonstrated that zone administrators preferred to integrate other economic development programs with tax incentives. In fact, many zone administrators expressed a certain skepticism over the effects of the tax incentives, and insisted that the traditional mode of operation served the community better. Generally, zone administrators operated under the prerogative of traditional economic development practice.

In summary, then one may conclude several things from this review of prior empirical studies of enterprise zones. First, despite some evidence of increases in jobs, new business establishment, and investment, there is no hard evidence to show that the growth is greater

⁵ Rallying political and business support to get the zone designation would improve business climate, yet there are other reasons that zones may experience a surge of economic activities around the time of designation. For instance, most programs have a sunset provision, and the largest amount of tax benefits usually

in an enterprise zone than in its region or before the zone designation. Second, few studies can demonstrate any precise link between the program and economic changes within the zone. The diversity and degree of complexity of each program makes it even harder to identify those program elements that are the most important. Third, estimates of cost per job created in enterprise zones vary so much that it is difficult to generalize as to whether the enterprise zone programs are worth the money or not. Fourth, most studies show a low utilization of zone benefits by businesses, and they indicate that tax incentives seem to play a minor role in business decision making. Fifth, consistent with the previous findings, zone administrators continue to use traditional development tools and treat tax incentives in a supplementary capacity. Lastly, the research designs used by enterprise zone studies appear to affect their results. The next section will focus on this issues of research methodology.

2.5 Methodological Issues in Evaluating Enterprise Zones

There are four methodological issues that need to be addressed in relation to enterprise zone studies: basic difficulties in program evaluation, ways to establish connections between program and performance, the "messiness" of enterprise zones, and problems with data quality and availability.

General Difficulties

A multipurpose program always poses challenges to evaluation because it offers no single performance indicator that can capture all program

kick in after the first one or two years of a zone's existence.

objectives. Being a multipurpose program, enterprise zones have a variety of objectives, such as creation or retention of jobs, increases in investment, enhancement of business climate, improvement in the well-being of zone residents, enhancement of opportunity for disadvantaged persons, and other community objectives. In certain regards, these objectives may not even be compatible with one another. Expressed as a political intent, these goals are usually phrased vaguely to avoid equivocal assessment. And if the evaluation is confined to one zone, several indicators may be used to assess the program. But when the evaluation covers a number of zones whose objectives may differ in terms of priority and emphasis, not all indicators can be compared across zones. Under this situation, the selection of one or two indicators is the only feasible way to make a comparison. However, such evaluations will always be partial because selected indicators will only measure part of the program.

Linking Economic Changes to the Program

A further consideration is that evaluation of enterprise zones should not simply measure performance indicators; rather, it should link performance to program goals. In other words, factors that are unrelated to the program but which affect performance should be identified and isolated to ascertain the net impact of the program. The best research design to achieve this goal, therefore, is a quasi-experimental analysis. Under such a design, performance indicators are compared not only before and after program implementation, but with "control" areas which are similar in all respects except that no enterprise zones have been established there. Social studies usually are not able to adopt such an ideal design because of the nature of social activities. For examples, most program impacts are gradual, so they cannot be easily detected over time. And

control areas with identical characteristics except the absence of the program are difficult to find. (One may note in the case of enterprise zones that most communities with similar levels of social and economic stress may have established enterprise zone programs, leaving few communities to be selected as control areas.) One further problem is that the enterprise zone program may "contaminate" control areas either through policy adaptation in the control areas or through spillover of impacts if the control areas are adjacent.

Research designs used to evaluate enterprise zone performance can be grouped into the following types: area-comparison design, time-comparison design, business survey, and multiple regression. Each has its own limitations and special emphasis (James, 1991). Area comparison has been commonly used (COAG, 1988; Elder & Cohen, 1988; Jones & Weisbrod, 1986; Papke, J. 1990; Redfield & McDonald, 1991). Such studies compare change rates of selected economic indicators in the zone with change rates in reference areas. One group of this area-comparison studies uses the rest of city, the entire county or the state within which the zone is located as the reference area. This approach assumes that the region exerts considerable influence on economic activities within the zone, so it attempts to factor in regional influence. It further assumes that similar economic forces are at work in the zone and the reference area. Some of these studies use more elaborate methods such as shift-share analysis and ANOVA to take into account the effect of both the region and the industrial structure (Dabney, 1989; Dowall et al., 1994; Rubin & Wilder, 1989). However, James (1991) commented that in most cases the larger reference area is heterogeneous, so its economic forces are much more varied than those of the zone. Another weakness of this design is the problem of spillover effect. Furthermore, if the enterprise zone program improves the general business climate, it may generate business

in the surrounding areas. Suppose the reference area is relatively small, a comparison of these two areas will be imprecise.

Another group of area-comparison studies use a quasi-experimental design. Since it is difficult to pair up each zone with a control area of similar size, and economic, social, historical and geographic characters, some studies examine a large number of communities (Bostic, 1992; O'hUallachain & Satterhwaite, 1990; J. Papke, 1989 & 1990; L. Papke, 1993a & b). These studies use a dummy variable to dichotomize sampled communities into two groups: one with an enterprise zone program, and one without. However, three disadvantages come with this approach. First, a certain ecological fallacy arises, as all these studies really analyze a larger unit -- the city -- rather than the zone. Second, the conclusions of this type of study are sensitive to the types of communities that are included in the analysis. Third, using the enterprise zone dummy is a very simplistic dichotomy unless the study takes into account variations in local conditions in the model. So far, no such study has got into this level of sophistication.

In contrast with the above area-comparison method, time-comparison design compares economic conditions in the zone before and after the zone designation. A more sophisticated form of this approach is to use a time-series method to compare the actual post-designation trend with a hypothetical trend derived from historical data (Seyfried, 1990; USGAO, 1988). Program success is measured by an upward shift of the actual trend from the hypothetical one. This approach is based on several questionable suppositions, too. First, it assumes that factors other than the program have no effect on the trend. Second, it assumes that the program impacts are drastic. Third, it assumes that the regional trend holds constant before and after the program implementation. In

addition, this method requires high quality data for a relatively long period of time. Since these conditions are hard to attain, some studies use the simple method of comparing performance indicators for a fixed period before and after zone designation (Dabney, 1989; Jones et al. 1985). The shortcoming of this approach is that it cannot take into account changes in related macro trends during the period of comparison.

The third broad type of research design is to conduct a business survey to determine the extent of job growth or new investment caused by zone incentives (PA Cambridge, 1987; M. Rubin & Armstrong, 1989). A typical survey will ask firms to what extent their business decisions are significantly affected by the program. New jobs or investment are assumed to reflect the net effect of the program. When properly designed, this approach can be very powerful in demonstrating the effect of the general program or one of its specific instruments. It also produces detailed information about how firms perceive the locational advantages of the zone and what factors affect their decision making. The major problems with this method are that it is difficult to record job and investment exit; there is always sampling bias; and one can never be certain as to the validity of responses. Also, because a business survey is labor and resource intensive, this method is commonly only used in a case study of one or two zones.

The last type of research design, regression analysis, tries to identify determinants of zone performance (Kim, 1993; Elling & Sheldon, 1991; Erickson & Friedman, 1990a; Sheldon & Elling, 1989). This design allows for a detailed analysis of the impact of program structure and individual instruments. However, its ability to take into account regional effects or other important factors unrelated to the program depends very much on the model specification. For example, the studies by Sheldon & Elling

(1989) and Kim (1993) do not enter socioeconomic attributes into the model. The Erickson & Friedman's study may be the most comprehensive, though it contains too many explanatory variables, causing some multicollinearity problems. Erickson and Friedman also put so much emphasis on the program structure at the state level that they do not examine local variations in detail enough.

Program Diversity

Variations among enterprise zones in terms of state legislation and local and regional characteristics, including socioeconomic conditions, land use composition, and locational characteristics make comparison of performance difficult. Wilder and Rubin (1988) remarked that these variations "make cross-state comparisons of enterprise zone impacts virtually meaningless," and "impacts can be determined only through a detailed case study approach." Since economic development tools in a zone generally support one another, it is difficult to separate and itemize their impacts. Likewise, business decisions usually result from a combination of factors, making it impossible to single out the impact of a particular program instrument. Given the internal complexity of a program and external diversity, an evaluation study should go beyond concluding that an enterprise zone works or does not work. It should control for variations and examine what types of program and what specific set of tools are most effective.

Data Problems

Enterprise zones are small geographic units that frequently do not correspond with conventional reporting units of public data. For example, verified annual business information (CBP) is available only at the level of counties or major cities. Also, though socioeconomic

characteristics of zone residents for very disaggregated units can be obtained from the U.S. Census, the ten-year report is too general to estimate the trend within that ten-year period. Furthermore, information about program costs, such as the tax expenditures, is usually kept separately by departments at the state or county level, and is not readily accessible. In short, data required to monitor a zone program is normally poor, inadequate, or unavailable. For this reason, some zones collect their own data. They may conduct business surveys or rely on records of business application for enterprise zone benefits. Data collected in such a way vary in quality and accuracy, however, and their definition may vary among zones. Furthermore, job and investment figures reported locally are usually unreliable and biased toward growth. Unfortunately, in the absence of verified data at the zone level, the majority of enterprise zone studies employ data provided uncritically by the zone administration.

Suggested Improvements in Methodology

The four difficulties discussed above are real, and they cannot be easily resolved. However, this dissertation study proposes some improvements to establish more solid conclusions. The multiplicity of goals is a common phenomenon of any public programs. Using an aggregate performance indicator such as a weighted index is one possibility. Without the presence of such an index, researchers are justified in conducting comparative studies of enterprise zones which select one or two indicators that reflect the key mission of the program. For better quality data, researchers should avoid data reported by zone authorities. Data at census tract or zipcode level are a good compromise, if they can be verified. When resources are available, researchers should use data

reported at firm level.⁶ In terms of the mixed effect of zone instruments, researchers should try their best to decompose a program into at least two parts: noninterventionist and interventionist tools and assess them separately. It is worthwhile examining individual tools and identifying which ones play a more important role. Comparative studies usually deal with subjects which are diverse in many respects. However, the proper approach here is to confront these variations, since social inquiry will never benefit from an ideal experimental setting. Grouping zones into different categories and comparing their performances in a systematic way be a viable alternative.

To address the problems detailed above, this dissertation attempts to adopt a multiple design approach. It focuses on changes in employment and business establishment because these are common objectives in all zones. Given the problem of identifying comparable communities, it compares zone performance to a broad reference area, which is generally defined as the county in which the zone is located. This dissertation also conducts regression analysis to ascertain the effects of the enterprise zone program, after identifying relevant determinants. The regression analysis allows a desegregation of the program to test the effects of different types of zones or individual tools. In addition to these research operations, this study layers in case studies and a survey of zone administrators. In terms of data quality problem, this dissertation uses zipcode data provided by the County Business Patterns to avoid inaccurate figures provided by zone administrators.

⁶ White et al. (1990) has reported the application of state unemployment insurance (ES202) data. Weisbrod et al. (1983) has discussed the DMI data provided by Dun and Bradstreet. (Harrison (1994) raised possible misuses of the DMI data by Birch (1987)). Appendix 2 of Dowall et al., (1994) has discussed how to use the business establishment data specially tabulated by the Department of Commerce by 4-digit SIC at the zipcode level.

2.6 Conclusion

Despite more than a decade of experimentation within state and local enterprise zones, understanding of these programs remains inadequate. Key issues in the effectiveness of enterprise zones have not really been settled because of intrinsic limitations in program assessment. There are a number of ways to assess enterprise zone performance, but each presents a characteristic bias. Because of the complexity of the program and various limitations in evaluation, there is still no consensus as to the usefulness of enterprise zones. Another problem is that most studies are treating enterprise zones alike, without examining their variations. Therefore, their conclusions cannot be specifically applied in any serious attempt to measure the effects of tax incentives and regulatory relief.

The next chapter will revisit the original concept of the enterprise zone and develop a model of pure enterprise zone. This will then serve as a baseline for classifying other types of enterprise zones. To formulate a more concrete theoretical framework to guide this study, Chapter 3 will also review literature on business development and public action in assisting business. This discussion is important to establish the regression model that will be used in the performance analysis and also to set the parameters for the case studies that follow.

3. CONCEPTUAL FRAMEWORK OF THE STUDY

The previous chapter has revealed that the enterprise zone idea was raised as a last measure to combat economic decline. It was not based on a well-established theoretical framework. As such, existing enterprise zones have been experimental and have followed different directions. Most empirical studies on enterprise zones, moreover, have been characterized by a narrow focus on the evaluation of their performance, and few have attempted to develop the theory of enterprise zones. Therefore, this study of enterprise zones are still struggling to find a suitable conceptual framework with which to clarify the diversity of existing programs.

This chapter does not attempt to develop a theory of enterprise zones. Rather, it has a more limited agenda. It examines theories in industrial location, economic development, and taxation to discover clues to some conceptual issues underlying the idea of enterprise zones. Based on this examination, it presents an analytical schematic for evaluating enterprise zones. The second part of the chapter aims to develop a model of a pure enterprise zone, and it puts forward two typologies. These discussions clarify several issues, such as the nature of enterprise zones, differences in explaining economic distress between the enterprise zone idea and other theories, and the lack of a frame of reference in analyzing enterprise zones.

3.1 Theoretical Framework for Enterprise Zones

The enterprise zone concept is not built upon any empirically grounded theory. Broadly speaking, it has a strong ideological undertone with roots in the libertarian belief that the market and its individual

participants should take precedence over the government. However, the concept also advocates government manipulation of the regulatory and taxation systems as a means to change individual investment decisions. The enterprise zone concept never explicitly addresses why a place declines economically in the first place, and how and why operating costs become prohibitive in distressed areas. Yet, it recommends financial assistance to businesses to lower these costs. While the concept never really examines the impact of taxation changes, it argues for tax reduction or exemption. Such inconsistencies reflect the experimental nature of the enterprise zone concept and the multiple, and sometimes contradictory, theories behind it.

Without a single, well-developed theory to follow, this dissertation study looks beyond enterprise zone literature to develop a research model. Any theoretical framework of enterprise zones should cover three areas: it should explain why businesses abandon certain locations; it should discuss the relative merits of different modes of economic development activity; and it should be based on an understanding of the impacts of tax incentives and regulatory relief. Most discussions on these issues has been conducted in other fields, specifically, industrial-location research, local economic development theory, and taxation studies. Of these, industrial location theory investigates why businesses choose certain locations, and can be used to explain the cause of economic distress and identify factors crucial to the retention and attraction of businesses. By contrast, local economic development theory focuses on how local areas may organize their resources and efforts to stimulate their economies. Because of its concern for practical ways to improve program performance, it offers many insights into program structure, design, and innovation. Finally, taxation studies analyze the impacts of local taxes on business growth. Their findings shed light on

the sensitiveness of businesses to changes in local tax rates.

Industrial Location

The focus of industrial location studies is to explain the locational choices of industrial firms. Following neo-classical economic reasoning, early studies in this field proposed that the optimal location for an industrial firm was where it could minimize its aggregated transportation costs. Early studies identified raw materials, energy, and labor as three key locational factors. In other words, a location would develop economic activity if these three factors were abundant or in proximity. This model, however, could not fully explain the location choices of all industrial firms, because other factors, such as accessibility to market, agglomeration economies, and labor skill also played an important role in industrial production. (Greenhut, 1956).

Similarly, theories based purely on tangible costs have had limitations in explaining the rapidly changing industrial landscape since the 1960s (Markusen et al., 1986). Places that were once prosperous have become less so. Investment in the same types of industries has shifted from old industrial regions to new ones. Alternatively, investment has flowed to new types of industries in new regions. Even within the same region or metropolitan area, industrial investment has gone to suburban locations. Since the 1960s, because of falling transportation costs, changing technologies, improved communication systems, and better management skills, industrial firms have gained the flexibility to break down production processes and rearrange them in different locations. Products are also now so customer-oriented that proximity to markets outweighs accessibility to raw materials as the deciding factor. In general, traditional locational factors have lost their predictive power in determining industrial location.

What then, are the key present-day factors determining locational decisions of industrial firms? Identifying these will help determine what conditions a local area needs to create to sustain and improve its economy. Blair and Premus (1987) broadly identified two such sets of factors: regional industrial structure and local environment. The factor of regional industrial structure includes how firms and factories are linked spatially and functionally, the availability of specialized skills, the strength of unions and the level of prevailing wages, and the integration of markets at a regional level. These factors have also been identified by the new regionalist theory as key developmental factors (Castells and Hall, 1994; Markusen, 1985; Saxenian, 1994). According to this view, locational factors at the local level are not sufficient to explain the rise or fall of a place, and that industrial development should be examined in a regional context. Based on findings that development is a product of regional forces, it emphasizes government policies that can stimulate regional growth, such as investment in higher education, skill training, and support of high-tech industries.

The second set of factors that Blair and Premus considered important involves the local environment. These factors include public services, amenities, quality of life, business climate, and local taxation. New industries or firms tend to locate in areas with high levels of amenities and good access to services. Therefore, rebuilt downtowns or new suburban industrial/business parks become popular. These sites are landscaped, properly managed and guarded, and have a distinct architectural style that gives them a modern and "high-tech" image. Beyond such immediate concerns, quality of life issues, such as accessibility, safety, weather, environmental quality, and the general working environment also become important considerations. Especially in

the case of corporate headquarters or industries that require high-skill labor, firms look for a good living environment within a whole community. This includes housing quality and affordability, access to recreation and entertainment, school quality, and shopping choices. Furthermore, footloose firms have the capability to shop around and locate in pro-business communities. Increasingly, researchers have found business climate an important locational factors. This is loosely represented by a responsive attitude by the local government and local leaders and a willingness to support or subsidize businesses. Firms expect communities are ready to address their business concerns, to provide quality services, and to participate in public-private partnerships to improve local competitiveness.

Since municipalities have the responsibility to maintain, improve, or create a favorable local environment, these factors can be used as a development tool. Rubin and Zorn (1985) have argued that a sensible local economic development strategy should direct limited resources to those areas that are controllable. However, doubts have arisen as to the effectiveness of such local efforts based on both the limited nature of the resources of local communities and the extent to which firms consider local environment in making locational decisions. For example, based on a survey of industrial firms, Heckman (1982) suspects that local environment considerations are secondary to traditional locational factors. Even Blair (1995) observes that traditional factors continue to be important for industries that are sensitive to transportation costs. Schemenner et al. (1987) confirm the two-level choice model of Greenhut (1956) under which classical locational factors play a more important role. Firms first consider general factors in picking a region, and then fine-tune their selection of particular sites based on local specific factors.

While providing quality public services and infrastructure, and nurturing a pro-business climate seems sensible strategies, these options may not be available to declining communities. Such communities are generally losing their tax base and may be coming under increasingly financial strain. In particular, such communities may have inherited abandoned, under-maintained, or outmoded infrastructure, any significant physical improvement of which may be beyond their capacities. On the other hand, efforts to enhance quality of life may be a zero-sum game. As neighboring communities compete to adopt similar policies to lure businesses, in the long term the comparative edge of any community will be equalized. Furthermore, local efforts to build comparative advantages may spill over to other communities. For example, investment in improving education or job training usually benefit other communities within the same labor market.

A general limitation with location studies is that they focus on explaining the rise but not the decline of a place. Though these studies identify an array of factors that are attractive to firm growth, they do not specifically examine the downward spiral of a distressed community. Therefore, it is not clear whether it is simply the erosion of positive factors that leads to economic decline or whether other issues are the cause. Nevertheless, it has been broadly inferred from these studies that a distressed area is one that does not possess positive locational advantages. The remedy is, therefore, assumed to be an effort to rebuild or introduce such locational advantages. This mentality of "if we build it, they will come" is so predominant in development practice that the most desperate communities attempt to initiate as many programs as possible.

In terms of these issues, though the enterprise zone idea places

considerable emphasis on business climate and pro-business attitude, it does not consider efforts to upgrade infrastructure, improve services, or invest in human capital as important or necessary. Its narrow focus on using tax incentives reflects that its proponents do not fully understand the erosion of traditional, regional, and local locational factors in situations of economic distress. The singling out of repressive government as the most important explanation for economic decline shows an inadequate understanding of the complexity of the issue.

Local Economic Development Studies

Since enterprise zones are a means to revitalize a local economy, research on them ought to consult studies of local economic development practice. Such studies aim at understanding how local governments manage resources to foster a favorable climate for business activities. This field is still emerging, since systematic study of local economic development is relatively new. Local economic development is an profession for which coherent methods, principles, governance styles and professional practices have yet to develop. According to Mier and Bingham (1993), there is no single theory of local economic development. Instead, competing theories have developed around the positions in the debates over the most effective means of public action, and over which groups should be assisted. Underlying all these theories, however, is a positive attitude toward the efforts of the public sector in improving economic conditions and public welfare.

This dissertation finds that those studies that have been driven by the practical concern of developing better economic-development tools are relevant to the study of enterprise zones. Some of these studies exemplify successful cases (Community Opportunities Group, 1986; Farr, 1984; Fosler, 1991; Kane and Sand, 1988). Others lay out different types

of local and state programs and financing methods (Bingham et al., 1990; Levy, 1990; NASDA, various years). And still others attempt to organize various development tools systematically under a rational and comprehensive framework (Blakely, 1994; Malizia, 1985).

These studies summarize four types of development strategies: business promotion, physical improvement, human capital development, and community development (Blakely, 1994). Business promotion is the tool most commonly adopted by local and state governments because it addresses the immediate concern of job creation and retention. As a broad strategy, it aims at encouraging business start-ups, attracting business relocation, assisting business expansion, and nurturing innovations and entrepreneurship. Local governments may attempt to improve their business climate by marketing local comparative advantages, easing the regulatory processes, and building strong ties with the business sector. Also, local governments may become involved in providing financial supports to businesses in the form of bond financing, venture-capital support, loan subsidies, and tax breaks. Or they may provide services, such as establishing a business incubator, and technical support in applying for state and federal loans. Local governments can also invest or subsidize tourism development, research and development, and other activities promoting entrepreneurship.

The second development strategy, physical development of local communities, is also popular. Local governments may expend resources in maintaining and improving existing physical infrastructure such as roads and utilities. In addition, they may adopt a pro-development land-use policy, assist or develop business and industrial parks, or set up special funds to acquire land or buildings for future development. They may even set up specific programs such as those to improve a townscape or

a mainstreet, designate neighborhoods for physical rehabilitation, or invest in preservation of historic buildings for tourism purposes.

The third development strategy, human capital development, places great emphasis on the skill and quality of labor. At a general level, local governments may expend resources on community colleges, technical institutes, and general education to develop an appropriate skill mix in their residents. More specifically, local governments may help provide customized training and provide programs to prepare unemployed people for entering the job market. Other efforts may include development of employment centers or job banks, provision of job referral services, support for summer-job and internship programs, and subsidization of employers who hire minorities or people from economically disadvantaged groups. Such initiatives aim at widening the employment opportunities for individuals, and at the same time they provide employers with an appropriate supply of labor.

The last strategy for local development, community development, promotes programs that serve particular social groups and are controlled at the community or neighborhood level (Gilloth, 1988; Wiewel et al, 1993). This strategy relies on community-based organizations such as development corporations or cooperatives to carry out development projects. Since it focuses on developing indigenous and small-scale businesses owned by local residents, the community development approach has traditionally been oriented toward the provision of social and community services, the development of affordable housing, and the construction of neighborhood shopping centers. Increasingly, this strategy has involved the promotion of entrepreneurship and the provision of micro-credits for business start-ups. However, the strategy does not regard business development as the most important objective. Rather, it values economic activities

originated and organized within the community. And it stresses the participation of local residents and the empowerment of the whole neighborhood.

Such studies as those described above provide a rich source of information on methods of local economic development. They indicate that the success of economic revitalization depends on the availability of resources, active involvement of the public sector, institutional supports, and strong participation by both the business sector and the community. No single method has emerged as a panacea, and each community has to develop a development strategy that best fits it. By contrast to this picture of complex linkage, enterprise zones appear to be only a partial solution. The sole emphasis of enterprise zones on tax incentives and regulatory relief ignores other important development tools such as direct financial support for businesses, physical improvement, human capital development, and community empowerment. Defined as a program targeted toward a small area, the impact of enterprise zones may be limited by a lack of connection to an economic development strategy at a larger regional level. Also, because the idea of enterprise zones assumes that private business will take up initiatives, little emphasis is placed on public-sector involvement and institutional support. Within the broad framework of work on local economic development, enterprise zones may be seen as one of many development tools, and should be analyzed as such. Therefore, when an enterprise zone is evaluated, it is imperative to examine the effect of all local factors and concurrent development programs.

Local Taxation Studies

Since tax incentives are the central element of most types of enterprise

zone, an understanding of local taxation impact is important. Local taxation studies examine the impacts of taxes on business growth. They commonly use econometric models to compare the effect of taxes on economic growth between states, metropolitan areas, and, in few cases, between local communities. Bartik (1991) has methodically reviewed 80 such studies and concluded that taxes generally have a concrete and negative effect on businesses. He estimated that an increase in local taxes of 10 percent results in a 10 to 30 percent long-run reduction of business activities.

Studies of local taxation do, however, indicate variations in tax effects on different industries. For example, manufacturing and industries which are capital intensive are more sensitive to tax changes (Gyourko, 1987; Newman, 1983). A second important finding is that public-service effects (loosely defined as public expenditure to improve amenities and quality-of-life issues) offset tax effects (Helm, 1985; Munnell, 1990). It seems that businesses are willing to pay a higher local taxes if they consider these to be a premium that must be paid to ensure a better environment, social amenities, and law and order. Local tax studies indicate that tax effects are strongest among communities within the same metropolitan region. Since these communities are similar in locational characteristics, businesses may select communities that offer the lowest tax burden, provided that they offer an acceptable package of services.

To generalize, therefore, tax effects are high when communities are close substitutes to one another, but low when communities differ significantly in their locational advantages. It should be noted that no tax study has yet specifically compared enterprise zones to adjoining areas. Rather, all studies have been conducted at city or state levels. Local tax studies incorporate gross quantitative variables and are lacking in

specific details as to the activities, land uses, and other characteristics of communities. These studies do not precisely investigate how local taxes affect actual business decisions, nor do they look into the effect of particular types of tax incentives. Since they use econometric models, their measurements of variables may be crude.

The relevance of these studies to the purposes of this dissertation concerns the conditions under which tax incentives are effective in influencing business growth. But since these studies do not analyze enterprise zones and take a larger unit of analysis, the generalizations drawn below are based on inference only. Despite the above drawbacks, three points can be made. First, tax effects are strongest if competing locations are similar in all respects except local tax rates. If this is not true, preferential tax treatment alone in an enterprise zone may be an inadequate incentive to growth. Given the inferior environment, poor infrastructure, low level of service and quality of life in most enterprise zones, it is difficult for them to compete with other locations within the same region. Second, if differences in tax levels within a region are important, then enterprise zones may provide some incentives for firms that operate only within the region. However, local tax incentives may not be effective in attracting footloose firms, because such firms have a wider sets of options and may choose to locate outside the region. Finally, local tax studies reveal that the magnitude of the tax incentive has to be substantial, otherwise these incentives will not offset costs of relocating a firm. However, so far, no studies have provided a systematic examination of the exact magnitude at which tax incentives become effective in attracting different types of industries.

3.2 Analytical Schematic of Enterprise Zones

The above review of issues raised by studies of industrial location, local economic development, and local taxation focuses attention on key issues that the enterprise zone idea fail to address. First, the economic decline of a place, as suggested by industrial location studies, is the result of changes in locational factors in three areas: traditional factors (natural resources and transportation cost structure), regional economic structure, and local environmental conditions. By contrast, the emphasis in the enterprise zone idea on relieving bureaucratic burden addresses only one factor of economic decline. Such an incomplete diagnosis leads to an inadequate solution that overemphasizes tax incentives and regulatory relief. This limited approach fails to recognize the usefulness of a wide range of other economic development tools. The path of decline of each community is unique, so the revitalization effort should be different. One major problem with the enterprise zone idea is that it puts too much stress on the financial benefits businesses can obtain from tax incentives. On the one hand, this emphasis ignores factors such as quality of life, physical environment, and access to capital. On the other hand, the usefulness of tax incentives has not been supported by empirical studies. Despite their level of analysis at the city level, local taxation studies clearly indicate that the effects of tax incentives depend on many factors, such as the relative tax regimes among neighboring cities and how tax revenue may subsequently be used to improve the quality of life and assist the types of industry the tax incentive affects.

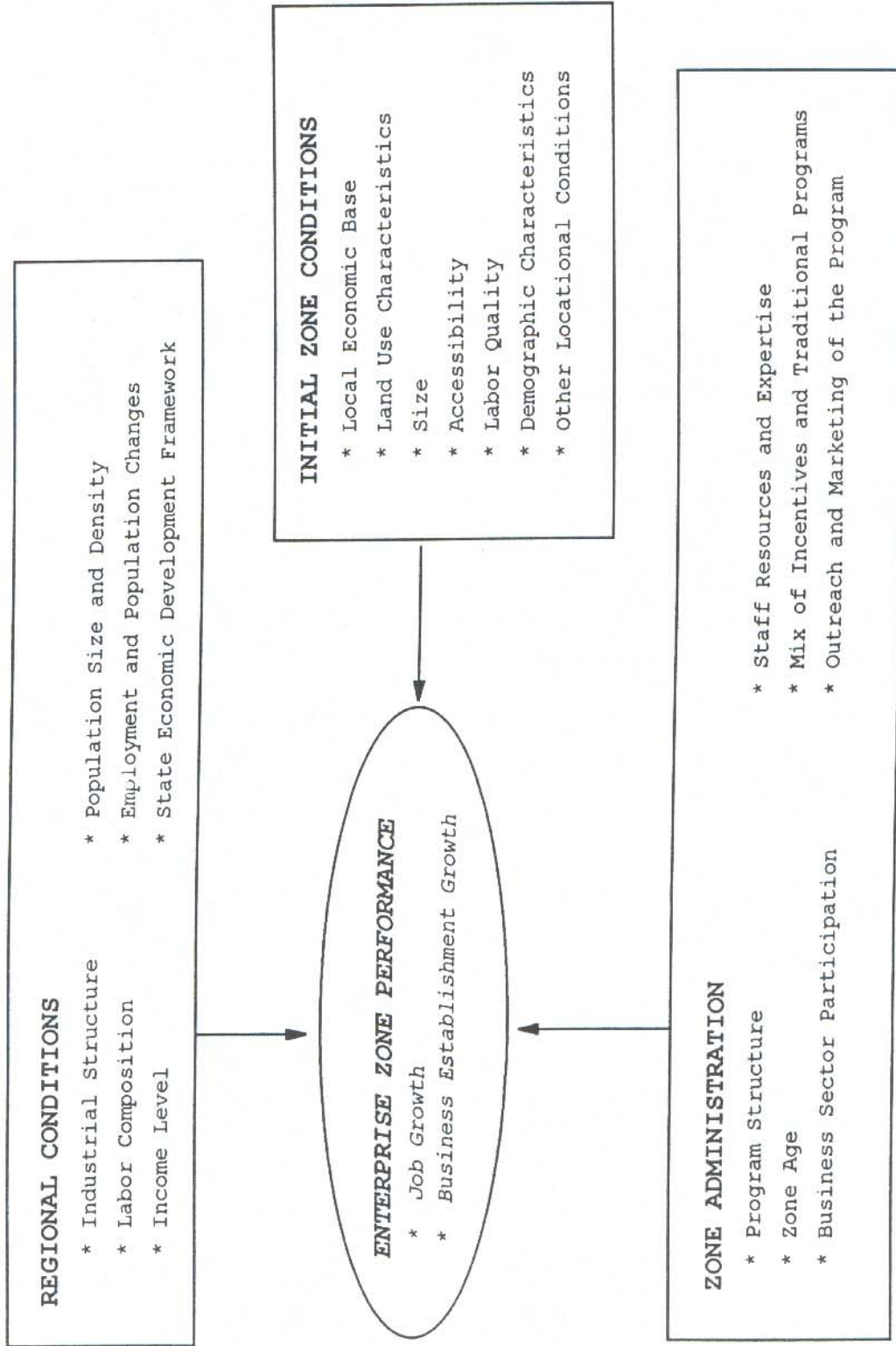
Because of the theoretical inadequacy of existing enterprise zone models, I have had to develop a special analytical schematic to evaluate enterprise zone performance. This schematic is based on the above discussion of literature on industrial location and local economic

development. The above discussion of taxation analysis is not incorporated here because this dissertation covers areas that are too small to have individual tax data reported. The analytical schematic covers two major concerns: factors affecting the local economy, and the possible effect of development programs. For the first concern, industrial location studies have suggested a number of important factors. For the second concern, local economic development theories point out a variety of approaches. Previous discussion has indicated that a majority of enterprise zone programs are hybrids, so this analytical schematic allows for grouping of enterprise zones into different types, or even decomposing programs into different elements. In this regard, the research question on the evaluation of enterprise zone performance is rephrased as follows: after considering all relevant factors that affect economic change within a community, what types of enterprise zone program works best and what specific program elements make the greatest contribution?

Figure 3.1 presents the analytical schematic of enterprise zone performance. The purpose of the analytical schematic is to ascertain the effect of variables related to zone administration, after controlling for other relevant factors. The central theme is that enterprise zone performance is a product of three broad factors: the regional, the local, and the program. The dependent variable, ENTERPRISE ZONE PERFORMANCE, allows different performance indicators, although in this study, it is limited to growth in employment and business establishment. This variable is operationalized by the differences between the percent changes in employment and business establishment of the zone and the region between 1986 and 1990. In other words, the performance is measured by how much the zone surpassed the region in these two selected areas.

The first explanatory variable, ZONE ADMINISTRATION, includes the following aspects: the mix of interventionist and noninterventionist tools, the strength of public-private participation, staff resources and expertise, and outreaching and marketing. These aspects can also be used to categorize enterprise zones into different types. These aspects are measured by variables derived from the local enterprise zone survey (see Chapter 4). A factor analysis reduces these aspects into three dimensions: implementation intensity, program structure, and program marketing (see Chapter 5). In measuring the first dimension, program implementation intensity, the following variables are used: number of hours devoted to administer the zone, an unweighted score measuring staff expertise in terms of six types of experience or qualifications, and an index of public-private participation measured by weighted scores of the frequency of contacts between the zone administration and eleven organizations or other agencies. The second dimension, program structure, is measured by four variables: the total number of development tools, the total number of interventionist tools, the total number of noninterventionist tools, and the age of the zone. The third dimension, program marketing, is operationalized by two variables: an index of outreach as measured by a weighted score of the frequency of eight types of outreach activities conducted by the zone administration, and an

Figure 3.1 Analytical Schematic for Enterprise Zone Performance



unweighted score measuring six kinds of publicity materials and records. Another way to operationalize ZONE ADMINISTRATION is to assign dummy variables for each economic tool used within the zone, and test each one to find out whether it has an impact on the performance.

Based on the discussion of industrial location studies, the analytical schematic considers that, apart from program administration, both the initial zone conditions and regional conditions affect economic changes within the zone. INITIAL ZONE CONDITIONS include local economic base, land-use patterns, zone size (measured by population, employment, or land area), accessibility, labor quality, locational advantages, and other local demographic characteristics such as ethnic composition and educational level. REGIONAL CONDITIONS capture factors at the regional or state level. It concerns regional industrial structure, labor composition, employment and population changes, and population size and density. These factors are operationalized by a variety of variables that measure the relative level between the zone and the region in terms of income, poverty, ethnic composition, educational attainment, skill composition of the labor force, as well as population growth, employment and average business size and per-capita tax rate within the region.

Chapter 5 will state how the analytical schematic is operationalized and how the regression mode is specified. Based on factor analysis, only a small number of the above variables enter the regression model to minimize the multicollinearity problem. The next section will address the issues of variations between enterprise zones, and how these can be measured so as to incorporate them in the analytical schematic.

3.3 The Pure Enterprise Zone Model and Typology of Zones

The current diversity in enterprise zone program structure has blurred the original idea of the enterprise zone as representing a noninterventionist approach. Since a significant number of enterprise zone programs now operate under interventionist principles, any conclusion that attempts to attribute the success or failure of such zones to tax exemptions alone is misleading. The actual hybrid nature of enterprise zones requires a fresh look at the original concept. From there one might develop a more sophisticated understanding of the different types of zones in evidence today.

To accomplish this goal, this section develops a model of a pure enterprise zone so as to create a frame of reference to classify enterprise zones. Chapter 2 discussed two studies which specifically attempted to categorize enterprise zone programs (Brintnall and Green, 1988; Erickson and Friedman, 1991). However, the classification schemes of these two studies were restricted to the state level, and were based on the program structure as *defined* by the state. As such, they did not take into consideration all types of benefits *used* within the zones. Different from these two classification schemes, the model of a pure enterprise zone will refer to the actual benefits used within the zones.

Early proponents of enterprise zones argued that the zones should be specially designated areas within which businesses could enjoy financial incentives such as tax concessions and regulatory relief. They argued that the program was a way of stimulating private businesses. The enterprise zones would provide a tool that was different from those of traditional economic development programs. The tool would not require direct and active public action. Furthermore, they claimed that the enterprise zone program would reduce the role of the public sector in

private business. Moreover, they claimed that economic improvement would be automatic and self-executing if proper incentives were provided. Therefore, they plead little emphasis on institutional support or allocation of additional resources. The primary aim was to reduce costs of business operation in distressed areas so that market forces and private voluntarism would take an active role. Table 3.1 outlines some of the key differences between traditional economic development programs and the original ideas behind enterprise zones.

Based on the attributes of enterprise zones identified in Table 3.1, a pure enterprise zone model may be developed. Such a zone would rely primarily on offering a number of tax incentives and regulatory relief to stimulate businesses. It would provide few traditional economic development tools. In addition, a pure zone would not place emphasis on program implementation, so it would involve little staff time, institution-building, or technical support. In practice, there are few such pure zones in operation. However, starting with the above narrow definition of an enterprise zone, this study will make a conscious effort to identify the different types of enterprise zones that do exist. The pure enterprise zone model thus provides a frame of reference around which an understanding of other types of zones can be developed.

As defined above, the pure enterprise zone model enriches the empirical vigor of this study. Instead of asking whether the abstract idea of the enterprise zone works, it will allow this study to better examine the effectiveness issue by asking what kind of enterprise zone works best. The construction of the pure model highlights some key assumptions that the study will test:

- a) A pure enterprise zone has a better chance of success.
- b) An enterprise zone that is passively managed works better

than one that involves active management.

c) Tax incentives and regulatory relief are superior to traditional economic development tools in local economic revitalization.

Table 3.1 Differences between Enterprise Zones and Traditional Economic Development Programs

Enterprise Zones	Economic Development Programs
Target area well-specified and small	Geographical targeting not emphasized
Benefits tied to the target area but not to a specific sector	Benefits tied to a specific industrial sector or firm
Indirect assistance such as tax incentives and regulatory relief	Direct support such as grants, loans, and technical assistance
Withdrawal of public involvement	Direct public-sector involvement
Organization not required	Additional organizations required
Off-budget financing	Funding through budget allocation
Stress on private entrepreneurship and business voluntarism	Stress on public-private partnership and public initiatives

The pure model provides a deductive construct that can be further developed to establish typologies for enterprise zones. It should be noted, however, that the pure model and its derived typologies, just like its original concept, lacks a solid theoretical foundation. These constructs only provide a means of generating hypotheses that may be tested later in the dissertation.

The first typology refers to the program structure. It makes use of the

crucial dimension of the pure model: the mix of interventionist and noninterventionist components in the program. By grouping zones according to whether they establish an above-average number of both types of component, four types of zones can be classified: *minimalist*, *pure*, *hybrid*, and *interventionist* (Table 3.2). The typology illustrates broadly how particular zones may be situated between the idea of a pure enterprise zone and the traditional economic development model. Based on these four types of zones, alternative hypotheses can be developed. For instance, by following the argument of the original concept, it is possible to hypothesize that a pure enterprise zone will outperform the other three types. Alternatively, following local economic development theories, it should be possible to argue that interventionist zones will work better.

Table 3.2 Program Structure Typology of Enterprise Zones

Number of Non-interventionist Components	Number of Traditional Economic Instruments	
	Below-Average	Above-Average
Above-Average	Pure Enterprise Zone	Hybrid Zone
Below-Average	Minimalist Zone	Interventionist Zone

The above program structure typology does not consider program intensity. Therefore, a second typology tries to capture this dimension. As a conceptual construct, zones can be measured in this regard according to two criteria: program intensity, and number of program components. The former criterion captures the following aspects: staff hours devoted to the program, staff expertise, number of publications and record keeping,

intensity of marketing and outreach, and strength of public-private participation. The number of program components is another index of the complexity of the zone. Table 3.3 presents the program intensity typology which classifies four types of zones: *self-moving*, *active simple*, *activist*, and *passive complex*. Again, hypotheses can be formed and tested. According to the original concept, self-moving zones should have a better chance to succeed. Alternatively, the traditional economic development view would lead to the prediction that activist zones would work better.

Table 3.3 Program Intensity Typology of Enterprise Zones

Number of Economic Development Components	Intensity of Public-Private Participation and Program Implementation	
	Below-Average	Above-Average
Above-Average	Passive Complex Zone	Activist Zone
Below-Average	Self-Moving Zone	Active Simple Zone

3.4 Conclusion

This chapter has exposed the inadequacy of the enterprise zone idea. Literature on enterprise zone does not offer satisfactory theoretical discussion of any of three major areas of concern: the source of economic decline, the mode of program operation, or the impact of tax incentives. Existing studies of industrial location, local economic development, and local taxation policies do, however, offer useful insights. Based on work in these areas, an analytical schematic has been developed. This results in a widening of the scope of the study of zone performance,

since it forces inclusion of other relevant factors such as regional and local conditions. In addition, by establishing a pure enterprise zone model as a frame of reference, this dissertation can identify and compare different types of enterprise zones in terms of performance. The next chapter will report the findings of the local enterprise zone survey. It will further illustrate how zones vary and to what that actual experience of enterprise zones deviates from the pure model.

4. MEASURING ENTERPRISE ZONE ADMINISTRATION

This chapter analyzes the program administration of enterprise zones. It first examines state programs and highlights their differences and program orientation. It then focuses on program organization at the local level. Most of the results are based on the survey of local enterprise zone programs conducted by the author in 1994. The survey covered local program structure, administrative arrangement, incentive utilization by businesses, and the evaluation by zone administrators of their own programs.

4.1 The State Programs

Chapter 2 discussed two classification schemes of state enterprise zone programs (Brintnall and Green, 1988; Erickson and Friedman, 1991). To recapitulate, Brintnall and Green's scheme uses two key measurements: level of public management, and intensity of private group involvement. Under this scheme, zones can be grouped into the following four types: activist, managed, private, and hands-off. Erickson and Friedman take a different approach and focus on the orientation of incentives along three lines: investment, labor, and finance. Table 4.1 summarizes their classification results in regard to the enterprise zone programs of four states (the fifth state, Delaware whose enterprise zones are studied in this dissertation, is not typed by either studies).

Both the above classification schemes have limitations. First, they are designed for classifying state programs, and thus cannot be used to examine local zones without modifications. Second, they do not take into account other concurrent state and local economic development programs. For instance, despite having connected to an elaborate public financing

system through several state agencies, the Maryland enterprise zone program is typed by Brintnall and Green as displaying little public involvement, and Erickson and Friedman describe it as using labor-oriented incentives. The reality is, however, that businesses within enterprise zones in Maryland are not restricted to using benefits provided only in the program; quite to the contrary, they have better access to other economic development programs. The third weakness of the two classification schemes is that they are based only on the stipulations in state legislation and administrative guidelines. In fact, not all these stipulations are mandatory, and even when they are part of the designation requirements, they may not be strictly followed by local zone authorities. One example is the requirement for an enterprise zone advisory group. During my visit to local zones, I found this requirement is in general not followed. When such groups are formed, their composition, appointment procedure, and influence on zone administration varies greatly. Furthermore, even though states make provisions for a particular set of tax incentives, local zones usually add their own initiatives and package these with other state and federal incentives. Therefore, the two previous classification schemes cited above should be considered as illustrative, rather than definitive.

There are other perspectives worth examining in the enterprise zone programs of the five states studied by this dissertation. In terms of when these programs were developed, the Maryland program was set up in 1982, putting it in the first cohort of state enterprise zone programs in the U.S. Pennsylvania commenced its program in 1983, followed by Delaware and Virginia the next year. The California program came into effect in 1986. All the states except Delaware use a competitive designation process to limit the number of zones. As such, no local zone authorities are established in Delaware. However, all states use similar

distress criteria to select their enterprise zone communities. Among the criteria, income level, poverty index, and unemployment are common in all states. In addition, Maryland, Pennsylvania and Virginia add property abandonment or vacancy in the distress criteria. Another common feature is that all the states specify a time duration for the program, though extension seems to be granted liberally.

Table 4.1 Classification of State Enterprise Zone Programs*

State	Brintnall & Green's Model	Erickson & Friedman's Model
California - EZ **	Activist	Mixed but Finance-Oriented
California - EEIP **	Activist	Mixed but Labor-Oriented
Maryland	Private	Mixed but Labor-Oriented
Pennsylvania	Activist	Finance Orientation
Virginia	Managed	Mixed but Investment-Oriented

* Delaware is not classified under either classification scheme.

** California has set up two types of enterprise zone program: the regular one, and the Waters Employment and Economic Incentive Program (EEIP).

Except Delaware, all states encourage, at least on paper, local authorities to mobilize local resources, to provide their own initiatives, and to promote private participation. Pennsylvania's program appears to be the most activist, as it requires candidate communities to go through a planning period. During that period, local authorities use a state enterprise zone grant to conduct a business needs assessment and prepare an implementation strategy. In terms of tax incentives, different states come up with different mixes. California, Delaware, Maryland and Virginia all provide incentives for the hiring of economic disadvantaged persons, while sales-tax credits are not provided

in Maryland and Pennsylvania. A state-sponsored property-tax credit on improvement is only provided in Maryland and Pennsylvania. California is the state that provides the largest number of tax incentives, and Pennsylvania provides the least.

The enterprise zone programs of all five states incorporate interventionist components that require active participation of the public sector in assisting businesses. Pennsylvania provides a special grant to zone authorities for establishing a local revolving loan fund. It also encourages zones to give a high priority to export-oriented industries and services. Maryland integrates the enterprise zone program into existing economic development efforts by providing businesses preferential treatment in all of its state financing programs. Delaware has a targeting provision to attract banking, financial, and data-processing industries. Key features of state programs are summarized by Table 4.2. It should be noted that all five states have initiated other concurrent economic development programs, such as low interest loan schemes, grants to local authorities for infrastructure improvement, or community development efforts. Once again it is important to point out that since these programs are open to enterprise zone businesses, actual zone benefits to businesses go beyond those laid down in the enterprise zone program.

Between the five states, apart from the fact that the Pennsylvania program stands out as particularly activist, no systematic variations can be identified. All programs are similar in some aspects but differ in others. Apparently, the differences are random and are not specific

Table 4.2 Summary of State Enterprise Zone Programs: California, Delaware, Maryland, Pennsylvania, and Virginia

Program Features	California	Delaware	Maryland	Pennsylvania	Virginia
Designation Process	Competitive	Automatic	Competitive	Competitive	Competitive
Eligibility	Unemployment, poverty, & UADG distress criteria	Census tracts with low income and poverty	Unemployment, income level, population decrease, & property abandonment	Multiple distress criteria & export potentials	Income level, high unemployment, floor vacancy rate
Other Designation Requirements	Development potential & local commitment; community advisory council	Property owned by public agencies or nonprofits is qualified	Designation of capital investment and other services; EZ committee	Business survey and development strategy; EZ organization	Provision of local incentives
Major Tax Incentive provided at State Level	Credits for hiring & sales tax; carryover of operating losses; deduction of depreciable property; EEIP tax credit for employees	Income tax credit on new hiring and new investment; exemption of gross receipts tax	Income tax credit on hiring disadvantaged workers; property tax credits on improvement (state reimbursement)	Income tax credit on real property improvement	General tax credit; unemployment tax credit; sales tax refund
Special Features	Benefits to firms tied to threshold of workers or ownership from HDUA (EEIP only)	Special targeting on selected industries; absence of local administration	Provision of special financing options	Grant to EZ communities for direct business assistance	Benefits to firms tied to a threshold of workers from low-income household
Provision of State EZ Loan or Grant	No	No	Loan guarantee only	Yes	No
Program Period	15 years	Most benefits have a 10-year period	10 years, subject to renewal	10 years, subject to renewal	20 years

to the state. It should be noted that a state program is only a framework under which local zone administrations may add other local programs -- or even, as the survey shows, decline to implement certain state program elements. The degree of variations among local zones within a state can be as great as that across states. The next section will present a detailed examination of how the local zones are actually operating.

4.2 Local Enterprise Zone Program Administrations

This section reports the results of the local enterprise zone survey conducted in 1994. The survey covers 70 zone administrations of zones that were designated before 1987 in California, Maryland, Pennsylvania, and Virginia. 51 respondents returned the questionnaires, giving a final response rate of 73 percent. This rate falls slightly to 67 percent when only the fully completed questionnaires are counted.

4.2.1 Background of the Zones

Table 4.3 shows the land-use patterns of the enterprise zones as reported by their respective administrators. In general, about 60 percent of zones in every state are mixed in land uses. In each state, about one-third of zones are predominantly manufacturing. Most zones do not specifically target to a downtown or a mainstreet, as only Frostburg (MD) and Pittsburgh-East Liberty (PA) have their downtown or mainstreet as the sole targeted area. While less than half of the California and Virginia zones include a downtown or a mainstreet, more than half of the Maryland and Pennsylvania zones do.

Table 4.3 Land-Use Characteristics of Enterprise Zones At the Time of Designation (Column Percentage in Parenthesis)

Predominant Land-Use Pattern or Activities	CA	MD	PA	VA	Total
Downtown or Main Street	0 (0.0)	1 (16.7)	1 (6.3)	0 (0.0)	2 (4.2)
Mixed and including Downtown or Main Street	5 (33.3)	3 (50.0)	8 (50.0)	2 (18.2)	18 (37.5)
Mixed but outside Downtown or Main Street	4 (26.7)	0 (0.0)	1 (6.3)	4 (36.4)	9 (18.8)
Manufacturing or Industrial	5 (33.3)	2 (33.3)	6 (35.3)	5 (45.5)	18 (37.5)
Transportation, Warehouse or Wholesaling	1 (6.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.1)
Total *	15 (100.0)	6 (100.0)	16 (100.0)	11 (100.0)	48 (100.0)

Source: 1994 Local Enterprise Zone Survey

* All percentage totals are rounded to 100.

Land area of the surveyed zones varies considerably (see Table 4.4). Although enterprise zones were originally proposed to be small, targeted areas of about one square mile in area, about 28 of the zones are larger than five square miles. The largest zones is LA-Watts (CA), covering about 37 square miles. California tends to accommodate the greatest number of large zones, as none of its zones are smaller than a square mile, and nearly all zones larger than ten square miles in the sample are found in the state. In contrast, zones in Maryland and Virginia are relatively small, and none of them are larger than five square miles. Overall, about 30 percent of the surveyed zones are smaller than one square mile. However, the relationship between land area and the number of firms in the zone is not simple, because some zones may look big but actually cover mainly residential areas. There are great variations in the number of firms in a zone, as reported by the respondents. The average figure is 700 while the median is 135. For example, Agua Mansa

(CA) has over 3,800 firms, while Accident (MD), Chester (MD), Chesapeake (VA), and Saltville (VA) have less than 20 firms.

Table 4.4 Land Area of Enterprise Zones (Column Percents in Parenthesis)

Land Area (in sq. miles)	CA	MD	PA	VA	Total
0 to 0.99	0 (0.0)	3 (60.0)	5 (45.5)	3 (37.5)	11 (30.6)
1 to 4.99	4 (33.3)	2 (40.0)	4 (36.4)	5 (62.5)	15 (41.7)
5 to 9.99	2 (16.7)	0 (0.0)	1 (9.1)	0 (0.0)	3 (8.3)
Over 10	6 (50.0)	0 (0.0)	1 (9.1)	0 (0.0)	7 (19.4)
Total	12 (100.0)	5 (100.0)	11 (100.0)	8 (100.0)	36 (100.0)

Source: 1994 Local Enterprise Zone Survey

When asked to identify factors leading to economic distress at the time of zone designation, over 70 percent of the respondents referred to high unemployment and persistent poverty (see Table 4.5). These two factors ranked at the top of the list in all states. In particular, Pennsylvania reported a concern for plant closure as a major cause of economic decline. Interestingly, deficiency in infrastructure was considered moderately important only in Pennsylvania and California. Problems in another two traditional locational factors, public services and transportation, were not considered as serious problems afflicting the enterprise zone communities in any of the states. Rather, over half of the respondents in Maryland, Pennsylvania and Virginia considered poor business climate to be the factor most hurting their communities. It appears this problem is most serious in Pennsylvania as nearly

Table 4.5 Types of Distress at the Time of Zone Designation

Factors Leading to Distress	Percent Indicating Important				Total
	CA	MD	PA	VA	
High Unemployment Rate	66.7	83.3	100.0	54.5	76.6
Persistent Poverty and Blight	73.3	66.7	80.0	63.6	72.3
Closure of Major Plant	33.3	33.3	60.0	27.3	40.4
Deficient Infrastructure	53.3	16.7	66.7	36.4	48.9
Inadequate Services	33.3	0.0	20.0	9.1	19.1
Transportation Problems	6.7	0.0	6.7	18.2	8.5
Poor Business Climate	26.7	50.0	66.7	54.5	48.9
Over-regulation or High Tax Regime	13.3	0.0	0.0	0.0	4.3
Poor Labor Quality	13.3	16.7	13.3	18.2	14.9
Crime Problems	33.3	16.7	40.0	9.1	27.7
Number of Cases	15	6	15	11	47

Source: 1994 Local Enterprise Zone Survey

70 percent of the respondents raised this concern. On the other hand, only in California did concern surface as to high taxes and over-regulation, an associated dimension of business climate. None of the respondents in the other three states even considered it as important. In general, the majority of the respondents did not find labor quality and crime problems affecting their communities. The pattern of responses does not provide a clear clue as to why these communities were declining at the time of zone designation. One may speculate that either that causes are complicated and interconnected, or that the respondents did not systematically analyze their economies.

This survey corroborates findings of other studies which show that enterprise zones are not irretrievably derelict (Erickson and Friedman, 1990b; Sheldon et al., 1988). A majority of the respondents further indicated that a certain degree of development potential and the ability to coordinate existing economic development programs had played an important roles in obtaining zone designation from the state (see Table 4.6). Except in Maryland, demonstration of community commitment and the availability of public resources were also important considerations. This indicates that states may screen out the most distressed communities to increase the chance of the program succeeding. This also demonstrates that economic development officials do not believe in notions of private voluntarism or self-generating business development in declining areas. As shown here and in subsequent reports, a proactive approach, rather than an noninterventionist one, appears to be more dominant practice in enterprise zones.

4.2.2 Program Targeting

According to the pure enterprise zone model, government should let the market decide what kind of activities should be located in a zone. In other words, the incentives should not be targeted to any type of businesses. The survey found that this idea was followed partially, as about half of the surveyed zones did set some priorities (see Table 4.7). Three-quarters of Pennsylvania's zones indicated that they targeted zone benefits to activities such as manufacturing and businesses which exported services out of the region. In contrast, most of Virginia's zones did not set priorities to any industries. Overall, when targeting was made, manufacturing was the most frequent activity, followed by transportation, distribution and wholesale. Promotion of high-tech industries or revitalization of the downtown or mainstreet seem not to be

a focus in the majority of the programs.

Table 4.6 Consideration of Institutional Capacity and Development Potential in Zone Designation

Types of Considerations	Percent Indicating Important				Total
	CA	MD	PA	VA	
Certain Degree of Development Potential	93.3	83.3	93.8	63.6	85.4
Ability to Coordinate Development Programs	93.3	100.0	81.3	63.6	83.3
Demonstration of Community Commitment	73.3	33.3	87.5	72.7	72.9
Availability of Public Resources	73.3	33.3	62.5	36.4	56.3
Minimal Level of Infrastructure and Services	73.3	33.3	31.8	27.3	43.8
Strong Local Leadership	0.0	0.0	6.3	0.0	2.1
Number of Cases	15	6	16	11	48

Source: 1994 Local Enterprise Zone Survey

Advocates of enterprise zones such as Kemp and Butler have repeatedly stressed that small business would be the sector to most benefit from the program. However, the survey found that a majority of zones and all of Virginia's zones did not target zone benefits according to firm size (see Table 4.8). While no respondents reported that they provided preferential treatment to firms with over 100 employees, about 10 percent of zones indicated that they gave some priority to smaller firms. It seems that given the unfavorable conditions in the zones, efforts to attract large investments such as corporate headquarters or the big

plants of footloose industries, are not effective. Therefore, a small number of zones may divert their attention to small-scale businesses as a feasible alternative.

Table 4.7 Targeting by Industrial Sector or Types of Firms

Targeting Sectors	Percent of Responses				Total
	CA	MD	PA	VA	
No Special Priorities	53.3	50.0	25.0	81.8	50.0
Manufacturing	53.3	50.0	81.3	9.1	52.1
Transportation, Distribution and Wholesale	20.0	16.7	37.5	9.1	22.9
Services for Exporting out the Region	6.7	0.0	56.3	0.0	20.8
Downtown Activities	0.0	16.7	6.3	0.0	4.2
High-Tech Activities	0.0	0.0	6.3	0.0	2.1
Number of Cases	15	6	16	11	48

Source: 1994 Local Enterprise Zone Survey

4.2.3 The Program Structure

The survey confirms again that few enterprise zones stand alone as independent programs. Nearly all zones are structured alongside or together with other economic development activities. The survey, however, finds that most zone administrators perceive their zone in a general terms and that they do not make distinctions between interventionist components and noninterventionist ones. Apparently, practitioners are more concerned with the totality of the program than its specific elements.

Table 4.8 Targeting by the Size of Firms

Targeting Size	Percent of Responses				
	CA	MD	PA	VA	Total
No Special Priorities	73.3	83.3	93.8	100.0	87.5
1 to 19	6.7	33.3	6.3	0.0	8.3
20 to 99	20.0	16.7	12.5	0.0	12.5
Over 100	0.0	0.0	0.0	0.0	0.0
Number of Cases	15	6	16	11	48

Source: 1994 Local Enterprise Zone Survey

The survey found that about 83 percent of the zones prepared economic development plans or business development strategies to guide their activities (see Table 4.9). This shows that, instead of withdrawing from economic development, the public sector is actively involved. About 70 percent (24 out of 39) of the respondents who reported the presence of a local economic plan indicated that their enterprise zone program served as part of the plan. Few respondents reported that the enterprise zone program acts as a unifying theme to their plan, indicating that strong emphasis is still placed on traditional economic development tools.

Table 4.10 shows that zone administrators define their enterprise zones loosely. Although all surveyed zones used a number of interventionist tools to help businesses, about one-third of the respondents reported that no other economic development programs are in force. Clearly, they defined their zones in a way that includes all types of economic development activities. Again, this shows that respondents considered the enterprise zone program to be an important part of an overall

economic development package but none considers the noninterventionist tools as overriding other economic development measures.

Table 4.9 Relationship of Enterprise Zone Programs (EZP) to Local Economic Development Plans (Column Percents in Parenthesis)

Relationship	CA	MD	PA	VA	Total
No Local Economic Development Plan	3 (21.4)	0 (0.0)	2 (12.5)	3 (27.3)	8 (17.0)
Development Plan or Business Strategy in Force					
Both are Separate	3 (21.4)	2 (33.3)	0 (0.0)	2 (18.2)	7 (14.9)
EZP as an instrument of the Plan	6 (41.8)	4 (66.7)	8 (50.0)	6 (54.6)	24 (51.1)
EZP as an Instrument but in a New Direction	1 (7.1)	0 (0.0)	2 (12.5)	0 (0.0)	3 (6.4)
EZP is the Unifying Theme	1 (7.1)	0 (0.0)	4 (25.0)	0 (0.0)	5 (10.6)
Total *	14 (100.0)	6 (100.0)	16 (100.0)	11 (100.0)	47 (100.0)

Source: 1994 Local Enterprise Zone Survey

* All percentage totals are rounded to 100

To find out the details of the program design, the survey identified about 40 types of common development assistance tools, and asked the respondents whether each of these tools was used in the zone. These tools were further divided into two groups: the noninterventionist and the interventionist. Using the typology developed in Chapter 3, the surveyed zones could be classified according to the counts of tools in each group. Table 4.11 reports the noninterventionist tools which are best associated with the pure enterprise zone model.

Table 4.10 Relationship of the Enterprise Zone Programs (EZP) to other Economic Development Programs (EDP) (Column Percents in Parenthesis)

Relationship	CA	MD	PA	VA	Total
No EDP	3 (20.0)	2 (33.3)	7 (43.8)	4 (36.4)	16 (33.3)
EDP Coexists with EZP					
EZP is not important	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
EZP is of minor importance	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
EZP is part of the EDP	3 (20.0)	2 (33.3)	3 (18.8)	2 (18.2)	10 (20.8)
EZP is important part of EDP	9 (60.0)	2 (33.3)	6 (37.5)	5 (45.5)	22 (45.8)
EZP is the most important part of EDP	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Total *	15 (100.0)	6 (100.0)	16 (100.0)	11 (100.0)	48 (100.0)

Source: 1994 Local Enterprise Zone Survey

* All percentage totals are rounded to 100

The survey found that the average and median number of non-interventionist tools offered by the zones was seven. Hopewell (VA) only used three such zone incentives while Los Angeles-Watts puts together thirteen. The choice of incentives varied greatly between zones. Most of these incentives were tax-credit provisions and can be grouped into four areas: employment support, investment promotion, financing, and regulatory relief. The majority of zones provided incentives in the first group. There was a less clear pattern in the other three areas. In terms of individual incentives, the most common was special hiring, followed by tax credits on qualified investments. About half the zones made some effort to streamline the licensing process and offered preferential treatment to businesses who pursued other programs.

Table 4.11 Provision of Enterprise Zone Incentives (Percent of Responses)

Zone Incentives Used	CA	MD	PA	VA	Total
<i>Labor-Oriented Incentives</i>					
Tax Credit for Hiring Economically Disadvantaged or Zone-Related Residents	100.0	83.3	76.5	72.7	83.3
Tax Credit for Hiring New Employees Regardless of their Status or Residence	100.0	33.3	23.5	18.2	31.3
Employee Income Tax Reduction for Working in the Enterprise Zone	71.4	0.0	17.6	18.2	31.3
<i>Investment-Oriented Incentives</i>					
Tax Credit for Qualified Investment in the Zone	71.4	66.7	88.2	36.4	68.8
Corporate Income Tax Abatements	21.4	33.3	47.1	63.6	41.7
Sales Tax Reduction for Materials, Equipment and Machinery	85.7	16.7	0.0	100.0	50.0
Sales Tax Reduction without Conditions	21.4	0.0	0.0	45.5	16.7
Property Tax Abatement for Improved Values	14.3	66.7	88.2	27.3	50.0
Property Tax Abatement without Conditions	7.1	16.7	17.6	0.0	10.4
Inventory Tax Reduction	0.0	66.7	0.0	0.0	8.3

Table 4.11 (cont'd) Provision of Enterprise Zone Incentives (Percent of Responses)

Zone Incentives Used	CA	MD	PA	VA	Total
<i>Financing-Oriented Incentives</i>					
Lender Deduction of Interest for Loan to Enterprise Zone Businesses	92.8	0.0	41.2	36.4	50.0
Business Expense Deductions	85.7	0.0	5.9	9.1	29.2
Carry-over of Net Operating Losses	92.9	0.0	29.4	9.1	39.6
Fee Waivers	57.1	16.7	11.8	90.9	43.8
Utility Fee or Tax Reduction	35.7	0.0	5.9	18.2	16.7
Business-License Rebate	7.1	0.0	0.0	36.4	10.4
<i>Regulatory-Relief Measures</i>					
One-stop Licensing and Permitting	85.7	33.3	47.1	36.4	54.2
Preferences or Priorities in other Programs	71.4	33.3	58.8	27.3	52.1
Zoning Relief or Acceleration of Zoning Changes	42.9	0.0	47.1	27.3	35.4
Total number of Cases	14	6	17	11	48

Source: 1994 Local Enterprise Zone Survey

Though the earlier examination of the state program did not show the effect of the state, such effect appears present at the local level. California zones are more complicated, as they tend to package a large number of incentives in all four areas. They place greater emphasis on labor-oriented incentives. In contrast, Maryland zones offer fewer incentives and put a greater focus on investment promotion. Similar to Maryland, Pennsylvania zones place strong emphasis on investment promotion by using credits on qualified investment and property improvement. Zones in Virginia rely very much on sales tax credits and they are more willing to introduce local incentives such as fee waivers and business-license rebates.

It is not sufficient to just examining the noninterventionist elements of these programs. The survey found that zones provided a substantial amount of interventionist measures (see Table 4.12). The degree varied widely, as Hopewell (VA) offered only one form of such measure while Altoona, Pittsburgh-East Liberty, and Pittsburgh-North Side (all in Pennsylvania) provided fourteen. For all zones, the median and average number of interventionist tools are ten. Interventionist assistance tools could be grouped into five areas: financial support, physical development, human capital development, direct business assistance, and community-related efforts. The majority of zones had provisions in all these five areas. In terms of individual methods, nine were provided in over three-quarters of the zones. They were venture-capital support, federal business loan programs, infrastructure improvement, industrial park development, land acquisition and site preparation, job training, job referral, technical assistance and counseling to business, and crime-prevention efforts. It appears that California and Pennsylvania zones are more activist, while by comparison Virginia

Table 4.12 Provision of Traditional Economic Development Assistance (Percent of Responses)

Development Assistance Provided	CA	MD	PA	VA	Total
<i>Financial Support</i>					
Venture-Capital Support or Low-Interest Loans	85.7	83.4	100.0	54.5	83.3
Small Business Administration or Economic Development Administration Programs	100.0	66.7	88.2	81.8	81.3
Loan Guarantees	64.3	66.7	70.6	27.3	56.3
Urban Redevelopment or Tax Increment Financing	64.2	16.7	47.1	27.3	43.8
Industrial Revenue Bond or Industrial Development Bond Allocation	64.2	66.7	47.1	63.6	58.3
<i>Physical Development</i>					
Infrastructure and Physical Improvements	92.9	100.0	88.2	81.8	89.6
Industrial or Business Parks	71.4	66.7	76.5	72.7	77.1
Land Acquisition or Site Preparation	71.4	66.7	88.2	63.6	75.0
<i>Human Capital Development</i>					
Job Training, including JTPA Project	100.0	66.7	82.4	81.8	85.4
Job Referral or Placement	92.8	66.7	94.1	54.5	81.3
Labor-Management Dispute Resolution Assistance	35.7	16.7	41.2	18.2	31.3

Table 4.12 (Cont'd) Provision of Traditional Economic Development Assistance (Percent of Responses)

Development Assistance Provided	CA	MD	PA	VA	Total
<i>Direct Business Assistance</i>					
Assistance and Counseling to Businesses	100.	100.	94.1	45.5	85.4
Business Incubators	21.5	33.3	70.6	9.1	37.5
Shopsteading	7.1	16.7	5.9	9.1	8.3
Technology Center	0.0	16.7	0.0	0.0	2.1
<i>Community-Related Efforts</i>					
Crime Prevention Efforts	78.6	50.0	82.4	72.7	75.0
CDC or CDBG Grants	0.0	0.0	5.9	9.1	4.2
Total number of Cases	14	6	17	11	48

Source: 1994 Local Enterprise Zone Survey

zones are the least. However, since interventionist tools are so popular, the difference among states is only a matter of degree, and should be considered minor.

Putting the patterns of provision of noninterventionist and interventionist tools together, a clear picture emerges -- the majority of the zones surveyed are hybrid zones. In fact most of them are operating under a traditional economic development model, where the enterprise zone tax incentives are used as supplementary instruments.

4.2.4 Organization of Zone Administration

The survey found that except in Pennsylvania, most enterprise zones placed the administrative functions within the local government (see Table 4.13). Existing economic departments are the most common location, followed by the planning or community development department. It should be pointed out that most zone administrations that take place within the framework of existing government are not independently established. Rather, zone administrations carry out a range of duties in community and economic development, planning, housing, and business promotion within and outside the enterprise zone. Only 20 percent of the zone administrations are organized outside local government. Seven out of the ten zone administrations outside local government are in Pennsylvania, where community-based development corporations have been traditionally assigned an important role.

The staff strength of the enterprise zone administration varies greatly (Table 4.14). In 1993, the median number of all types of full-time staff hired by enterprise zone administrations was five. The average number was 18.4, indicating the presence of a few big agencies. Zone administrations in Sacramento (CA) and Pittsburgh (PA) had 340 and 115

full time staff in 1993, respectively. On the other hand, five administrations were not staffed by any full-time personnel: the San Bernardino County portion of Agua Mansa (CA), Braddock (PA), both the County and the Hermitage City portion of Shenango Valley (PA), and Saltville (VA). About 60 percent of the zone administrations were small, with an employment size of one to nine full-time employees.

Table 4.13 Institutional Placement of Enterprise Zone Administrations
(Column Percents in Parenthesis)

Location of Zone Administration	CA	MD	PA	VA	Total
<i>Inside Government</i>					
Economic Development Department	10 (66.7)	4 (66.7)	5 (29.4)	5 (45.5)	24 (49.0)
Planning or Community Development Department	3 (20.0)	0 (0.0)	4 (23.5)	4 (36.4)	11 (22.4)
Mayor's Town Manager Office	0 (0.0)	1 (16.7)	1 (5.9)	1 (7.7)	3 (6.1)
Joint Department and Town Manager	1 (6.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.0)
<i>Outside Government</i>					
Community-Based Development Corporation	0 (0.0)	0 (0.0)	5 (29.4)	1 (7.7)	6 (12.2)
Quasi-Public or Joint Development Corporation	0 (0.0)	1 (16.7)	1 (5.9)	0 (0.0)	2 (4.1)
Private-Sector Economic Development Association	1 (6.7)	0 (0.0)	1 (5.9)	0 (0.0)	2 (4.1)
Total *	15 (100.0)	6 (100.0)	17 (100.0)	11 (100.0)	49 (100.0)

Source: 1994 Local Enterprise Zone Survey

* All percentage totals are rounded to 100

Not all the employees in the zone administrations are responsible for the enterprise zone, so the survey examines the number of full-time professional staff in economic development. Table 4.15 shows that the

majority of zone administrations are not adequately staffed. In 1993, about 42 percent of them did not have even a full-time professional or technical staff and one-third had less than four.

Table 4.14 Total Number of Full-Time Staff Members of Enterprise Zone Administrations in 1993 (Column Percents in Parenthesis)

Number of Staff	CA	MD	PA	VA	Total
No	1 (7.7)	0 (0.0)	3 (17.6)	1 (8.3)	5 (10.6)
1	1 (7.7)	0 (0.0)	1 (5.9)	1 (8.3)	3 (6.4)
2 to 4	3 (23.1)	1 (20.0)	5 (29.4)	3 (25.0)	12 (25.5)
5 to 9	1 (7.7)	3 (60.0)	5 (29.4)	4 (33.3)	13 (27.7)
10 to 19	2 (15.4)	0 (0.0)	2 (11.8)	2 (16.7)	6 (12.8)
Over 20	5 (38.5)	1 (20.0)	1 (5.9)	1 (8.3)	8 (17.0)
Total *	13 (100.0)	5 (100.0)	17 (100.0)	12 (100.0)	47 (100.0)

Source: 1994 Local Enterprise Zone Survey

* All percentage totals are rounded to 100

A more accurate way to examine enterprise zone staffing is to look at how many full-time staff are assigned specifically for enterprise zone duty. The survey found that 78 percent of the zones did not have a separate zone administrator position. The position or the title was assumed by a staff member who had other duties. Eleven zone administrations made the zone administrator position full-time, and only three hired more than one full-time staff specifically for enterprise zone activities. The reliance on existing staff to carry out enterprise zone duties can be further illustrated by the total amount of staff time spent on enterprise zones, which is very low. In 1993, on average, a total of 19 hours per week were spent specifically on enterprise zone

activities, the median is eleven hours. Of course, there are variations among zones. For example, San Diego-Barrio Logan (CA) had the largest working time, 100 hours a week. At the other end, ten zone administrations spent less than five hours a week.

Table 4.15 Total Number of Full-Time Professional and Technical Staff Members of Enterprise Zone Administrations in 1993 (Column Percents in Parenthesis)

Number of Professional Staff	CA	MD	PA	VA	Total
No	4 (30.8)	1 (16.7)	9 (52.9)	6 (50.0)	20 (41.7)
1	4 (30.8)	0 (0.0)	0 (0.0)	0 (0.0)	4 (8.3)
2 to 4	0 (0.0)	4 (66.7)	5 (29.4)	3 (25.0)	12 (25.0)
5 to 9	1 (7.7)	0 (0.0)	1 (5.9)	1 (8.3)	3 (6.3)
10 to 19	1 (7.7)	0 (0.0)	1 (5.9)	1 (8.3)	3 (6.3)
Over 20	3 (23.1)	1 (16.7)	1 (5.9)	1 (8.3)	6 (12.5)
Total *	13 (100.0)	6 (100.0)	17 (100.0)	12 (100.0)	48 (100.0)

Source: 1994 Local Enterprise Zone Survey

* All percentage totals are rounded to 100

Despite the fact that few professional or technical staff members are hired, enterprise zone administrations seem adequately equipped in terms of expertise (see Table 4.16). In 1993, staff members in 68 percent of the administrations possess at least one type of experience or qualification in economic development, planning, or business management. About 37 percent of the enterprise zone administrations had fairly strong expertise because their staff collectively had at least five types of experience or qualifications. Only 4 percent of the

administrations were weak, with staff who did not have any experience or expertise related to economic development.

Table 4.16 Qualification and Experience of Enterprise Zone Administrations

Experience or Qualifications	Percent of Responses				Total
	CA	MD	PA	VA	
Degree in Business Administration	85.7	50.0	64.7	61.5	68.0
Degree in Community or Economic Planning	64.3	83.3	76.5	53.8	68.0
Business Loan Fund Management Skill	60.0	33.3	70.6	61.5	62.0
Over Five Years Experience in Private Business	60.0	33.3	58.8	53.8	56.0
Skill in Market Analysis or Financial Feasibility Study	53.3	33.3	35.3	53.8	46.0
Equity or Debt Financing Experience	53.3	33.3	41.2	38.5	44.0
Number of Cases	14	6	17	13	50

Source: 1994 Local Enterprise Zone Survey

The survey also examines how much each administration spent on economic development. In terms of expenditure within and outside enterprise zones, a total of \$27 million was allocated in 1993 by the 39 zone agencies which reported the figure in the survey. In contrast, these agencies spent about \$60 million in administrative expenses. The average economic development expenditure of each agency was about \$697,000, with a median of \$400,000. About 46 percent of the economic development expenditure, or a total of \$12 million, was allocated to enterprise zones. On average, the expenditure targeted to each zone was \$320,000, with a median of \$100,000. There are great variations among

agencies (see Table 4.17). While about half of the agencies allocated less than \$100,000, three administrations -- Altoona, Bethlehem and Shenango Valley (all in Pennsylvania) -- targeted more than \$1 million to their zones.

Table 4.17 1993 Expenses for Economic Development Activities in Enterprise Zones (Column Percents in Parenthesis)

Amount of Expenses	CA	MD	PA	VA	Total
\$1 to \$9,999	1 (10.0)	4 (66.7)	1 (7.1)	2 (28.6)	8 (21.6)
\$10,000 to \$99,999	5 (50.0)	2 (33.3)	0 (0.0)	2 (28.6)	9 (24.3)
\$100,000 to \$499,999	2 (20.0)	0 (0.0)	6 (42.9)	2 (28.6)	10 (27.0)
\$500,000 to \$999,999	2 (20.0)	0 (0.0)	4 (28.6)	0 (0.0)	6 (16.2)
\$1,000,000 and over	0 (0.0)	0 (0.0)	3 (21.4)	1 (14.3)	4 (10.8)
Total	10 (100.0)	6 (100.0)	14 (100.0)	7 (100.0)	37 (100.0)

Source: 1994 Local Enterprise Zone Survey

* All percentage totals are rounded to 100

Measured on a per-employee basis, zone administrations invested an average of \$49, or a median of \$14, per zone worker in economic development activities in 1993. Though over 72 percent of zones spent less than \$30 per employee, the figure varies from \$454 (Accident, MD) and \$217 (Bethlehem, PA), to less than five dollars (Bakersfield, CA; Cumberland, MD; Hagerstown & Regional Airport, MD; Columbia, PA; Saltville, VA; and South Hill, VA). Measured on a per-firm basis, the average expenditure was \$590, or a median of \$190 per firm within the zone. Bethlehem, Monessen, and Shenango Valley (all in Pennsylvania), and Carroll County and Ivanhoe (VA) spent more than \$1,000 per firm.

Economic development expenditure measures only direct activities conducted at the local level. It does not include state or federal grants unless these are distributed through zone administrations. In addition, it does not cover tax expenditure or state and federal loan funds to businesses. Therefore, this is an imprecise measure of the actual public-sector money flows into the zone. The true cost should include additional administrative expenses, tax expenditures, and economic development assistance of all kinds, administered by different agencies at all levels of government. Arriving at such figure would be a formidable data collection task, and can only be undertaken in a detailed case-by-case study. This is also the major reason that most cost-effectiveness studies are unreliable.

Another way to examine management intensity is to study the level of intensity in activities such as promotion, outreach, and marketing of an enterprise zone program. The survey found that more than half of the zone administrations did not keep track of employment or investment changes (see Table 4.18). 54 percent of the zones did not record participants receiving zone benefits. Even worse, only a quarter of the administrations prepared records showing business compliance with conditions attached to zone benefits. Only 8 percent of the respondents indicated that they prepared all six types of materials: enterprise zone maps, an annual report, an implementation plan, employment and investment records, lists of businesses, and compliance records. Among the five states, zones in Maryland were putting the greatest effort into tracking business changes and compliance. The overall low level of enterprise zone activities is not a surprising result of the limited amount of staff time allocated. This finding further confirms that investment and employment figures reported by zone administrators are generally unreliable and should be used carefully in evaluation efforts.

Table 4.18 Materials Prepared by Enterprise Zone Administrations

Enterprise Zone Materials	Percent of Responses				
	CA	MD	PA	VA	Total
Map Showing the Zone Boundary for Business	100.0	100.0	94.1	100.0	98.0
Annual Report of the Enterprise Zone Program	100.0	66.7	52.9	84.6	76.0
Strategic Plan of Zone Implementation	42.9	33.3	76.5	46.2	54.0
Records of Employment and Investment Changes	28.6	66.7	41.2	61.5	46.0
List of Participating and Nonparticipating Firms	28.6	83.3	41.2	46.2	44.0
Records Showing Firms' Compliance with Benefit Conditions	14.3	50.0	29.4	23.1	26.0
Number of Cases	14	6	17	13	50

Source: 1994 Local Enterprise Zone Survey

Table 4.19 shows how frequently the staff of the zone administrations carried out enterprise zone duties. The survey indicated that about 30 percent of the zone administrations visited firms to explain zone benefits, assisted firms to obtain credit or loan, mailed out publicity materials, or provided technical assistance to firms applying for zone benefits at least on a monthly basis during the twelve-month period preceding the survey. Other activities such as organizing enterprise zone workshops for businesses, carrying out surveys to identify business

Table 4.19 Frequency of Enterprise Zone Activities During the 12 Month Period Preceding the Survey

Enterprise Zone Activities	Never or Not Sure	Percentage Distribution					Weekly	Total *
		1 to 2 Times	3 to 6 Times	7 to 11 Times	Monthly	Monthly		
Visits to Firms Explaining Zone Incentives	8.0	22.0	12.0	18.0	24.0	16.0	100.0	
Providing Firms with Technical Support in Applying for Zone Benefits	10.0	14.0	22.0	20.0	16.0	18.0	100.0	
Assisting Firms to Obtain Credit or Loans	14.0	18.0	16.0	12.0	26.0	14.0	100.0	
Mailing out Enterprise Zone Brochures	16.0	26.0	10.0	12.0	14.0	22.0	100.0	
Attending Workshop or Conferences with Other Zone Administrators	24.0	62.0	8.0	6.0	0.0	0.0	100.0	
Promoting or Organizing Business Service and Information Networks	32.0	34.0	16.0	4.0	8.0	6.0	100.0	
Organizing Workshops on Zone Benefits	38.0	52.0	10.0	0.0	0.0	0.0	100.0	
Conducting Surveys to Identify Business Needs	38.0	50.0	6.0	2.0	4.0	0.0	100.0	

Source: 1994 Local Enterprise Zone Survey

Total Number of Valid Responses = 50

* Total is rounded to 100

needs, organizing information networks for businesses, and attending enterprise zone conferences were less frequently conducted.

Table 4.20 presents the frequency of contacts between the zone administrations and eleven other entities. This gives a rough picture of the type of public-private partnerships in zone operation. During the twelve-month period preceding the survey, about 10 percent of the administrations contacted redevelopment agencies, private-sector enterprise zone associations, and community-based organizations on a monthly basis. Over 40 percent of these zone administrations never contacted any of these entities. In particular, the survey found that private-sector association or citizen-advisory committees did not play an active role, as over 80 percent of the zone administrations contacted these groups less than twice a year. In general, the degree of public-private participation is not so strong as described by other studies.

4.2.5 Impacts of Enterprise Zones

The survey asked zone administrators to estimate how many firms used their enterprise zone benefits. Among the 23 zone administrations which reported back the estimates, both the median and the average business utilization rate was around 30 percent, a result consistent with other studies. Table 4.21 provides a breakdown of the distribution of the utilization rate. Three zones, the San Bernardino County portion of Agua Mansa (CA), Accident (MD), and Calvert County (MD), had a utilization rate higher than 60 percent. Both the County and the Hermitage City portions of Shenango Valley (PA) also had utilization rates over 45 percent. It should be noted that all these are small zones. About 80 percent of the zones had a utilization rate lower than

Table 4.20 Frequency of Contacts with EZ Participants During the 12 Month Period Preceding the Survey

Participants Being Contacted	Percentage Distribution						Total *
	Never or Not Sure	1 to 2 Times	3 to 6 Times	7 to 11 Times	Monthly	Weekly	
Community-Based Organization	34.0	27.7	21.3	4.3	6.4	6.4	100.0
Chamber of Commerce	40.5	38.3	10.6	2.1	6.4	2.1	100.0
Economic Consultant	41.7	33.3	8.3	6.3	8.3	2.1	100.0
Other Business Association	42.6	34.0	8.5	6.4	6.4	2.1	100.0
Redevelopment Agency	44.7	23.4	12.8	2.1	10.6	6.4	100.0
Professional Group	49.0	29.8	10.6	2.1	6.4	2.1	100.0
Private-Sector Enterprise Zone Association	58.3	22.9	6.3	2.1	8.3	2.1	100.0
Citizen-Advisory Enterprise Zone Committee	63.8	10.6	8.5	4.3	12.8	0.0	100.0
School Districts	76.6	14.9	8.5	0.0	0.0	0.0	100.0
Industrial Development Authority	97.9	2.1	0.0	0.0	0.0	0.0	100.0
Coordinating Marketing Committee	97.9	2.1	0.0	0.0	0.0	0.0	100.0

Source: 1994 Local Enterprise Zone Survey

Total Number of Valid Responses = 47

* Total is rounded to 100

45 percent. Since about 60 percent of zone administrations do not prepare a list of participating firms, the estimates are only indicative, and are probably biased on the high side.

Table 4.21 Percentage of Firms Using Enterprise Zone Benefits (Column Percents in Parenthesis)

Percent Range	CA	MD	PA	VA	Total
0 to 14.9 Percent	1 (25.0)	0 (0.0)	2 (18.2)	3 (60.6)	6 (26.1)
15 to 29.9 Percent	2 (50.0)	0 (0.0)	3 (27.3)	0 (0.0)	5 (21.7)
30 to 44.9 Percent	0 (0.0)	1 (33.3)	4 (36.4)	2 (40.0)	7 (30.4)
45 to 59.9 Percent	0 (0.0)	0 (0.0)	2 (18.2)	0 (0.0)	2 (8.7)
Over 60 Percent	1 (25.0)	2 (66.7)	0 (0.0)	0 (0.0)	3 (13.0)
Total	4 (100.0)	3 (100.0)	11 (100.0)	5 (100.0)	23 (100.0)

Source: 1994 Local Enterprise Zone Survey

* All percentage totals are rounded to 100

The overall low utilization rate indicates that information barriers must still exist with businesses. Also, not every business can meet the conditions attached to most of the tax incentives. In the case of the most popular incentive, the special hiring tax credit, businesses may find certification procedures troublesome and the risk great of hiring the wrong employee. However, the principal reason why firms do not participate in enterprise zone programs may be that actual benefits are not significant. The survey also finds that zones with higher utilization rates tend to be smaller zones. The reason is probably that in a small community it is easier to assist firms in applying for zone

benefits or providing other technical assistance and counseling services.

Table 4.22 presents the four most commonly used economic development assistance measures by business. All are traditional or interventionist tools that involve direct government involvement. It is clear that businesses prefer assistance in capital access, site preparation and infrastructure improvement over tax incentives.

Table 4.22 Four Most Commonly Used Instruments for Attracting Business and Employment

Development Instruments	Number	Percentage
Venture-Capital Support or Low-Interest Loans	13	28.3
Industrial or Business Parks	5	10.9
Infrastructure and Physical Improvements	4	8.7
Land Acquisition or Site Preparation	4	8.7

Source: 1994 Local Enterprise Zone Survey
Total Number of Valid Responses = 46

The survey also asked zone administrators to evaluate how effective their programs were in meeting a number of objectives. Few zone administrators took an extreme position, so the majority of responses indicated that programs met some objectives somewhat effectively. Table 4.23 reports on this assessment. It is interesting that nontangible effects such as better public-private partnerships, and improvement in coordination of economic development programs rank higher than job creation, firm retention, and promotion of business startups. Administrators reported that other major enterprise zone objectives, such as improvement of business climate, increases in employment

opportunities for economically disadvantaged people, and removing regulatory barriers, were generally not achieved by enterprise zone programs.

Table 4.23 Enterprise Zone Administrators' Assessment of their Programs (Responses indicating objectives are met very effectively)

Enterprise Zone Objectives	Number Responding Yes	Percent Yes	Number of Valid Case *
Better Public-Private Partnerships	22	52.4	42
Attracting Firms to the Zone	23	48.9	47
Coordinating Existing Economic Development Programs	21	47.7	44
Retaining & Expanding Businesses	21	44.7	47
Creating New Jobs	19	40.4	47
Promoting Business Startups	17	38.6	44
Community Revitalization	17	38.6	44
Improving Infrastructure	15	35.7	42
Improving Overall Business Climate	16	34.8	46
Main Street Revitalization	7	28.0	25
Creating Job Opportunities for Economically Disadvantaged People	12	25.0	48
Removing Regulatory Barriers	5	14.3	35

Source: 1994 Local Enterprise Zone Survey

* Number of cases vary because it excludes responses that indicate that a particular objective is not considered important in their programs.

General Opinions on Enterprise Zone Programs

The last question in the enterprise zone survey asked zone administrators to express their attitude toward five general statements about enterprise zones. Table 4.24 reports the results using a five-

Table 4.24 Enterprise Zone Administrators' Opinions on Enterprise Zones

Evaluation Statements on Enterprise Zones	Percentage of Responses				Number of Cases
	Strongly Disagree	Disagree	Neutral	Agree	
Tax incentives and regulatory relief are sufficient to reverse economic distress	23.4	34.0	19.1	21.3	47
The enterprise zone is no more than a repackaging of existing economic development efforts	10.4	41.7	16.7	29.2	48
Success of the zone depends on management sophistication and program intensity	6.3	22.9	12.5	43.8	48
Enterprise zone plays a crucial role to concentrate existing resources and rally community commitment	4.2	20.8	10.4	50.0	48
For municipalities, state-supported enterprise zones are the least-cost economic development tool	4.2	8.3	31.3	37.5	48

Source: 1994 Local Enterprise Zone Survey

point scale. In general, most zone administrators considered that tax incentives and regulatory relief were not sufficient to reverse economic decline. They also agreed that program success depended on management sophistication and program intensity. Though this second opinion is in line with traditional economic development approaches, zone administrators did find the enterprise zone program useful, however widely it might be defined. The administrators did not agree that the program was a gimmick or a mere repackaging of existing programs. They believed that the enterprise zones played a crucial role by concentrating resources and rallying community support. Again, such a view reflects the general impact of enterprise zone on facilitating public-private partnerships and retooling existing programs. Furthermore, most zone administrators agreed that the enterprise zone program involved little cost at the local level.

Finally, the survey invited respondents to express any comments of their own enterprise zones. Few of them responded, but those who did provided some useful opinions. Some of the comments are quoted below:

"[E]nterprise zone [is] not a fair test of the original concept. The original concept was flawed; though because it didn't ring true regarding why businesses locate where they locate. They don't come for tax benefits."

"Sometimes the enterprise zone program is a strategic and competitive marketing tool when companies are considering the entire region. It's difficult to get local companies to apply for credits. They expect paperwork or government red tape so they don't apply."

"The tax incentives by themselves are virtually worthless (as currently structured). However, the 'enterprise zone' concept and the promise of tax break open up communication with businesses so that our local assistance and incentives can be used."

"....does not have sufficient resources to market our community extensively. The Zone Program assists in that area."

"[T]he Enterprise Zone has been a huge assistance in aiding small businesses but it is hard to offset the large employment losses. The Enterprise Zone has assisted in reducing the potential impacts of the local recession. Due to geographic isolation, the Enterprise Zone designation has provided the City with statewide exposure."

4.3 Conclusion

Four major conclusions can be derived from the preceding program analysis. First, enterprise zone programs are very flexible and allow great variation. Apart from the provision of certain tax incentives in state-designated areas with high unemployment and poverty, there is no standard description for enterprise zones. Zones vary in size, land-use patterns, program structure, and implementation intensity.

Second, the original enterprise zone idea is generally not followed. Zones are not established to combat over-regulation and high local taxes. And instead of avoiding direct assistance to businesses, most zones take a proactive approach. Most enterprise zone programs are also organized within a larger planning framework and supplement traditional economic development programs. On average, a typical program provides ten types of interventionist economic development assistance in the areas of capital access support, physical development, human capital development, direct business assistance, and community development. In contrast, a typical zone provides about seven types of non-interventionist assistance in such areas as tax incentives and streamlining of permitting procedures.

A third conclusion from the program analysis is that despite the activist approach and apparently available expertise, few zone administrations devote much staff time specifically to enterprise zones. Enterprise zone

duties are added to the duties of existing administrators, so the majority of zone administrator positions are part-time positions. On average, each zone administration spends less than 20 hours a week on enterprise zone activities. The amount of economic expenditure each year in a typical zone is about \$14 per worker, or \$190 per firm. Only 30 percent of zone administrations contact businesses to promote zone benefits on a monthly basis. The degree of public-partnerships is even lower, since only 10 percent of zone administrations consult other entities monthly. Such a shortage of staffing affects basic monitoring functions. Over half of the zones do not monitor employment and investment changes, business utilization of zone benefits, or compliance with benefit conditions.

The final conclusion that may be drawn from the program analysis is that the impacts of enterprise zones are moderate to marginal. A majority of businesses in enterprise zones do not take advantage of tax incentives. The most popular economic development assistance programs are low-interest loans, site preparation, development of industrial parks, and infrastructure enhancement. Zone administrators report that enterprise zone programs improve the coordination of economic development efforts, rally community support, and enhance public-private partnerships. But, they find that enterprise zones are only moderately successful in creating jobs and new investment, alleviating poverty, and increasing the employment opportunities of the economically disadvantaged people. All agree that economic revitalization cannot rely on tax incentives and deregulation. Management sophistication, program intensity, and public resources are important elements of program success.

In short, most enterprise zone programs operate within traditional

economic development parameters. Within this framework, zone designation provides a marketing tool for a community to organize and coordinate existing economic programs. However, despite the interventionist or proactive practice, most zones are underfunded and understaffed. Enterprise zone programs appear to not be meeting their most important objectives, but they do benefit the way economic development activities are organized in general.

5. MEASURING ENTERPRISE ZONE PERFORMANCE

This chapter analyzes job and establishment growth in 68 enterprise zones in the five states of Delaware, California, Maryland, Pennsylvania, and Virginia whose enterprise zone program are the focus of this dissertation. After summarizing the general trend, the chapter compares the growth rates between each zone and its respective region. It then examines whether zone performance is affected by such factors as employment size, age of the program, location of the zone, and type of zone according to the classification schemes developed in Chapter 3. Finally, this chapter presents the results of a multivariate analysis on the determinants of zone performance.

5.1 General Employment Trends

In 1986, the 68 zones in the five states accommodated an estimated 750,100 workers (see Table 5.1). In 1990, the total zone employment rose to 775,100, a net increase of about 25,000 over a period of four years. In other words, these zones added about 6,230 jobs each year. With an annual change rate of 0.8 percent, aggregate employment growth in the zones therefore compared favorably with the aggregate total employment growth in their regions, which was only 0.1 percent a year.

If one breaks these aggregate figures down, variations in job changes between zones are striking (see Table 5.2). For example, New Castle (DE) gained about 7,800 jobs, followed by three California zones -- San Jose, Sacramento-Northgate, and San Diego -- which experienced a net increase of 6,670, 4,100 and 4,040 jobs. In contrast, Newport News (VA) lost 13,470 jobs, followed by Philadelphia-Hunting Park West (PA) with a loss

of 6,200 jobs. The next worst performer was Capitol Heights (MD), which lost 4,900 jobs.

Table 5.1 Employment in Enterprise Zones and their Regions

	Zones	Regions
Total Employment in 1986	750,100	14,053,300
Total Employment in 1990	775,100	14,115,700
Percent Change between 1986 and 1990	3.3	0.5
Annualized Percent Change	0.8	0.1

Sources: Based on Special CBP Tabulations, 1986 and 1990

Total Number of Zones = 68

Table 5.3 reports the frequency distribution of zones in terms of percent changes in employment. Overall, 65 percent of the zones had positive growth. At the higher end, Columbia (PA) gained 150 percent, followed by Sacramento-Northgate (CA) and Frostburg (MD), which gained 105 and 54 percent, respectively. At the other extreme, Newport News (VA) and Capitol Heights (MD) lost 57 and 46 percent of their employment, respectively.

In 1986, the average employment per zone was 11,030, with a median of 8,820. In 1990, average employment had increased to 11,400, with an median of 9,240. These figures suggest that on average, each zone gained about 92 jobs each year, a much lower figure than the 215 jobs created or saved each year that was reported in the study by Erickson and Friedman. Measured in median figures, this study estimates that each zone gained 104 jobs a year, and this figure is comparable to that of Erickson and Friedman.

Table 5.2 Employment Changes in Enterprise Zones (1986-1990)

Net Employment Changes	Number	Percentage
-601 and Less	12	17.6
-600 to -1	12	17.6
0 to 600	14	20.6
601 to 1200	9	13.2
1,201 to 1,800	7	10.3
1,800 and Over	14	20.6
Total	68	99.9

Sources: Based on Special CBP Tabulations, 1986 and 1990

Table 5.3 Percent Employment Changes in Enterprise Zones (1986-1990)

Percentage Ranges	Number	Percentage
-10.01 Percent and Less	10	14.7
-10 Percent to -0.01 Percent	14	20.6
0 Percent to 9.99 Percent	12	17.6
10 Percent to 19.99 Percent	11	16.2
20 Percent to 29.99 Percent	11	16.2
Over 30 Percent	10	14.7
Total	68	100.0

Sources: Based on Special CBP Tabulations, 1986 and 1990

5.2 General Business Establishment Trends

The business establishment trend differed from the employment trend, as both zones and regions were experiencing losses. In 1986, there were a total of about 48,016 business establishments in the 68 zones (see Table 5.4). In 1990, the total number of zone establishments decreased to 47,018. Over four years, these zones lost 2.1 percent of their

establishments, or a total decrease of about 250 establishments each year. The annual average change rate in the zones was -0.5 percent, which compared with the regional rate of -0.2 percent.

Table 5.4 Business Establishments in Enterprise Zones and their Regions

	Zones	Regions
Total Number of Establishments in 1986	48,016	855,447
Total Number of Establishments in 1990	47,018	848,569
Percent Change between 1986 and 1990	-2.1	-0.8
Annualized Percent Change	-0.5	-0.2

Sources: Based on Special CBP Tabulations, 1986 and 1990
Total Number of Zones = 68

Despite an overall loss of business establishments, about 44 percent of the zones gained businesses (see Table 5.5). Sacramento-Northgate (CA) experienced a growth of 154 establishments, followed by Calexico (CA), and Wilmington (DE), which had an increases of 148 and 138 businesses respectively. However, there were substantial business loss in zones such as Philadelphia-Hunting Park West (PA), and Danville (VA). Each of these enterprise zones lost at least 200 establishments.

In terms of percent changes, some zones gained substantially. For instance, Sacramento-Northgate (CA) had a growth rate of 74 percent, followed by Calexico (CA) and Columbia (PA), which had increased of 44 and 26 percent, respectively. On the other hand, Capitol Heights (MD) suffered a 27 percent loss. Four enterprise zones lost 18 to 20 percent of their business establishments. These were Philadelphia-West Parkside (PA), and three Virginia zones: Portsmouth, Danville, and Newport News.

Table 5.5 Business Establishment Changes in Enterprise Zones (1986-1990)

Net Establishment Changes	Number	Percentage
-61 and Less	15	22.1
-60 to -41	5	7.4
-40 to -21	13	19.1
-20 to -1	5	7.4
0 to 20	3	19.1
21 and Over	17	25.0
Total	68	100.1

Sources: Based on Special CBP Tabulations, 1986 and 1990

Table 5.6 Percent Business Establishment Changes in Enterprise Zones (1986-1990)

Percentage Ranges	Number	Percentage
-20.01 Percent and Less	1	1.5
-20 Percent to -10.01 Percent	12	17.6
-10 Percent to -0.01 Percent	25	36.8
0 Percent to 9.99 Percent	19	27.9
Over 10 Percent	11	16.2
Total	68	100.0

Sources: Based on Special CBP Tabulations, 1986 and 1990

The statistics show that the average number of establishments per zone changed from 706 in 1986 to 691 in 1990. The median figures decreased too, from 550 to 497 for the same period. This means that on average each zone lost about four business establishments each year. Measured in median terms, this loss amounts to thirteen establishments a year. Both figures are much lower than the annual average growth of 5.6 establishments reported by Erickson and Friedman from a sample of about 100 zones (1990a). The difference may be explained by the fact that this

study measures the net changes while that of Erickson and Friedman does not include the closure or outmigration of business establishments.

5.3 Area Comparison of Employment and Establishment Changes

The review of empirical studies in Chapter 2 indicated that changes in zones are strongly affected by regional economic change. When the economic performance of zones is compared with performance in their respective regions, few differences are found. In particular, this study has found that zones outperform their regions in net employment changes but not increases in businesses. This section explores whether economic change within a region affect economic change within the enterprise zones.

Figure 5.1 presents a scatterplot of the percent changes in employment between zones and their regions. It shows how employment patterns in the majority of zones tended to move along with the pattern of the region. A simple correlation analysis yields a Pearson correlation coefficient for the two percentage rates of 0.44. Expressed in a least-square linear bivariate regression form, the equation is:

$$ZJOB_{1986-1990} = 0.04632 + 1.1380 * RJOB_{1986-1990}$$

with $R^2 = 0.1925$, $n = 68$

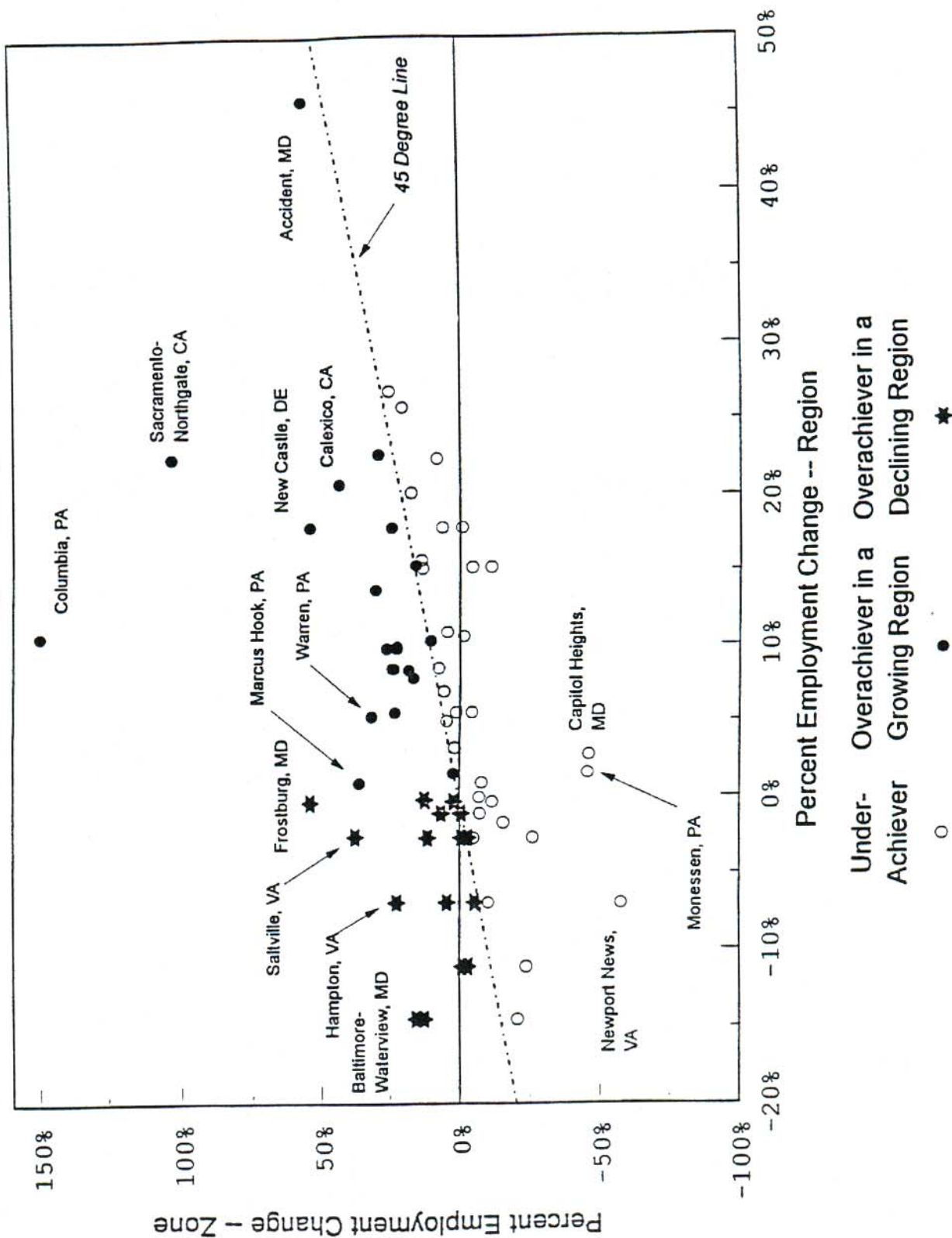
Sig. T for the regression coefficient = 0.0002
and for the constant = 0.2109

Where

$ZJOB_{1986-1990}$: Percent change of employment in the zone between
1986 and 1990

$RJOB_{1986-1990}$: Percent change of employment in the region
between 1986 and 1990

Figure 5.1 1986-1990 Employment Changes: Enterprise Zones vs. their Regions



Under-Achiever Overachiever in a
 Growing Region Declining Region

The regression results suggest that the percent employment change of the zone does correlate with the regional percent change. Employment change rises a bit faster than employment change within the region, since the value of the regression coefficient, 1.138, is greater than unity. Thus, regional effect may be said to be substantial, because it explains about 20 percent of the variability in the growth rate of zone employment. The high significant T of the intercept suggests that at origin there is no difference in growth rate between a zone and its corresponding region.

It may also be noted that while the majority of zones fall along the regression line, some zones have outlying positions, such as Columbia (PA), Sacramento-Northgate (CA), and Frostburg (MD), zones which display very high employment growth rates. These zones deserve further examination to understand what causes their "success" (see Chapter 6). On the other hand, Capitol Heights (MD), Monessen (PA), and Newport News (PA) lag behind their regions by more than 40 percent in terms of employment change rate.

Figure 5.2 shows a similar scatterplot diagram of percent changes in the number of business establishment between zones and their respective regions. Again, it depicts a close association between zone and region. The bivariate regression equation is:

$$ZEST_{1986-1990} = -0.02042 + 1.21099 * REST_{1986-1990}$$

with $R^2 = 0.2956$, $n = 68$

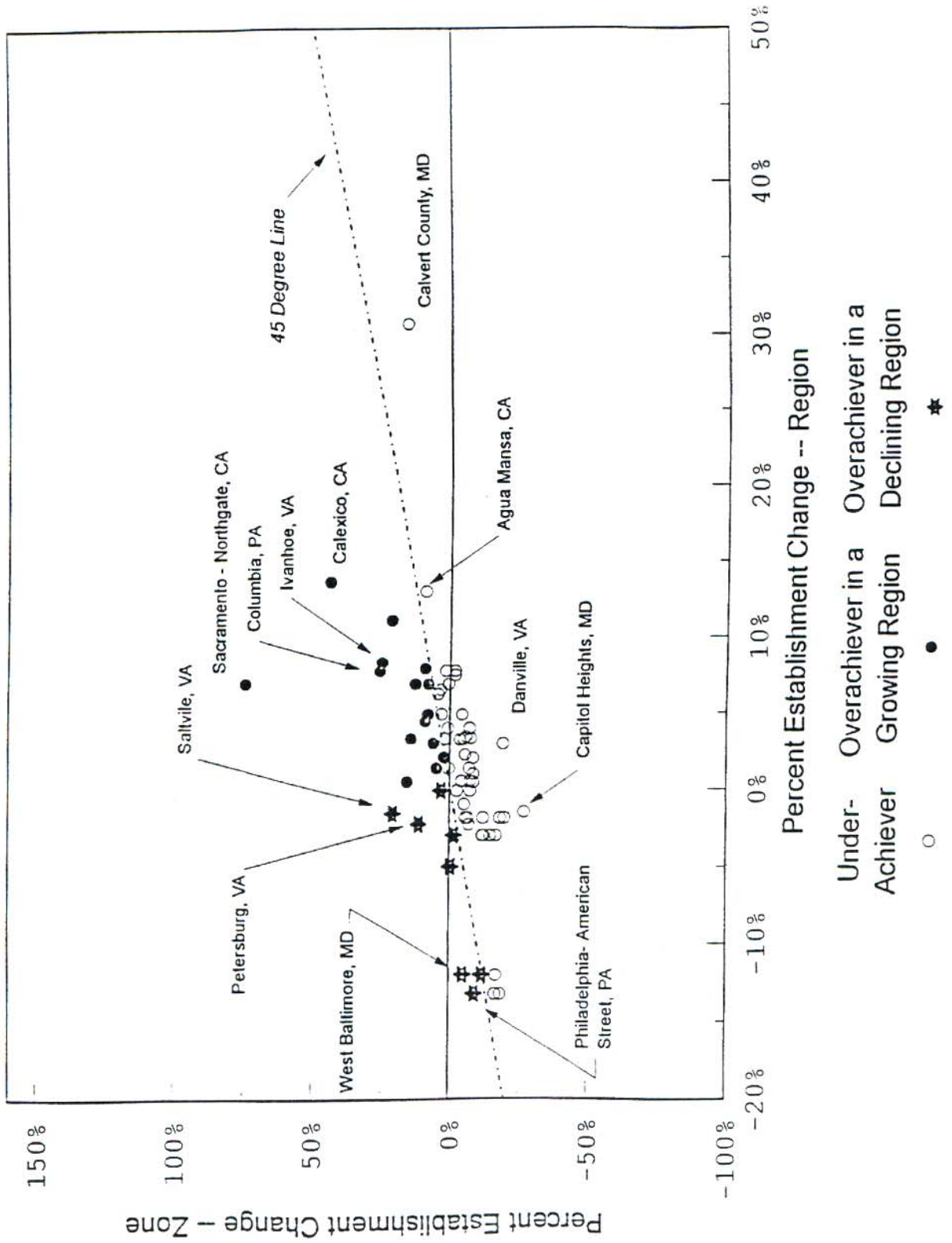
Sig. T for the regression coefficient = 0.0000
and for the constant = 0.2167

Where

$ZEST_{1986-1990}$: Percent change of establishment in the zone
between 1986 and 1990

$REST_{1986-1990}$: Percent change of establishment in the region
between 1986 and 1990

Figure 5.2 1986-1990 Business Establishment Changes: Enterprise Zones vs. their Regions



Under-Achiever
 Overachiever
 Growing Region
 Declining Region

The regression coefficient is 1.21 and is statistically significant. This means that the zone percent change moves faster than that of the region. From the coefficient of determination (R^2), about 30 percent of the variability in the growth rate of zone establishment can be explained by changes in the region. Though the intercept is negative, it is not significantly different from 0, implying that there is no difference between the zone and the region at origin.

While the growth rate of businesses in the zones followed that of the region, there are some outliers. In particular, zones like Capitol Heights (MD), Danville (VA) and Portsmouth (VA) lagged the region more than 18 percent. On the other hand, some zones outperformed the region significantly. Sacramento-Northgate (CA) had a growth rate 67 percent higher than the growth of the region, while the Calexico (CA), Columbia (PA), Marcus Hook (PA), Carroll County and Ivanhoe (VA), and Saltville (VA) enterprise zones experienced a growth rate at least 15 percent higher than that of their regions.

The two preceding graphs demonstrate a concrete positive association in employment and business establishment growth between zones and their regions. This study did not however set out to prove that enterprise zone performance is conditioned by regional economies. Rather, it seeks to identify other determinants, after controlling for regional effects. As such, the preceding analysis indicates that some adjustments have to be made in employment and establishment measures to factor out the regional effect. In the subsequent performance analysis, zone performance will be measured as the difference in percent changes in employment and business establishment between each zone and its corresponding region.

These two performance indicators will be labeled as Zone Employment

Differential (ZWD) and Zone Establishment Differential (ZED). They are defined as follows:

$$ZWD = ZJOB_{1986-1990} - RJOB_{1986-1990}$$

Zone Employment Differential is the difference in percent change of employment of the zone and that of the region between 1986 and 1990

$$ZED = ZEST_{1986-1990} - REST_{1986-1990}$$

Zone Establishment Differential is the difference in percent change of establishment of the zone and that of the region between 1986 and 1990

The next concern is whether these two indicators are correlated with the regional growth rate, because if they are, there should be no difference in using either the differentials, the growth rate of the region, or of the zone. The correlation coefficient for ZWD and $RJOB_{1986-1990}$ is 0.0591, with a significance level of 0.316. The coefficient for ZED and $ZEST_{1986-1990}$ is 0.0563, with a significance level of 0.324. In other words, the differential indicators are independent of the percent changes of the region. Therefore, they really reflect the performance of the zone in terms of how much zones work better or worse than their respective regions in terms of percent changes in employment and establishment.

5.4 Typology Analysis

This section explores whether there are variations in zone performance according to different zone characteristics. These characteristics are grouped into two types: nonprogrammatic and programmatic ones.

Nonprogrammatic characteristics are those associated with the location and the size of the enterprise zone community, including the region and state in which zone is located, and whether the zone is located in a metropolitan setting or an inner city. Programmatic characteristics are those related with economic development programs including the enterprise zone program. Enterprise zones are grouped according to whether a

particular economic development tool is offered, and by the two typologies discussed in Chapter 3.

Nonprogrammatic Factors

This section reports bivariate analyses of how location and size variables affect two performance indicators (ZWD and ZED), using T-test, ANOVA and bivariate regression methods. Table 5.7 summarizes the results of these statistical tests on Zone Employment Differentials.

Table 5.7 Effects of Selected Classifying Variables on ZWD

Classifying Variables	Statistical Test	Statistics	Conclusion
COAST	T-test	Sig. T = 0.567	No difference
STATE	ANOVA	F Prob. = 0.961	No difference
URBAN	T-test	Sig. T = 0.709	No difference
INCITY	T-test	Sig. T = 0.347	No difference
WSIZE	Bivariate Regression	Adj. R ² = 0.073, B Coefficient = -0.0623 Sig. T = 0.015	Smaller zones have better performance

Dependent Variable: ZWD and number of cases = 68

Classifying Variables:

- COAST A binary variable with a value of 1 if the zone is in the mid-Atlantic region; 0 if otherwise.
- STATE A categorical variable with a value indicating which state the zone belongs to.
- URBAN A binary variable with a value of 1 if the zone is in a metropolitan area; 0 if otherwise.
- INCITY A binary variable with a value of 1 if the zone is in the inner city; 0 if otherwise.
- WSIZE: The 1986 total number of employment in the zone (in natural logarithm).

Zone Employment Differential (ZED) is not affected by whether the zone is located in the mid-Atlantic region. When zones are grouped by individual

state, ANOVA does not reveal any variations in ZWD by state. This implies that differences in state enterprise zone program structure do not have a systematic effect on zone performance. This is consistent with the observations in Chapter 4 that differences in state programs are random. Whether the zone is in a metropolitan area or in an inner city also has no impact on ZWD. However, initial zone employment is negatively associated with ZWD. This interesting observation can be seen as a spontaneity problem of the two variables, as the calculation of ZWD does include WSIZE. However, when WSIZE is small relative to the employment in the region, this should not be a major problem. Another explanation (which seems to be supported by the following case studies) is that smaller zones receive greater attention from zone administrators. Also, since resources devoted to any zone are limited, the impact of economic development efforts is more conspicuous in small zones than in big ones. Given limitations on time and effort to promote zone benefits, zone administrations can only reach out to a limited number of firms. Finally, smaller zones tend to be located in small communities where the business community is more socially connected with the public sector, and where the permitting and licensing procedures are simpler.

Table 5.8 presents the results on Zone Establishment Differential (ZED). Factors of state, region, and inner city have not affected zone performance. However, the finding that there was an absence of state effect differs from the conclusions of Erickson and Friedman (1990b) that Pennsylvania zones had better performance. The discrepancy may lie in the different time period and in the different performance indicators used in their studies. For instance, Erickson and Friedman covered a period between 1983 and 1987 and measured performance in the reported

Table 5.8 Effects of Selected Classifying Variables on ZED

Classifying Variables	Statistical Test	Statistics	Conclusion
COAST	T-test	Sig. T = 0.205	No difference
STATE	ANOVA	F Prob. = 0.272	No difference
URBAN	T-test	Sig. T = 0.058	Rural Zones have better performance
INCITY	T-test	Sig. T = 0.983	No difference
ESIZE	Bivariate Regression	Adj. R ² = 0.140, B Coefficient = -0.0492 Sig. T = 0.001	Smaller zones have better performance

Dependent Variable: ZED and number of cases = 68

Classifying Variables:

- COAST A binary variable with a value of 1 if the zone is in the Mid-Atlantic region; 0 if otherwise.
- STATE A categorical variable with a value indicating which state the zone belongs to.
- URBAN A binary variable with a value of 1 if the zone is in a metropolitan area; 0 if otherwise.
- INCITY A binary variable with a value of 1 if the zone is in the inner city; 0 if otherwise.
- ESIZE: The 1986 total number of establishment in the zone (in natural logarithm).

number of firms investing in the zone by local zone administrators. Also similar to the ZWD results is that zones with fewer number of establishment fair better. However, zones outside the metropolitan area have a higher ZED than those within. This observation is in line with the deindustrialization trend in major metropolitan regions and the preference of newer and cleaner industries to locate in smaller communities. Another possible explanation is that metropolitan enterprise zones are competing with other more favorable locations within the same region. Outside the metropolitan area, enterprise zones tend to occupy the best industrial location within a rural region.

Programmatic Factors

This section examines how program-related characteristics may affect zone performance. It focuses on three areas: the age of the program, the effect of individual economic development tools, and the types of enterprise zone programs as defined by the typologies developed in Chapter 3.

There are two competing arguments concerning the effect of the age of the enterprise zone program. One view postulates that established zones have higher a chance of success, because a program needs time to mature, and it takes time for businesses to understand and capitalize on zone benefits. Another view is that late-comers can learn from the experience of older zones and adopt the most suitable program design. Relating to this view are findings that the maximum impact on business promotion tends to occur around the time of zone designation when publicity is high and the business community and the public sector has the best working relationship. Table 5.9 presents the statistical results of the ANOVA and bivariate regression tests. Both in terms of employment and establishment, regression analysis suggests better performance by newer zones, though the statistical significance is weaker in the employment model. However, the age variable is not strictly an interval variable. When considered as an ordinal measure, a different test, ANOVA, reveals no difference in either performance indicator according to program age. In short, there is some slight evidence that younger zones seem to work better, but since program age does not consider the effects of preexisting programs nor measure the actual institutional learning process, the result should be interpreted carefully.

Table 5.9 Effects of Program Age on Enterprise Zone Performance

Statistical Test	Statistics	Conclusion
<i>A. ZWD</i>		
ANOVA	F Prob. = 0.269	No difference
Bivariate Regression	Adj. R2 = 0.038 B Coefficient = -0.0487 Sig. T = 0.060	Younger zones have better performance
<i>B. ZED</i>		
ANOVA	F Prob. = 0.260	No difference
Bivariate Regression	Adj. R2 = 0.056 B Coefficient = -0.0273 Sig. T = 0.029	Younger zones have better performance

The Classifying variable, AGE, is defined in two ways. As an interval measure, it is the age of the program in 1990; as an ordinal measure, it takes a value indicating which year the program was established.

Number of Cases: 68

The effects of individual economic development tools were analyzed by a series of T-tests under which zones were grouped according to whether a particular tool was offered or not. From the local enterprise zone survey, I identified 43 tools, and each was represented by a dummy variable with a value of 0 or 1, where 1 represented the presence of the tool. Detailed results are not reported here because only two variables turned out to affect zone performance, and the effect was counter-intuitive. These were that land acquisition and zoning relief were found to have a negative impact on ZWD. In terms of ZED, no tools were found to have an impact. All tools that zone administrators deemed to be important, such as infrastructure improvement, low-interest loans, and technical assistance, were found not to affect zone performance. The findings of this disaggregated analysis suggest that the hypothesis developed in Chapter 3 about the usefulness of identifying individual tools in performance analysis is not validated. It appears that no

single economic development instrument is crucial. Also whether the instrument orients toward the traditional mode or the the pure enterprise makes no difference in zone performance. One reason may be that the majority of zones are hybrids, so such a distinction has been blurred.

The next step is to test whether a particular type of enterprise zone works better than any other. In the program structure typology developed in Chapter 3 (see Table 3.2), zones are classified by two factors: the number of interventionist or traditional economic development tools, and the number of noninterventionist or enterprise zone components. Four types of zones can be constructed: a pure enterprise zone (using a below-average number of interventionist instruments but an above-average number of noninterventionist instruments); a hybrid zone (using an above-average number of both interventionist and noninterventionist instruments); a minimalist zone (using a below-average number of both types of instruments); and an interventionist zone (using an above-average number of interventionist instruments but a below-average number of noninterventionist instruments).

To operationalize the typology, two classifying variables were developed, EXEMPT and DASS. These are defined below as follows:

EXEMPT: The count of enterprise zone benefits that are classified as noninterventionist, including all types of tax incentives and regulatory relief (see Table 4.11 for a list).

DASS: The count of traditional economic development instruments classified as interventionist, including efforts requiring the active involvement by the public sector (see Table 4.12 for a list).

A bivariate regression analysis shows no strong correlation between EXEMPT and DASS, as the adjusted R^2 is 0.04 with a significant F of 0.095. Therefore, each variable represents a discrete dimension of the

program. (It should be noted that the counts of development instruments is a crude measure that does not consider implementation intensity or strength of public-private partnerships. These will be examined later in the second typology analysis.) Based on the standardized scores (Z scores) for both EXEMPT and DASS, zones were classified according to the four program structure types (see Table 5.10). About 9 percent of the zones can be labeled as pure enterprise zones, while about three-quarters of the zones can be classified either as interventionist or hybrid.

Table 5.10 Distribution of Enterprise Zones by Program Structure

Program Structure Types	Number	Percent	Examples
Minimalist Zone	13	28.3	Sacramento-Northgate (CA), Frostburg (MD), Bethlehem (PA), Saltville (VA)
Interventionist Zone	13	28.3	Hagerstown (MD), Jeannette (PA), Danville (VA)
Hybrid Zone	16	34.8	Agua Mansa (CA), Cumberland (MD), Lancaster (PA), Norfolk (VA)
Pure Enterprise Zone	4	8.7	San Diego (CA), Chesapeake (VA), Portsmouth (VA)
Total	46	100.0	

Sources: 1994 Local Enterprise Zone Survey
Total is rounded to 100.

The ANOVA test indicates that employment and business establishment indicators differ among the four types of zones, though the effect on ZED is weaker. To locate which type or types of zone differ, a regression test incorporating dummy variables to represent the types of zones was conducted. The minimalist enterprise zones outperformed other types of

zones in both the ZWD and ZED models (Table 5.11).

Table 5.11 Enterprise Zone Performance by Types of Program Structure

Classifying Variables	Statistical Test	Statistics	Conclusion
<i>A. ZWD Model</i>			
SRTYPE	ANOVA	F. Prob. = 0.005	ZWD differs among zone types
SRTPA, SRTPB, SRTPC, SRTPD	Stepwise Regression	Adj. R ² = 0.2208 B Coefficient = 0.3161 Sig. T. = 0.0006	Only SRTPA enters equation; ZWD of minimalist zones 31 percent higher than other zone types *
<i>B. ZED Model</i>			
SRTYPE	ANOVA	F. Prob. = 0.094	ZED differs marginally among the four types of zones
SRTPA, SRTPB, SRTPC, SRTPD	Stepwise Regression	Adj. R ² = 0.1053 B Coefficient = 0.106 Sig. T. = 0.0159	Only SRTPA enters equation; ZED of minimalist zones ten percent higher than other zone types *

Classifying Variables:

SRTYPE	A categorical variable indicating the program structure type
SRTPA	A dummy variable with a value of 1 if the zone is a minimalist zone; 0 if otherwise
SRTPB	A dummy variable with a value of 1 if the zone is an interventionist enterprise zone; 0 if otherwise
SRTPC	A dummy variable with a value of 1 if the zone is a hybrid enterprise zone; 0 if otherwise
SRTPD	A dummy variable with a value of 1 if the zone is a pure enterprise zone; 0 if otherwise

Number of Cases = 46

* Omitting any one of the dummy variables as the baseline equation gets the same result

The results in Table 5.11 were particularly robust for the ZWD model, because sensitive tests that recategorized zones at the margin yielded the same result. This finding implies that whether the tools used are interventionist or not does not matter. Rather, the smaller the number of tools used, the better the performance. One possible explanation for this finding may be that distressed zones tend to respond to their situation by establishing more economic development programs. The same phenomenon has been noted by a study of state economic development programs (Bradshaw et al., 1992). This finding is, however, not entirely consistent with that of Elling and Sheldon (1991). They reported that in some regression model specifications, the number of direct and indirect tax-savings provisions and interventionist services had a positive impact on the number of firms receiving zone benefits. The difference in these findings may be the result of using different performance indicators.

That the number of program components has more effect on zone performance than the type of components raises the possibility of program intensity as an important determining factor. The program intensity typology developed in Chapter 3 classifies zones by two factors: the intensity of public-private partnerships and program implementation, and the total number of economic development instruments offered, regardless of the nature of the instrument (see Table 3.3). Zones were grouped into four categories: self-moving zones (where both the program intensity and the number of instruments are below average); passive complex zones (those with below-average program intensity but with an above-average number of instruments); activist zones (where both program intensity and the number of instruments are above average); and active simple zones (with above-average program intensity but using below-average number of instruments).

The program intensity typology was operationalized by two variables:

PARTA and DEVTOOL as defined below:

PARTA: An index measuring the strength of contacts between the zone administration with ten private and public entities. It is a weighted average of the scores that measures the frequency of contacts, and it ranges between 0 and 22.4 (see Question 27 of the mail survey in Appendix 3 for the original measurements).

DEVTOOL The count of all types of economic development instruments offered in the enterprise zone.

The choice of PARTA to capture program intensity deserves some explanation, since a number of variables can be used to measure program intensity. These include staff time, economic-development expenditure, staff expertise, amount of zone materials prepared, intensity of outreach effort, and strength of public-private partnerships (see Table 4.14 to 4.20 for these measures). Several composite indices were developed by adding up the standardized scores of these variables, but these were found to be correlated with DEVTOOL. A factor analysis was conducted and showed that these variables were highly correlated with one another. PARTA was selected because it had the lowest correlation with DEVTOOL (Adjusted R^2 of 0.098 though the significant F is 0.019). Using the standardized scores for these two variables, zones were grouped into four program intensity types (see Table 5.12). There is no systematic pattern in the distribution except that active simple zones were the smallest group, and nearly all of them are in Pennsylvania (but not all zones in Pennsylvania are characterized as active simple).

Table 5.12 Distribution of Enterprise Zones by Program Intensity

Program Intensity Types	Number	Percent	Examples
Self-Moving Zone	15	32.6	Bakersfield (CA), Frostburg (MD), Jeannette (PA), Hopewell (VA)
Passive Complex Zone	10	21.8	Porterville (CA), Cumberland (MD), Danville (VA)
Activist Zone	15	32.6	Fresno (CA), Accident (MD), Harrisburg (PA), South Hill (VA)
Active Simple Zone	6	13.0	Sacramento-Northgate (CA), Pottsville (PA), Braddock (PA)
Total	46	100.0	

Sources: 1994 Local Enterprise Zone Survey

ANOVA tests further showed that ZWD differs among these four types of zones but ZED does not. A regression analysis using dummy variables indicated that active-simple zones outperformed other types of zones in both the ZWD and ZED model (Table 5.13). This finding is consistent with that from the program structure analysis: zones that use fewer economic development instrument work better. However, the regression analysis adds another dimension, which is that active program management is important. Interestingly, the program intensity effect does not occur in programs that use a large number of instruments. One might speculate that given limited staff resources, there is a limit to the ability of zone administration to handle an array of programs. In other words, if the economic development package is too complex, it becomes difficult to manage and market to business. Another way of thinking of it is that the quality of implementation matters more than the complexity of the program.

Table 5.13 Enterprise Zone Performance by Types of Program Intensity

Classifying Variables	Statistical Test	Statistics	Conclusion
<i>A. ZWD Model</i>			
PITYPE	ANOVA	F. Prob. = 0.009	ZWD differs among zone types
PITPA, PITPB, PITPC, PITPD	Stepwise Regression	Adj. R ² = 0.2173 B Coefficient = 0.420 Sig. T. = 0.0006	Only PITPD enters equation; ZWD of active-simple zones 42 percent higher than other zone types *
<i>B. ZED Model</i>			
PITYPE	ANOVA	F. Prob. = 0.1202	No ZED difference among the four types of zones
PITPA, PITPB, PITPC, PITPD	Stepwise Regression	Adj. R ² = 0.0879 B Coefficient = 0.1321 Sig. T. = 0.0257	Only PITPD enters equation; ZED of active-simple zones 13 percent higher than other zone types *

Classifying Variables:

PITYPE	A categorical variable indicating the program intensity type.
PITPA	A dummy variable with a value 1 if the zone is a self-moving zone; 0 if otherwise.
PITPB	A dummy variable with a value of 1 if the zone is a passive-complex enterprise zone; 0 if otherwise.
PITPC	A dummy variable with a value of 1 if the zone is an activist enterprise zone; 0 if otherwise.
PITPD	A dummy variable with a value of 1 if the zone is an active-simple enterprise zone; 0 if otherwise.

Number of Cases = 46

* Omitting any one of the dummy variables for the baseline equation gets the same result.

Summary

The findings from this section show that enterprise zones that are small in terms of the 1986 level of employment or number business establishments, that are locating outside metropolitan regions, that had their program established shortly before 1986, and where the program structure is simple with a small number of development instruments but a strong level of public-private partnerships and high implementation

intensity tend to have better performance. Second, no single economic development instrument was found to have predominant effect. In fact, zones with greater levels of distress tend to initiate more economic development programs. Third, the nature of the development instrument chosen seems to be unimportant. As a result, performance is not affected by whether a zone uses an interventionist or a non-interventionist approach as long as there is strong communication between the public and the businesses sectors. These conclusions should be considered as illustrative and not definitive because of some measurement imprecision. No matter how carefully the survey is designed, concepts such as program sophistication and implementation intensity cannot be fully or accurately quantified. Furthermore, the above analyses are partial, since they only examine one or two variables at a time. As outcomes of human activities are caused by interconnected events, zone performance must be affected by a multitude of factors. The next section will present the results of a more sophisticated analysis that examines a number of factors at the same time.

5.5 Multivariate Analysis

The multivariate analysis was conducted in three stages. The first stage established an analytical schematic to identify possible determinants of zone performance (see Chapter 3). The second stage operationalized the analytical schematic and built regression models. It first built a base model and then created extended models by adding programmatic variables. The third stage was experimental because it disaggregated the enterprise zone program into program components and added them to the base model to test whether explanatory power increased.

Model Operationalization

The multiple regression analysis focuses only on employment changes. It uses ZWD, the Zone Employment Differential, as the dependent variable. In other words, it measures zone performance as the extent to which zones outperform their respective regions in net employment change rates. Business establishment was not used as an independent variable because analysis of it has fewer practical implications, since most zones were less successful than their zones in retaining business between 1986 and 1990. On the other hand, employment is consistently the most important concern in a distressed community and a key objective of all enterprise zone program.

The analytical schematic developed in Chapter 3 identifies three groups of factors that may determine zone performance: regional conditions, initial zone conditions, and zone administration (see Figure 3.1). These groups include a substantial number of variables that can enter the regression model. Table 5.14 lists them according to major themes identified by a factor analysis. The use of factor analysis prior to the regression analysis has two advantages. First, it provides an understanding of the underlying themes of variables. The factor analysis summarizes eight themes: zone economic level relative to the region, zone labor quality relative to the region, regional labor quality, regional economic level, zone size and density, program intensity, program structure, and program marketing. Second, Table 5.14 identifies variables that measure the same attribute so as to be interchangeable with one another. This helps minimize multicollinearity problems in regression analysis by avoiding the selection of variables from the same theme.

Table 5.14 Summary of the Factor Analysis of Candidate Independent Variables

Factors	Candidate Variables
Relative Economic Level of the Zone	<p>Ratio between a zone and its region in terms of the following: 1979 poverty level, 1979 public assistance level, 1979 income level, 1980 unemployment rate, 1980 rate of non-white.</p> <p>Variables relating to the zone: 1979 income level, 1979 poverty level, 1979 public assistance level, 1980 nonwhite rate.</p>
Regional Labor Quality	<p>Variables relating to the region: 1980 rate of manual workers, 1980 rate of manufacturing workers, 1982 per-capita government expenditure, 1980 unemployment rate, 1985 crime rate, 1980 educational attainment, 1980 rate of nonmanagerial workers, 1979 public assistance rate.</p> <p>Variables relating to the zone: 1980 rate of manufacturing workers, 1980 rate of manual workers, 1980 unemployment rate.</p>
Relative Labor Quality of the Zone	<p>Ratio between a zone and its region in terms of the following: 1980 rate of manufacturing workers, 1980 rate of non-managerial workers, 1980 rate of manual workers, 1980 educational attainment.</p> <p>Variables relating to the region: Population growth between 1980 and 1986.</p> <p>Variables relating to the zone: 1980 educational attainment, 1980 rate of non-managerial workers.</p>
Regional Economic Level	<p>Variables relating to the region: 1979 income level, 1979 poverty level, 1982 per-capita property taxes, 1982 per-capita government taxes.</p>
Size and Density	<p>Variables relating to the zone: 1980 population, 1986 employment size, 1986 establishment size.</p> <p>Variables relating to the region: 1980 population, 1980 population density, metropolitan dummy.</p>
Program Intensity	<p>Weekly staff time, strength of public-private partnership, staff expertise.</p>
Program Structure	<p>Number of noninterventionist components, age of the zone, 1980-86 regional population migration rate, number of traditional economic development instruments, total number of program components.</p>
Program Marketing	<p>Intensity of outreach activities, number of records and publicity material for the program.</p>

Based on the factor analysis, three nonprogram-related variables were identified as possible determinants of zone performance. The first variable, ESIZE, captures the size effect which was found to be important earlier. It is measured by the total number of establishments in the zone in 1986. The variable is closely associated with urban effects, population size and density, and employment levels in both the zone and the region. To minimize endogenous relationships with the dependent variable, business establishment is used as an instrument variable to substitute for employment. The second variable, ECON, represents zone economic conditions relative to the region. It is operationalized by the ratio of the percent of nonwhite population between the zone and the region in 1980. Though measured in racial terms, it is actually a proxy measurement of income level, poverty, and unemployment. The third variable, RPIN, captures the labor quality and skill level in the zone relative to the region and overall population growth. It is operationalized as the absolute population growth of the region between 1980 and 1986. All these variables were measured in or prior to 1986 to avoid simultaneity effects with the dependent variable, which was measured in the period after 1986.

Three programmatic variables are also selected. Used in the program intensity typology as key classifying variables, PARTA and DEVTOOL are selected to capture program intensity and program sophistication, respectively. A new programmatic variable, OUTREACH, is added since the factor analysis separates it marginally from PARTA. OUTREACH is an estimate of the intensity of outreach activities. It is operationalized by the weighted average score of the frequency with which zone administrations reach out to market the program. While PARTA measures general activity level, OUTREACH focuses on contacts with individual businesses regarding the promotion of zone benefits.

In addition, dummy variables are created to represent land use within the zone and each of the economic development instruments provided in the enterprise zone. All these are binary variables that are assigned a value of 0 or 1 if the attribute is present or not. They are added to the extended model in the final stage of the multivariate analysis. The definitions of these variables are summarized in Table 5.15 below.

Table 5.15 Summary of Variable Definitions

Variables	Definitions
ZWD	$ZJOB_{1986-1990} - RJOB_{1986-1990}$ The difference in percent change of employment of the zone and that of the region between 1986 and 1990.
RPIN	Population change of the region between 1986 and 1990 (in 10,000).
ECON	1980 percent of nonwhite in the zone ÷ 1980 percent of nonwhite in the region.
ESIZE	1986 total number of establishments in the zone (in 100).
PARTA	Intensity of public-private participation as measured by a weighed average score of frequency in contacting ten private and public entities.
DEVTOOL	Total number of economic development instruments.
OUTREACH	Intensity of outreach activities as measured by a weighed average score of the frequency in conducting marketing and publicity activities to promote the program.

The regression model is specified in two functional forms that can be estimated with OLS techniques. Equation (1) represents the base model that estimates zone performance in terms of the general conditions of the zone and the region. Equation (2) adds two types of programmatic variables into the model, where $PROGRAM_i$ represents any combination of PARTA, DEVTOOL, and OUTREACH and $DUMMY_j$ is an array of dummy variables

representing individual program elements and land use within the zone.

$$ZWD = b_0 + b_1ESIZE + b_2ECON + b_3RPIN \quad (1)$$

$$ZWD = b_0 + b_1ESIZE + b_2ECON + b_3RPIN + b_{4i}PROGRAM_i + b_{5j}DUMMY_j \quad (2)$$

Results of the Regression Models

Table 5.16 presents the results of the base model. Excluding programmatic variables, the model ascertains hypothetical employment growth relative to the region in the absence of program intervention. The three independent variables, *ESIZE*, *ECON* and *RPIN*, are found to hold significant influence on zone performance. In combination, they explain about one quarter of the variation in the Zone Employment Differentials. Consistent with previous results, size is the most important predictor of whether employment change in the zone is faster than the region. That smaller zones have better performance can be explained by the better business climate and simpler regulatory environment in small zones, which are also commonly found in small communities. Population growth within the region also has a positive impact because it broadly reflects an upward trend of the regional economy, which helps stimulate market demand in the zone.

The economic conditions of the zone relative to the region, however, has a negative effect on performance. Though operationalized by the ratio of the rate of the nonwhite population between the zone and the region, *ECON* captures initial zone economic conditions such as income, poverty, and unemployment. The results indicate that zones that are economically worse off than the region initially have more difficulty in subsequent employment generation. Some minor variations in the specification of this model have also been made. For instance, a log specification for *ESIZE* and *RPIN* was used. Also, *RPIN* was found to be substitutable by

variables that measure levels of labor quality and skill of the zone relative to the region. Since these alternative specifications did not improve the overall model performance, they are not reported here.

Table 5.16 Regression Results of the Base Model

Variable	Coefficient	SE	Beta	Probability	
Constant	.358	.088			N = 46
ESIZE	-.027	.008	-.592	.0017	Adjusted R ² = .253
ECON	-.079	.030	-.352	.0113	F = 6.08
RPIN	.007	.003	.368	.0470	Signif. F = .0016

The extended model tests how the statistical results improve by adding various programmatic variables. The first specification, the comprehensive model, is reported in Table 5.17. It includes all three programmatic variables, and it increases explanatory power of 25 percent in the base model to 40 percent. All three variables in the base model retain its anticipated signs. The intensity of public-private partnerships has a definite positive effect on zone performance, while the total number of economic development instruments has a negative effect on zone performance. This result was arrived at earlier in the program intensity typology analysis, and it still holds even after other zone and regional conditions are controlled. The effect of outreach activities is positive but it is not statistically significant because there may be a multicollinearity problem with the public-private participation variable. Since it is counter-intuitive to conclude that economic development programs hurt employment, the plausible explanation is that the most distressed zones simply adopt more programs.

Table 5.17 Regression Results of the Comprehensive Model

Variable	Coefficient	SE	Beta	Probability	
Constant	.571	.142			
ESIZE	-.026	.008	-.570	.0021	N = 46
ECON	-.101	.029	-.448	.0013	Adjusted R ² = .396
RPIN	.009	.003	.411	.0169	F = 5.91
PARTA	.020	.008	.417	.0110	Signif. F = .0002
DEVTOOL	-.021	.009	-.323	.0288	
OUTREACH	.000	.007	.017	.9195	

The statistical results of the second extended model (the best fitting model) is reported in Table 5.18. It excludes DEVTOOL and OUTREACH. Though the total explanatory power decreases from 40 to 34 percent, all variables are statistically significant and no counter-intuitive signs occur. The key finding of this model is that program implementation intensity has a positive effect on zone performance. This effect occurs when initial conditions within the zone and the region have been held constant.

Table 5.18 Regression Results of the Best-Fitting Model

Variable	Coefficient	SE	Beta	Probability	
Constant	.312	.084			
ESIZE	-.031	.008	-.678	.0002	N = 46
ECON	-.104	.029	-.460	.0011	Adjusted R ² = .344
RPIN	.008	.004	.382	.0286	F = 6.91
PARTA	.017	.006	.339	.0124	Signif. F = .0002

Other model specifications were tested by adding dummy variables to the base model. These dummy variables represent individual program elements and the land use within the zone. Only two of the program elements, no-condition property-tax abatement and business response team, show a positive sign. However, in each case there is only one zone using these instrument, so the result should be considered unreliable. Under different model specifications, some dummy variables, such as sales-tax abatement, zoning relief, preferential access to other programs, utility-tax abatement, land acquisition, and site preparation, have negative effects. Two types of land uses -- downtown enterprise zone and transportation, warehouse or wholesale -- show a positive sign. However, given only two cases of the former and one case of the latter, the results may reflect outlier effects. In short, like the earlier simple T-tests, disaggregated analysis of program elements does not turn out to present important reliable findings.

5.6 Conclusion

This chapter uses different types of statistical tests to study zone performance. It finds that growth in employment or business establishment in enterprise zones is strongly associated with the growth of these two factor in the zones' corresponding regions. Therefore, the study adopted an alternative means of measuring zone performance by the employment and establishment differentials between the zone and the region. Several general conclusions are confirmed by the different tests in this chapter. First, location by coast and state has little effect on zone performance. Second, smaller zones (commonly, but not always, found outside metropolitan areas) have better performance. Third, initial socioeconomic conditions within the zone and the region are important determinants of later zone performance. This further substantiates the

argument that locational advantages play a crucial role in zone performance. Fourth, despite the fact that zone performance is controlled by regional and local factors, intense program implementation involving active public-private participation improves zone performance. Fifth, complexity in program structure and the nature of individual program elements have no effect on zone performance. Finally, simple but active programs seem to be the most effective. This finding is consistent with what zone administrators reported in the mail survey -- that a successful program requires a focus on the quality of administration rather than the quantity programs offer.

However, the preceding statistical analysis based on survey data and secondary information must be presented with caution. The picture it portrays may be fairly accurate in broad terms, but it is limited when it comes to discovering the unique factors of success or failure present in individual case. In particular, targeting the survey to zone administrators may result in excluding economic development activities outside the purview of zone administration. Furthermore, quantitative data cannot capture quality issues, such as the way a particular program is administered and the quality of communication between businesses and the public sector. Some of these gaps will be addressed by the three case studies in the next chapter.

6. CASE STUDIES OF ENTERPRISE ZONES

This chapter reports the findings of three case studies of enterprise zones: Frostburg (MD), Jeannette (PA), and Sacramento-Northgate (CA). The intent of the case studies go beyond the scope of the local enterprise zone survey and the statistical analyses reported in previous two chapters. The case studies allow assessment of economic development activities and program implementation with a great degree of empirical vigor. They use multiple research methods such as site visits and observations, interviews with zone administrators and business operators, and secondary data analysis. The case studies examine the possible existence of local and regional factors in the changes in employment and business establishment within the selected zones; they allow analysis of program operations and other concurrent economic development programs; and they address the following questions:

- a) What common factors affect the local economies of these zones?
- b) Does program structure in terms of the nature and number of economic development instruments matter?
- c) What kind of implementation style is more effective to attract business?
- d) Does enterprise zone status improve social conditions in a community?

The chapter first outlines the case study selection process and the general background of the three zones chosen. For each case, it explains the local historical development pattern, the establishment of the enterprise zone program, and the program structure and implementation. The chapter then examines various economic growth factors that affect

each locality, and assesses the effectiveness of the economic development activities. Finally, the chapter makes a comparison between the cases and offers generalizations and inferences.

6.1 Case Selection and Background

The three enterprise zones were selected according to their pattern of employment and business establishment growth. All outperformed their respective regions in both employment and business establishment growth during the 1986-1990 period. However, in Frostburg and Sacramento-Northgate such growth was exceptional and deserves careful study. Jeannette was selected as the third case to provide a contrast to the first two because its growth was only marginally higher than that of its surrounding region.

Table 6.1 summarizes some key characteristics of the three zones. Though all suffered from unemployment and poverty, each has followed a different pattern of development. Frostburg has been transformed from a declining mining town into a college town; Jeannette is still responding to its recent industrial restructuring; while Sacramento-Northgate is booming. The enterprise zone program in each area differs in terms of location and land-use configurations. The Frostburg zone includes the main street, and an industrial park and shopping plaza outside the city proper. The Jeannette zone includes all derelict commercial and industrial areas and distressed residential neighborhoods in the city. The Sacramento-Northgate zone covers several newly developed industrial parks at the northern edge of the city and sits next to a blighted neighborhood.

Table 6.1 Characteristics of the Three Selected Enterprise Zones

Dimensions	Frostburg	Jeannette	Northgate
Impetus for Enterprise Zone	Lack of employment opportunities	Plant closure and layoff	Unemployment and poverty in the related HDUAs *
Major Land Use of the Zone	Industrial park, shopping plaza and main street	Derelict factory sites, main street, and distressed residential neighborhoods	Industrial parks, wholesale, warehouse and distribution facilities
Regional Economy	Fair	Stagnant	Robust
Community Setting	College town	Old industrial town	Metropolitan area
City Population (1990)	8,000	11,000	369,000
Ethnic Composition	Homogeneous	Homogeneous	Diverse
Education Level	Medium	Low	Medium

* High Density Unemployment Area

The economy of the regions in which the case study zones were situated differs too. In the late eighties, the region around Frostburg had a moderate growth rate, while the Jeannette region was completely stagnant. In contrast, the Sacramento region had a very robust growth rate. Both Frostburg and Sacramento have since outperformed the region by over 50 percent in employment and business establishment growth. In contrast, Jeannette's growth has mirrored that of its region, with the exception that it has a relatively high growth rate in small-size establishments. The disparity in the regional and local growth patterns provides a good comparative setting to examine local effects and program impacts.

6.2 Frostburg -- The College Town

Background

Frostburg (MD) lies in the Appalachian Mountains, approximately 150 miles west of Baltimore. Its 1990 population was around 8,000. Major settlement started in the early nineteenth century when coal was found in the region. In 1900, when the national highway linking Ohio and Maryland was completed, Frostburg became a market town along this major east-west mountain crossing. Lying along this highway, Frostburg's Main Street had enjoyed a buoyant business climate until a new Interstate highway was opened south of the city. Coal mining industry in Frostburg reached its peak in the 1910s. It declined after the Great Depression and never recovered. Current production (all from shaft mines) is about 3 percent of its peak level.

The decline of its industrial base made Frostburg susceptible to economic changes in the region, which is dominated by Cumberland, an industrial city twelve miles to the east.¹ Despite post-World War II industrial development around Cumberland, the region shares unfavorable conditions common in the Appalachians -- remoteness, erosion of the manufacturing base, and the absence of new economic activities. In comparison to the average condition of Maryland, the region has long-standing poverty and persistently high unemployment. The recession in the early eighties hit the region hard. During this time, unemployment in Allegany County rose to 13 percent as a result of layoffs and plant closures in Cumberland. The impact was severe in Frostburg. In 1979, Frostburg's median

¹ Cumberland, a city with a population of 26,000 in 1980, commands a pivotal position at a crossroads between Pennsylvania, West Virginia, and the western and eastern parts of Maryland. Because of its strategic location, it became an industrial center for the plastic, tire, and glass industries in the post-World War II years.

household income was about 88 percent of the county average, and about one-sixth of its households lived below the poverty line. In 1982, Frostburg's unemployment rate had surpassed that of the county. In the same year some neighborhoods in Frostburg were experiencing a 17 percent unemployment rate. The two main commercial areas, the Main Street and the shopping plaza east of the city, suffered huge losses in business.

Despite these difficulties, some unique factors made Frostburg less vulnerable than Cumberland. Most important was the shift of economic base in the city. Once a declining mining town, Frostburg was in the process of changing into a college town. Since the late sixties, a local teaching institute has been expanded into a full-fledged university. By 1975, Frostburg State University had 3,000 students and a staff of over 700 employees. Then, during the mid-eighties, the university underwent another expansion that doubled its size. At present, Frostburg has firmly established its economic base in higher education and is less affected by the ups and downs of the regional economy.

Frostburg enjoys other distinct locational advantages too. Because its deindustrialization occurred years ago, most of the environmental degradation around the town has been restored. In comparison to Cumberland, Frostburg is relatively pollution-free, and there is a lack of eyesores such as derelict industrial plants. The town is in a scenic area with close proximity to state forest reserves and tourist attractions. The golf course, country club, and university campus provide a pleasant, and green backdrop to the south of the city. In short, Frostburg is a peaceful small town that is well-maintained and safe. Nearly completely destroyed by a 1902 fire, the city was rebuilt with a dynamic and modern architectural style. Frostburg has several historical resources such as coal mining sites, steam rail, an historical

rail station, and several hotels and churches listed in the National Historical Register.

In terms of business connections, highway accessibility to Frostburg is good. The city is well connected by two arteries (one of them an upgraded four-lane thoroughfare) to the Interstate highway intersections a mile south. Interstate 68 links the city to the Washington-Baltimore region to the east and the Ohio Basin to the west. Old U.S. Route 40 runs through the city in a east-west direction and connects with Cumberland. State Route 936 links the city to Pennsylvania and West Virginia in a north-south direction.

Frostburg is an ethnically homogeneous community. 98 percent of its population are white, dominated largely by German, English, Irish and Welsh descendants. Its residents inherit a legacy of miner solidarity that puts emphasis on mutual help, neighborhood involvement, and community pride.² Education and skill levels are relatively high. In 1980, 62 percent of persons 25 years or older had an educational attainment of at least high school graduation level -- a rate much higher than that of the region, but similar to that within the state of Maryland. The majority of its residents were engaged in white-collar and professional jobs: 33 percent of employed workers were in professional services, and only 18 percent in manufacturing. In terms of skill, 23 percent of Frostburg's workers held managerial or specialty positions, while the regional rate was 20 percent.

² During my visit to Frostburg, various residents reminded me that the old school system was supported by miners' private contributions; swimming pools and playgrounds were constructed by volunteers; and there were many community events. All expressed a strong sense of self-respect in their community.

The Enterprise Zone Program Structure

In 1984, suffering from severe recession, Frostburg and Allegany County jointly applied for enterprise zone status from Maryland. In June of the same year, Frostburg was designated as an enterprise zone. The zone is now 110 acres in area and consists of three loosely connected areas: the Frostburg Industrial park, the Frostburg Shopping Plaza, and the Main Street commercial strip. Basically, it covers almost all the commercial and industrial areas within the city boundary.

The enterprise zone program provides two tax incentives. The first is a one-time state income-tax credit of \$500 for each new and full-time job created. If the job is taken by a certified economically disadvantaged person, the employer receives an additional three-year tax credit in the total amount of \$3,000. Under the second tax incentive, companies within the zone obtain a ten-year property tax credit pegged to a decreasing scale. The state also provides special financing options to businesses within the zone, such as state-supported low-interest loans and loan-guarantee programs for industrial development or economic redevelopment projects.

Frostburg's city administration has only six full-time staff members (excluding laborers, public works employees, and police). There is no separate enterprise zone management structure. Officially, there is only one staff member responsible for the enterprise zone. This person who has other duties, spends about two hours per week specifically on the zone. However, since the zone includes all private businesses in the town, it is difficult to draw a distinction between this person's routine city-wide business-development duties and his duties administering the enterprise zone program. In fact, the mayor, the city administrator, and the development coordinator are all actively involved in all types of

activities related to the development of private business. Furthermore, the county plays a very important role in economic development, because it operates and owns the only industrial park in Frostburg.

In a town with about two hundred businesses, nearly everyone in the business community knows each other. The contact between the city and private business is flexible, personal and informal. During my visit, I observed very cordial relationships between city staff members and business operators, and found that the city and county officials are active in reaching out to businesses, especially by providing information and technical assistance. As these contacts are seldom through a formalized structure, the local enterprise zone survey failed to measure their full intensity. As such, according to the classifications developed in Chapter 3, Frostburg's enterprise zone program is labeled minimalist and self-moving. This characterization may underestimate the true intensity of public-private partnerships observed in the case study.

Economic Development Activities

Though classified as using a minimalist structure, my case study survey actually indicated that the Frostburg program is more akin to the traditional economic development model. Prior to the zone designation, Frostburg had several economic development projects in place. Combining federal Small Business Administration (SBA) and CDBG resources, it had initiated a Main Street revitalization project. And working in conjunction with the county, Frostburg had developed an industrial park in 1977. It had also prepared a business development strategy, outlining three areas of action: Main Street revitalization, business promotion and retention, and tourism development.

City officials stated that the zone designation was important as a

marketing tool for the locality. Yet, because they considered its tax incentives to be insufficient, they actively cooperated with county and state agencies to develop other public-private partnership projects. Maryland has already set up several such programs: the Maryland Industrial and Commercial Redevelopment Fund, the Maryland Industrial Land Act loan program, and the Enterprise Zone Venture Capital Guarantee Fund. At the county level, the Tri-County Council Revolving Loan Program also provides matching low-interest loans to new and expanding companies in western Maryland. The Cumberland-Allegany County Industrial Development Foundation also supports historical conservation and tourism development in the region.

In interviews with me, local officials explained the importance of spending public money on economic development projects. One economic development official explicitly stated that in the current competitive environment, "corporate welfare" was necessary to lure business. Especially at the county level, the public sector had created a favorable business climate in Frostburg by co-investing in development in the form of infrastructure improvements, site preparation, and financial incentives. Another interviewee indicated that the art of business development was to develop public-private partnerships in such a way that the business partner felt that the public sector had a stake in the project and was willing to assist.

Two projects may illustrate the entrepreneurial spirit of city officials in Frostburg. In these projects, several public-sector agencies worked in a coordinated fashion. The first project was the retention and expansion of the Hunter Douglas company in the Frostburg Industrial Park. The park was established jointly by the city and the county in the seventies. Though within the city boundary, the park is owned by the

county, as it was developed under the support of the Appalachian Regional Commission. The park occupies a visible site adjacent to an Interstate 68 interchange. It is on scenic high ground facing a golf course, and it is surrounded by woodland. Yet, despite its favorable location, the park remained vacant until a major breakthrough occurred in the mid-eighties. The breakthrough came when the owner of a small window-blind factory was attracted to the area because he wanted to find a way to hire workers who had previously been laid off. He finally moved his plant to an improved shell building at the industrial park. After moving to Frostburg, he expanded his business rapidly and increased its original workforce from twenty to nearly one hundred. Its success finally prompted its competitor, Hunter Douglas, a Dutch-based multinational firm, to buy it out. Knowing that Hunter Douglas intended to close the plant after taking it over, the city and county responded by engaging the new management in two ways. At the personal level, city officials introduced the expatriate managers to the local business circle and helped them to develop social ties. On the financial side, the city and county came up with a tax-credit package. Under the deal, the county paid for the building improvements, while Hunter Douglas, which was obligated to pay local property taxes, received a tax credit that equaled 80 percent of the improved value of the plant for the first five years. After that time the tax credit would be scaled down for the next five years. In other words, Hunter Douglas got an improved plant at practically no cost.

At the time I visited Hunter Douglas, it was the city's largest factory. It had a workforce of 270, which was over ten times the original employment than when the original factory moved in. The plant produces high-quality window blinds for a twenty-state region in the northeastern U.S. But Hunter Douglas management stated it was company policy to be constantly considering relocation to less costly areas unless local

communities provided assistance in remaining competitive. During the past years, the county has improved the Hunter Douglas facilities several times, allowing the company to maintain its level of property-tax credits. I observed a delicate relationship between Hunter Douglas and the public agencies. Hunter Douglas keeps pressing for more support from the city and county. The city and the county respond accordingly, knowing that jobs may be in jeopardy. Most interesting, perhaps, is the creative use of enterprise zone incentives by the city and county.

The second project that shows the entrepreneurial spirit of Frostburg's officials is a public-private project to renovate an historic railway depot. This was first proposed by a local entrepreneur who had some restaurant experience in other states. After the city and the county received state grants to renovate and remodel the dilapidated railway station, the building was then leased for restaurant use. In addition, to ensure enough visitors to the restaurant, the city and county invested in the operation of the Western Maryland Scenic Railroad, and successfully made Frostburg the last stop on the line. Since then, each summer day the train has brought hundreds of visitors to Frostburg. And now the project has been expanded to include a souvenir shop in an adjacent renovated building. The restaurant operator played an important role in the project because he not only proposed the project but because he pursued it and participated in its planning and execution. With the increasing volume of visitors, he volunteered to manage a public restroom on condition that the city built it. When I visited the Old Depot in 1995, the restroom was completed and an adjoining warehouse had also been renovated to serve as a carriage museum. The whole project created about 60 jobs and has become quite a successful tourist attraction.

There are other such business development cases in Frostburg where the

city and the county have been actively involved. To assist Micro Integration, a high-tech computer software firm, to move to Frostburg, the city and county expanded the industrial park, built a connector road, and prepared necessary infrastructure. They then developed a property-tax credit arrangement similar to that for Hunter Douglas. Upon the request of Micro Integration, the city named the new street "Science Park" to promote a high-tech image, even though the firm was the only such facility on this short street. A hotel development has also chosen to locate in the industrial park with the assistance of the city and county, and this building had just been completed when I visited. In another project, a state grant under the National Historic Register program has been used to support a 41.5 million upgrading project of a mainstreet hotel. During my visit, the city was preparing a tourist-promotion plan to bus fans visiting the Frostburg State University football training camp to Main Street and the Old Depot.

Evaluation of Zone Performance

By any standard, Frostburg had substantial growth in the late eighties. Between 1986 and 1990, zipcode 21532 (which covers Frostburg) experienced an increase of 875 private-sector jobs, a growth rate of 54 percent.³ At the same time county employment grew at only 7 percent. The biggest growth was in eating and drinking establishments, services related to coal-mining, wholesale activities, and finance, insurance and real estate. No single sector suffered great job losses. These figures do not include employment growth at Frostburg State University, otherwise they would be even higher.

³ Zipcodes are used as a reporting unit because employment data is obtained at this level. Zipcode 21532 covers the whole Frostburg and the adjoining town of Cresaptown-Ber Air, part of La Vale, and Midland Town.

During the same period, the number of business establishments increased from 225 to 236, up 5 percent but a favorable pattern when compared with the 5 percent decrease in the county. Business establishments were distributed across employment size. In 1986, about 31 percent of private-sector workers were hired by firms with ten workers or less. The only establishment that hired more than one hundred employees was a health institution. Between 1986 and 1990, 600 of the 875 new jobs occurred in medium-size establishments with 10 to 99 workers. Though in 1990 the share of total employment in firms hiring less than ten workers dropped to 20 percent, Frostburg still (not counting the university) relied on employment in small and medium-size firms.

Despite these increases, the enterprise zone program appeared to have little effect on job growth during this period. Certification records show that throughout 1984 and 1987 only ten firms were certified to receive tax credits each year, which was about 8 percent of all the firms within the zone. It is estimated that, not counting layoffs, about 20 jobs were created or retained each year by the certified firms. Other economic development projects discussed above brought about 450 jobs to Frostburg, but only one-third of them were created before 1990.

Therefore, about 80 percent of the net increase of 875 jobs between 1986 and 1990 must be explained by other factors. Judging from the fact that eating and drinking places created nearly 500 jobs, one might speculate that the true growth momentum may have come from the university expansion and tourism. Between 1985 and 1990, Frostburg State University increased its enrollment from 3,000 to 5,000. Increases in the number of students, faculty and staff created a great impact on the local housing and consumption market.

In retrospect, the impact of the enterprise zone program on the overall

socioeconomic conditions of Frostburg has been minor. Ten years of enterprise zone status did not overturn Frostburg's economic distress, so the city applied for a further extension of the program in 1994. In this application, the city stated that some of its neighborhoods were still experiencing a 10 percent unemployment rate (Frostburg City, 1994). Census data shows that between 1979 and 1989, nearly all income and poverty indicators remained constant (see Table 6.2).

Summary

During my visit, I found Frostburg to be a nice college town. In comparison to dozens of enterprise zones I had already visited, Frostburg instantly gave me an impression of success in economic revitalization. On that particular sunny day in early summer, the Old Depot was crowded with visitors. The city was taking in tourist business, as quite a number of lodging facilities and eating places were set up. The Frostburg State University campus was green and peaceful with new construction going on. The well-landscaped industrial park accommodated a variety of businesses: banks, a hotel, a computer firm, and several manufacturing plants -- with a combined employment of about 500 workers. At the city edge, several subdivisions and a nursing home project were underway. The only sign of economic distress were vacancies in the shopping plaza and along Main Street.

Frostburg possesses many locational advantages: a good quality of life, a high level of amenities, and accessibility to the highway. Local officials further pointed out that a strong local work ethic, strong

Table 6.2 Income, Poverty, and Dependency in Frostburg

Indicators	1979	1989
Median Household Income	\$23,229 *	21,577
Income Level Compared to County (Percent)	88.0	88.1
Percent of Households below Poverty Line	15.8	16.4
Percent of Households with Public Assistance Incomes	5.3	6.4
Percent Unemployment Rate	7.6 (1980)	7.7 (1990)

Source: 1980 and 1990 Census (STF3B Files), Bureau of Census

* in constant 1989 prices

community spirit, and a relatively high-quality labor force give Frostburg an extra competitive edge. While these are important factors to the "success" of Frostburg, one must recognize that it is primarily a college town, and that its economy is closely tied to the university. Do the local economic development programs have much effect? The answer is probably yes. All the renovation projects in Frostburg could not have materialized without public support. In particular, the Old Depot case illustrates the crucial role public money can play in preparing and financing a business project. Furthermore, the success in attracting or keeping firms in the industrial park demonstrates the need for sophisticated and innovative assistance from the public sector in attracting employers. Public resources were not only used for site preparation, marketing, and infrastructure improvement, but the county also developed an innovative program that enabled occupants in the industrial park to obtain property-tax credits at no cost.

6.3 Jeannette -- The Glass City

Background

The case of Jeannette (PA) provides a very different picture of enterprise zones than that of Frostburg. To begin, Jeannette does not have the locational advantages of Frostburg, and its economic performance is much less impressive. Furthermore, the community is struggling with another kind of economic distress -- plant closure.

Situated 25 miles east of Pittsburgh along railway lines, Jeannette was founded in 1888 as a glass production center. Gradually, it became an industrial satellite to Pittsburgh, and other industries located there, such as machinery, metal products, plastic, tires, and transportation equipment. In the late fifties, when Jeannette's glass industry was at its height of prosperity, the city employed 7,000 industrial workers and was home to 17,000 people (Jeannette City, 1961).

Partly because of the general downfall of the Detroit-Pittsburgh-Buffalo region and partly because of the erosion of its locational advantages, Jeannette lost 30 percent of its manufacturing jobs and population between 1960 and 1980 (Keller, 1991). One major problem was that the city had grown up around railways but was relatively inaccessible by highway. Its closest highway access is four miles west, and it is to this thoroughfare only by a signal-controlled local road. Furthermore, the city's undulating topography and land-use patterns prevent it from developing an efficient internal transportation network. Most importantly, the city is bisected by Brush Creek and railroad lines, and this makes it difficult to move across town. Its industrial core is also at its center, completely surrounded by residential neighborhoods. And there are no green-field sites at the city periphery on which to locate new industrial or business parks. Furthermore, being an old industrial

town, the townscape is unappealing and physical infrastructures are obsolete.

Until the 1970s, Jeannette's unionized workers earned good wages. All economic indicators in Jeannette compared favorably with those of Westmoreland County in which it was situated, and Westmoreland County was one of the Pennsylvania's richest (Jeannette American Legion, 1976). Even as late as 1979, the economic gap between the city and the county was insignificant: there was only a one percentage point between the two in terms of proportion of households below the poverty line or receiving public assistance. Its income equaled 91 percent of that of the county, and its unemployment rate was slightly lower than that in the county.

The 1980 census data, did reveal indications of troubles in Jeannette and its outskirts. 17 percent of employed civilians held managerial or specialty positions, compared to 22 percent in the county. More strikingly, 82 percent of residents 18 years of age and older had not completed high school. Residential mobility was low, as 73 percent of people older than five years of age had stayed in the same residence for at least five years. For decades, the dominance of a few big factories (such as Jeannette Glass, Elliot Turbomachinery, and General Tire) in the city had created a stagnant community with aging workers who were over-specialized in skills that were no longer demanded.

The Economic Collapse and the Enterprise Zone

Layoffs and plant closures in the early 1980s cost Jeannette about 60 percent of its manufacturing employment. This was a serious blow, as 3,500 manufacturing workers and probably an equal amount of workers in services and retailing in the surrounding region lost their jobs. The closure in 1983 of Jeannette's keystone enterprise, Jeannette Glass, was

devastating. This not only meant that 1,100 workers were laid off but that the city lost its dream. Just twenty years before, the plant had been the most advanced and productive glass factory in the world, and it had given Jeannette the name "Glass City." Around the same time, other large factories laid off more than 2,300 workers. Elliot Turbomachinery cut its workforce from 2,800 to 1,400, while General Tire shed 700 out of 1,000 employees. The only remaining glass factory, Jeannette Sheet Glass, continued to struggle on but finally closed in 1986. All that was left of past glories were several large, derelict industrial facilities in the middle of the city. Around this time, the only remaining department store, JC Penny, pulled out, and business in Clay Avenue, a seven-block main street, dropped drastically. As unemployment soared, residents simply left town. The population decreased by 2,000 between 1980 and 1988. The city was hurt both economically and psychologically. It discontinued its once-proud Fourth of July Parade. One after the other, local associations such as its chamber of commerce, fraternal societies, and workers' unions closed.

It was under these circumstances that Jeannette received enterprise zone designation in May 1985. The zone was defined in such a way that it captured nearly all the city's industrial and commercial sites. It only excluded the more affluent residential neighborhoods in the southeastern and northeastern parts of the city, two health institutions, and some isolated retail shops at the southern edge of the city. The enterprise zone was administered under the city's Department of Community Development. Since the entire city administration was small, this department was staffed by two full-time employees. Apart from enterprise zone duties, the department also dealt with housing, recreation, and street improvement. In practice, the department's director, the only full-time economic development official, worked with the mayor and the

city solicitor as a team to address economic development issues.

Under the Pennsylvania's enterprise zone program, qualified distressed communities obtain competitive enterprise zone grants to develop their own local economic development initiatives. The only tax incentive, optional local property-tax credits, was introduced much later. As such, the focus of the Pennsylvania enterprise zone program is to encourage local communities to repackage all available economic development programs and target state support toward promising cases. It also provides private businesses several financing options such as redevelopment grants and low-interest loans for industrial promotion. Following state guidelines, Jeannette used the state grant to offer three types of services. First, it set up a revolving business loan fund program. Second, it hired St. Vincent Business Development Center, a nonprofit organization based in a local community college at Latrobe, to provide technical assistance and to operate a "one-stop-center" for business. Third, it set aside some of the grant money for other development purposes such as funding specialized studies on plant reopening or conversion.

After Jeannette Glass was closed, the city worked actively with the Pennsylvania Industrial Development Authority (PIDA) and a new buyer to explore proposals to reopen the plant. Once the planning zone status was granted in 1984, the city immediately diverted a planning grant to conduct a feasibility study of plant reopening. And after the first reopening attempt failed, the city hired another consultant to conduct a feasibility study on retrofitting and subdividing the plant for other industrial uses. During the mid-eighties, Jeannette continued to assist its struggling glass industries. It worked with PIDA and successfully arranged to have Jeannette Sheet Glass, another closed plant, reopened.

In this project, a loan was assembled from various sources: \$3.8 million from PIDA, \$1.4 million from redevelopment funds, \$0.5 million from the city enterprise zone fund, and \$0.4 million from Business Infrastructure Development funds. In 1988 the plant reopened as a new factory, General Glass Industries, and recalled 300 workers. In another project, Laurel Mould and several of its operating subsidiaries used the loan facility provided by PIDA and the city as gap financing to retrofit a vacant brewery and move its operation and 100 jobs there from Greensburg.⁴

As the opportunity to reopen glass plants diminished, Jeannette shifted its support to smaller firms, and in recent years it has extended its services to assist retail businesses. Loan support has so far assisted a crystal factory, a computer-software firm, a precision tool factory, and a retail establishment. It has helped create or retain about 50 jobs. Jeannette also received state money to give its main street a facelift and install a public announcement system. The city's newest project is to prepare sites for small or medium-size high-tech firms. With the support of a city loan, a computer-software firm has started up and has experienced some modest growth. Currently, Jeannette is working on a proposal to remodel a school building to accommodate a long-distance communication company.

It seems that Jeannette has tried every avenue to retain and expand jobs. At first, it attempted to resurrect its aging industrial base. After this attempt failed, it shifted its focus to support small and medium-sized activities. In all enterprise zone activities, Jeannette has adopted a traditional approach. It has relied primarily on business loans, technical assistance, and coordination with other public agencies

⁴ Greensburg, three miles east of Jeannette, is the county seat and commercial center of Westmoreland County. Its population in 1980 was 17,600.

to assemble financial support. The only enterprise zone benefit, property-tax credits on physical improvements, has not played an important role. Nevertheless, city officials and business leaders have said that enterprise zone status was crucial to Jeannette because it projected a pro-business image and provided much-needed state grants. Given the current conditions, local leaders did not think tax credits would help Jeannette attract new businesses.

Based on discussions with the enterprise zone coordinator, it became apparent that most of the enterprise zone activities involve great amount of coordination and person-to-person contact with economic development agencies at different levels. In particular, PIDA took a crucial role. This state-funded agency has been active in providing industries with below-market-rate loans to modernize and restructure. Without its loans and technical advice, it would have been impossible to the reopen the two glass plants in Jeannette or relocate Laurel Mould to the city's vacant brewery. Again, the earlier local enterprise zone survey in this dissertation underestimated the impact of such interventionist activities because it failed to statistically capture PIDA activities or other business assistance from outside agencies, such as St. Vincent Business Development Center and the Greater Greensburg Industrial Development Corporation.

A Closer Look at Zone Performance

Between 1986 and 1990, Jeannette's employment increased from 6,978 to 7,137. This 2.3 percent growth rate was slightly higher than that of the county (1.5 percent). The number of business establishments increased by 3.3 percent, from 399 to 412. This growth rate was also higher than the growth rate in the county, which was zero. Despite downsizing and closures, large establishments still dominated about 60 percent of all

jobs in Jeannette. In 1986, ten establishments hiring 100 or more workers accounted for about 4,500 workers. By 1990, eight establishments of this size employed 4,293 workers. These eight big establishments could be divided into two groups. One consisted of factories for glass making, crystal products, plastic and rubber, turbine machinery, and paper cardboard. The other consisted of two regional health institutions and a utility firm. Despite this sizable employment by large firms, most of Jeannette's employment growth was generated by firms employing five to 100 workers (see Table 6.3). In particular, the number of establishments that employed 5 to 49 workers experienced 20 percent growth. However, establishments employing less than five workers had a mild decrease from 243 to 229, though the total employment did not change.

During the 1986-1990 period, substantial job loss occurred in machinery manufacturing (232), durable-goods wholesale (164), membership organizations (including churches, unions and business associations) (74), and food stores (64). The biggest employment increase was found in contracting (165), health services (212), glass (207), and eating and drinking places (103). The biggest growth in number of establishments was found among small contractors and eating places. This trend may indicate attempts by former factory workers to start up self-employed businesses. The overall picture is that Jeannette's economic structure has gradually shifted from export-oriented manufacturing toward local services and retail activities. Table 6.4 illustrates that economic conditions in Jeannette deteriorated substantially in the 1980s. The median household income decreased 22.4 percent between 1979 and 1989, after adjusting for inflation.⁵ The income-level disparity between the city and the county widened from 91 to 84 percent in the same period. In

1989, 14 percent of Jeannette's households were under the poverty line, and 9 percent of its households received some form of public assistance. The corresponding rate for the county was 12 and 7.8 percent, respectively. Unemployment rates, however, remained constant for this period, at the same level as that of the county.

Table 6.3 Employment by Size Class in Jeannette, 1986 and 1990

Size Class by Employment	Number		Percent	
	1986	1990	1986	1990
1 to 4	417	416	6.0	5.8
5 to 9	485	607	7.0	8.5
10 to 49	1,224	1,397	17.5	19.6
50 to 99	337	424	4.8	5.9
100 or more	4,515	4,293	64.7	60.2
Total	6,978	7,137	100.0	100.0

Source: Special CBP Tabulations, 1986 and 1990

Summary

During my visit to Jeannette, I observed that economic recovery was still overdue in the city. Jeannette was still suffering from the trauma of the early eighties. One half of the shops on Clay Avenue were vacant, and large industrial firms were still cutting workers, although at a

⁵ The 1989 median household income for Jeannette City was even lower -- \$18,482 or 72 percent of the county level, because figures in Table 6.4 include the more affluent outskirts areas of Jeannette.

Table 6.4 Income, Poverty, and Dependency in Jeannette

Indicators	1979	1989
Median Household Income	\$27,256 *	\$21,148
Income Level Compared to County (Percent)	91.2	84.1
Percent of Households below Poverty Line	10.4	14.4
Percent of Households with Public Assistance Incomes	7.9	9.0
Percent Unemployment Rate	7.7 (1980)	7.3 (1990)

Source: 1980 and 1990 Census (STF3B Files), Bureau of Census

* In constant 1989 prices

slower pace. In 1994, General Glass Industries, which had been the only glass factory under operation since 1988, was closed. The closure took away 200 jobs, or two-thirds of those supported by the enterprise zone program. This loss offset all the net job increases attributable to the program between 1986 and 1990. The huge facilities of Jeannette Glass and General Glass Industries now stand empty and abandoned. In particular, the rusting Jeannette Glass plant in the middle of the city is now only a reminder of the city's once glorious past.

Though it operates as an enterprise zone in name, Jeannette's program offers little by way of resemblance to a typical zone. The program is composed of loan support, technical assistance, and development grants. Tax incentives play almost no part. Its earlier efforts in providing financial support to key factories did not produce any observable results. So, recently, the policy has shifted to supporting smaller firms. Previous intensive efforts and public investment to support the

glass industry proved unsustainable. The city's experience illustrates that regardless of the type of economic development efforts, any program may fail when a local industrial base is undergoing rapid restructuring. Locational advantages are still the key determinant of economic development.

6.4 The Sacramento-Northgate Employment Incentive Area

Unlike Frostburg and Jeannette, Sacramento-Northgate lies within a metropolitan area. Covering 1,200 acres, it is the biggest of the three case study zones. Its 74 percent business establishment increase and 100 percent employment increase between 1986 and 1990 eclipse the gains in the other two case studies. In fact, economic growth in the Northgate area is so exceptional among all the 70 zones studied in this dissertation that it deserves a close examination.

The Establishment of the Incentive Area

When California set up its enterprise zone program, it provided an opportunity for local communities to choose between a business promotion or a human resource development program. Both programs furnish similar tax incentives, but the latter program, Employment and Economic Incentive Program (EEIP) has more stringent requirements. Under EEIP, tax breaks are only available to businesses within the incentive area that have at least 30 percent of owners who are residents of designated High Density Unemployment Area (HDUA) or have 50 percent of employees who are residents of HDUA. The 50 percent threshold for employees can be lowered to 30 percent if the business pays a community service fee. In essence, EEIP offers an alternative to job-referral program by providing

incentives to employers to hire economically disadvantaged residents from distressed neighborhoods.

In 1986, with the approval of the state, Sacramento set up the Northgate Employment and Economic Incentive Area (EEIA) in North Sacramento. The EEIA consists of 1,200 acres of prime industrial land on the north edge of the city. It is located two miles east of the interchange of Interstates 5 and 80. Highway 80 passes through it and serves it with three freeway exits. The whole area has been experiencing substantial economic growth. The original Northgate EEIA consisted of two areas divided by Interstate 80. North of the highway was an established industrial park along Pell Drive and Main Avenue and a vast undeveloped area zoned for industrial uses. South of Interstate 80 was the Norwood Industrial Park and a commercial strip along Northgate. In 1992 the EEIA was extended to cover a commercial site next to the Norwood Industrial Park, the commercial strip along Marysville Boulevard in Del Paso Heights, and a site adjoining the McClellan Air Force Base. In essence, it is due to the development potential that the Northgate area was selected as an EEIA.

The Northgate EEIA is located next to a distressed neighborhood called Del Paso Heights, which for the purpose of the EEIP, was designated as the corresponding HDUA. Businesses in the Northgate area could obtain various tax breaks for hiring residents from Del Paso Heights. Later, the residence requirement was widened from simply Del Paso Heights because the city and county added four HDUAs (Downtown Sacramento, West Sacramento, Oak Park, and Meadowview). Despite the close proximity to one another, Del Paso Heights differs tremendously from the Northgate area. Del Paso Heights is a six-mile-square residential neighborhood that was formerly part of the City of North Sacramento, a geographically

and historically distinct area. Once a low-income white residential neighborhood, Del Paso Heights gradually became the home for other ethnic minorities. At present, its population is extremely diverse, composed of African-Americans, Hispanics and Asians. Most of its residents are characterized as poor, with low-educational levels. It has a high concentration of poverty and unemployment. Apart from some struggling neighborhood commercial activities along its local thoroughfares, the predominant land use is residential.

Administration of the Northgate EEIP

The Northgate EEIP is managed by a joint county-city agency, the Sacramento Housing Redevelopment Agency (SHRA). Formed in 1973 from the merger of two redevelopment agencies from the city and county, SHRA is responsible for implementing a wide range of urban redevelopment, housing, and community development programs. In 1994 SHRA employed 340 people and was organized into several professional departments. Its 1993 administrative expenses totaled \$36 million. In the same year, it invested over \$18 million in various downtown projects and \$4 million in county-wide economic development programs. In fact, SHRA is the largest organization among all the local enterprise zone administrations surveyed in this study.

The management of the Northgate area and another EEIP falls into the Economic Development Division within the SHRA Community Development Department. One full-time staff member is assigned to both EEIPs, so about 20 hours are spent on the Northgate EEIP each week. Following the philosophy that the program provides incentives for business operators to hire economically disadvantaged people in the HDUA, the main enterprise zone activity is reaching out to businesses to explain the program and providing them with assistance in applying for the benefits. In 1991,

SHRA entered a joint effort with the Sacramento Employment and Training Agency, the state Employment Development Department, and a community-based employment and training organization to establish the Enterprise Zone Employment System, a county-wide job referral computer system to screen and match prospective employees, with the needs of employers within the EEIAs. The labor pool specifically consists of unemployed individuals who live in the HDUAs, and it provides employers an opportunity to take advantage of the tax incentives.

SHRA does not provide any other types of business assistance to firms within the Northgate area. Rather, it focuses on community development activities in residential neighborhoods such as Del Paso Heights and other areas of North Sacramento. These programs include grants for commercial revitalization, housing improvement and rehabilitation, and selective property acquisitions. Such activities are separately funded by traditional resources such as CDBG and Redevelopment Tax Increment Financing.

Seen in the above light, the Northgate EEIP is only one part of a broad attempt to link economic benefits through the employment of unemployed individuals in Del Paso Heights and other HDUAs. Realizing that employers hesitate to hire unqualified workers just for tax benefits, SHRA relies on other agencies such as the Del Paso Heights Neighborhood Service Agency, a division of the county Department of Human Assistance, to provide HDUA residents with a comprehensive job-training program. This program includes services such as employment counseling, pre-employment training, substance-abuse rehabilitation, child care, and job referral.

Evaluation of the Program

On the surface, the Northgate Program appears to be very successful because it has resulted in phenomenal employment and business establishment growth. Between 1986 and 1990, private-sector employment in Northgate increased from 3,953 to 8,044. This represents a growth rate of 103 percent, which far exceeds the 23 percent growth rate in the county. During the same period, the number of business establishments increased from 207 to 361, a net increase of 154 firms. While establishments in the county grew only 7 percent, the Northgate area experienced a 74 percent growth rate. Nearly all industrial sectors grew during the 1986-1990 period. In particular, the greatest employment growth came from finance, insurance and real estate, followed by wholesale, other business-related services, retail, and transportation and communication.

The catch to all this good news is that economic growth in the Northgate area is hardly related to the EEIP. Over the past nine years, altogether 37 firms had been certified to qualify for the EEIP tax benefits. In 1995, six firms remained certified, and the total number of employees who have gone through the program is minimal. Such a result might be somewhat expected because the EEIP is not designed to promote business growth. Rather, it provides incentives for existing employers in a growing area to hire HDUA residents. In fact, growth in the area cannot be attributed to any government program because, apart from the EEIP, no economic development program is in force in Northgate (though a city-wide program was established two years ago).

Based on discussions with economic development officials of the city and the county, staff members of the regional Chamber of Commerce, and local business operators, the following factors emerge as explanations of the

growth in the Northgate area. First, Northgate has simply picked up the regional demand which has always been strong because of public-sector activities and a recent influx of computer-manufacturing activities to the region. Second, the Northgate area is ripe for development. It is the only prime industrial area on the northern side of Sacramento. It has superior accessibility to the freeway system, the airport, and the riverport. Industrial development started in the Pell/Main Industrial Park and the Norwood Industrial Park in the 1960s. At that time, the remaining area to the west, formerly known as the North Natomas Area, was undeveloped and had been reserved by the city and county for future industrial uses. Then in the mid-eighties, the area was opened and subdivided for development, the temporary Arco Arena was moved to the west, and a new freeway interchange and road network were built to serve the area. Del Paso Road and Main Avenue were also upgraded to connect the western part of the Northgate area with the more established eastern part.

Rapid development in the Northgate area appears to have had little significant impact on Del Paso Heights. The EEIP has fallen short in its drive to provide employment opportunities for HDUA residents. The enterprise zone administrator pointed out that the state legislation has imposed over-restrictive requirements on eligibility. Most firms could not meet the qualifications, since they found difficulty in hiring enough HDUA employees who could meet work requirements. Furthermore, firms that had been certified could not continue to meet the minimum quota that at least 30 percent of the workers were living in HDUA. Business operators also indicated that they were reluctant to hire HDUA workers because of skill and work-habit problems. The zone administrator indicated that more resources should be invested in preparing the unskilled workers to

enter the labor market.

Table 6.5 shows that conditions in Del Paso Heights have seen modest improvement. However, the increase in median household income by 19 percent in constant terms in the 1980s may actually reflect an influx of more affluent people to the north of Del Paso Heights. Despite this increase, income levels have still lagged significantly behind those of the county. In particular, the percent of households below the poverty line has remained roughly the same during the 1979-89 period. According to a consultant report, the most distressed part of Del Paso Heights experienced the worst economic conditions in the county in 1990 (Minicucci Associates, 1995). In these neighborhoods, 40 percent of residents live below the poverty line, and 31 percent of them derived their income from public assistance. Unemployment reached 22 percent, or three times the county average.

Summary

Anyone who pays a visit to Northgate will find it a booming industrial area. It displays most of the factors that favors economic growth: prime location, accessibility to all types of transportation, cheap rent, ample supply of industrial land, and a robust regional economy. However, all these factors exist independently of the enterprise zone program or of any other economic development program. This enterprise zone was established primarily because of its growth potentials. For a program attempting to link residents in a distressed neighborhood to a growing area, overall employment and business establishment growth are not the appropriate measures of program effectiveness. Thus, judging from the original intent to expand employment opportunities, the EEIP has been

Table 6.5 Income, Poverty, and Dependency in Del Paso Heights

Indicators	1979	1989
Median Household Income	\$18,612 *	\$22,246
Income Level Compared to County (Percent)	62.4	69.7
Percent of Households below Poverty Line	21.6	20.8
Percent of Households with Public Assistance Incomes	35.2	27.7
Percent Unemployment Rate	18.1 (1980)	13.4 (1990)

Source: 1980 and 1990 Census (STF3B Files), Bureau of Census

* In constant 1989 prices

unsuccessful. Few firms participate in the special hiring agreement to receive tax credits. Very few HDUA residents receive their job through this program. And distressed conditions in Del Paso Heights have not significantly improved despite the EEIP and other concurrent community development and redevelopment projects. This case casts doubt on effectiveness of attempts to use tax credits to lure employers to hire unqualified or inferior workers.

6.5 Discussion of the Three Cases

Figure 6.6 summarizes and compares key characteristics of these three cases in terms of zone performance and such program dimensions as economic development focus, administrative structure, and focus of the enterprise zone. Some generalizations can be made from the table. First, locational advantages and regional economic conditions relate positively with zone performance. Second, enterprise zones have little

impact on social conditions within their communities. Third, the effects of program structure and implementation style on performance are ambiguous. The following discussion will go beyond such generalizations, however, to address the questions raised earlier in this chapter: a) what are the common factors affecting the economies of these zones? b) does program structure matter? c) what implementation style works best? and d) do enterprise zones improve social conditions within a community?

Table 6.6 Summary Findings of the Three Selected Enterprise Zones

Dimensions	Frostburg	Jeannette	Northgate
Performance of Enterprise Zone	Strong	Weak	Strong Growth
Locational Advantages	Favorable	Unfavorable	Very Favorable
Economic Development Focus	Public-Private Partnership	Direct Assistance to Business	None
Emphasis of Enterprise Zone Program	Property Tax Credit	Direct Loan to Businesses	Job Placement
Administrative Structure	Simple and Personal	Simple and Personal	Specialized and Technical
Coordination with other Agencies	Strong with County	Strong with PIDA & Consultant	Strong with Neighborhood Associations
Impacts on Community Social Conditions	Little	Little	Little

What Factors are Common?

Both high-growth enterprise zones, Frostburg and the Sacramento Northgate area, have certain common locational advantages. They can provide high-amenity sites in its outlying areas for industrial park development. Both have excellent access to the highway system. Both have a more skilled and higher-educated labor pool, not only in the city but in the region. In contrast, Jeannette has an inefficient transportation system and a labor force which is older and less skilled. Topographical conditions and massive dereliction also limit Jeannette's ability to provide green-field sites for industrial development. From these three cases, it is obvious that three major locational advantages -- accessibility, physical conditions, and labor quality -- remain crucial determinants to local economic development.

The second common pattern of these cases is that regional conditions do affect local economy. The Sacramento region has experienced strong growth over decades because of the expansion of the public sector and a surge in computer industries. Therefore, growth in the Northgate area is simply a reflection of regional market demand. Though its regional economy is less robust, Frostburg's two major economic activities, higher education, and tourism, capture a market area beyond its immediate region, and have thus succeeded to grow. The regional economy of Jeannette is stagnant and provides the city with few business opportunities.

Does Program Structure Matter?

The previous chapter indicated that a simple enterprise zone program, focusing on a limited number of instruments works better than a more complicated program, and that zone performance is not affected by what

types of economic development instrument are used. After examining economic development projects in the three cases, this observation seems to be reinforced. Development officials agreed that given limited staff resources, it is not possible for them to handle a complex program. And they indicated that since each project normally requires a unique package, it is important to keep the enterprise zone program simple but individual project sophisticated.

Second, tax incentives were considered by all development officials in the three cases to be insufficient in stimulating business. An obvious example is the unpopularity of the special hiring tax credit among businesses in the Sacramento Northgate area. Business operators pointed to three problems with tax credits: the unattractively low level of credits, cumbersome certification procedures, and the risk of hiring inappropriate workers. In Jeannette, the enterprise zone administration nearly ignored the property-tax credit provision. However, entrepreneurial ways of weaving property-tax incentives into other economic development supports worked pretty well in Frostburg. On the other hand, interventionist types of instruments do not guarantee success either. The labor-referral program in Sacramento does not really encourage employers to hire the economically disadvantaged. And in Jeannette, the injection of public funds as loans for the reopening of the glass plants did not produce any sustainable effects. However, the leverage of creating an industrial park and the use of state grant money in conservation projects did produce results in Frostburg. Therefore, it appears there is no inherent benefit to any type of instrument, be it interventionist or noninterventionist. What probably matters most is how the instrument is exercised.

What Kind of Program Works Best?

In all the successful projects in the three case studies, I found active public involvement. Offering business assistance is time-consuming and complicated. A strong public-private partnership is built on frequent contacts and mutual assistance between the partners. For instance, the Old Depot project in Frostburg could not have materialized without the use of state grants for renovation and infrastructure improvement as well as the active participation of the operator in planning and management. However, public involvement not only involves dealing with local businesses. Local resources are limited, and it is essential to tap funding from outside sources. This requires expertise and negotiation at different levels of the public sector. The loan package that enabled the reopening of Jeannette Sheet Glass was a product of coordinated action among several public agencies. Nevertheless, the typology analysis and the multivariate analysis in the previous chapter demonstrated that a local economy is conditioned by regional conditions and local locational advantages. Therefore, economic development efforts actually work at the margins. Active public effort is necessary and essential, but not sufficient for economic revitalization.

Can Enterprise Zones Lead to Improvements in Social Conditions?

Looking at changes in key social and economic indicators in the three case studies, enterprise zone programs (or any other local economic development efforts) appear to have little impact on local social conditions. The rapid growth of the Northgate area did not benefit the residents of neighboring Del Paso Heights, its designated HDUA. In Frostburg, unemployment and poverty remained at the same level despite increases in employment because jobs were taken by outsiders. If an individual's chance to find employment is determined by skill, education,

and work attitude, then no business development strategy will help those who are not in demand in the job market. The Northgate EEIP adopted the approach of providing incentives to employers to hire economically disadvantaged people, who are by definition normally not in demand in the labor market. However, such a human resource development strategy, at least in this case, could not achieve its objectives.

7. THEORY, PERFORMANCE, PROGRAM IMPACTS, AND POLICY IMPLICATIONS

The main purpose of this dissertation has been to examine enterprise zones and to expose how they work and what they have achieved. The central premise of the study is that while enterprise zones have received broad support, their real contributions have never been studied comprehensively or objectively. This dissertation has tried to advance the study of enterprise zones in two ways. At the conceptual level, it has provided theoretical discussion and empirical findings that help clarify the nature of enterprise zones. And at the practical level, it has identified determinants for the success of zones and drawn policy-related conclusions that may help economic development agencies design better enterprise zone programs in the future.

Several conceptual efforts have been involved in this dissertation. A critical review of preceding enterprise zone studies helped this dissertation research avoid some common methodological problems found in these studies. An examination of the original enterprise zone idea led to the development of a pure model, which was used to develop typologies of enterprise zones. A study of industrial location, local economic development, and taxation studies filled the gaps that the original enterprise zone idea did not cover. At its conclusion, this conceptual discussion provided grounds for an analytical schematic upon which a statistical model was based.

The dissertation next turned to developing its own empirical evidence. First it analyzed about 70 enterprise zones under five state programs. It surveyed zone administrators to understand different forms of zone operation and gather individual program assessments. Then it conducted a

series of statistical analyses to investigate factors that affected zone performance. Finally, case studies were conducted in three enterprise zones to examine whether or not the enterprise zone programs managed to effect economic and social change.

This concluding chapter reports findings from the above conceptual and empirical work. It first summarizes the key findings of this dissertation. Then it offers a more detailed discussion according to the five research questions stated in the introductory chapter. Finally, it draws implications for local economic development practice and makes recommendations for the design of a better enterprise zone program.

7.1 Key Findings

This dissertation has found that the original enterprise zone idea lacks a complete theoretical justification. As such, the practice of enterprise zone programs has diverged in many different directions. The dissertation analyzed the operation of 50 enterprise zone programs and concluded that the original enterprise zone idea has not been closely followed. Most zones function within the model of traditional economic development, in which active planning and direct involvement by the public sector is stressed. Also, in general, the study found no statistically significant differences in the growth rate in employment and business establishments between enterprise zones and their respective regions. Rather, it found zone performance (in terms of growth in employment and new business) is primarily a function of regional growth and the initial conditions within a zone. Further analysis indicated that small zones tend to work better than big zones. After controlling for factors that are not associated with the enterprise zone program,

this dissertation found that active and sophisticated zone management did induce employment and business growth.

In many cases resources devoted to enterprise zone management are meager, resulting in low utilization of zone benefits by businesses. In addition, this dissertation found that location by city, state or broad geographic region has no impact on zone performance, while the effect of the age of zones on performance was ambiguous. Also, this dissertation found that enterprise zone programs do not have any significant impact on the income and employment levels of enterprise zone communities. It did, however, arrive at two surprising results. First, zone performance is not related to the number of economic development instruments used. Second, the orientation of individual measures used in the enterprise zones also was not found to affect performance.

7.2 Inadequate Theory and Diverged Practice

The first research question of this dissertation was: What are the underlying concepts supporting the creation of enterprise zones, and are they followed in practice? This dissertation found that the underlying concepts of the enterprise zone are disjointed and lacking in theoretical foundation. Any theory used to justify the original enterprise zone idea must give adequate discussion to three areas: the cause of economic decline in a locality, the relative effectiveness of different modes of economic development activity, and the responses of business to different levels of local taxes. Clearly, such a theory of enterprise zones has yet to develop.

This dissertation operationalized the original enterprise zone idea in a pure model to measure how the idea was followed in practice. From the

analysis of 50 zones (which represent roughly 10 percent of the nation's locally administered enterprise zones established before 1987), this dissertation found that only a few zones (9 percent) followed the pure model. For example, more than three-quarters of zones studied used at least nine interventionist tools (such as infrastructure improvement, business loans, and job training) that involved active participation, monitoring, and direct financial support from the public sector. The same survey analysis also found that most zones gained their designation by demonstrating to the state approval authority their ability to plan and coordinate public efforts in economic development. And during the zone formation process, excessive public regulations and high taxes were not the concerns of most zones. 83 percent of zones studied did prepare economic development plans or business strategies in which tax incentives and regulatory relief acted as supplementary instruments. About half of the zones targeted their assistance to certain industrial sectors, such as manufacturing activities. To sum up, a majority of enterprise zones operate under the model of traditional economic development in which local authorities adopt a proactive approach. In other words, the term "enterprise zone" can mean practically any package of economic development programs.

The second research question was: How do enterprise zones differ from one another, and what typology can be developed to capture these variations? In answer to this question, this dissertation found two common features among enterprise zones. One, already expressed above, is the predominant use of interventionist measures; the second is that some tax incentives are used. Apart from these criteria, zones vary in size, land-use patterns, program structure (in terms of the mix and quantity of development tools), and implementation intensity. This dissertation developed two typologies of enterprise zone programs according to the

number of instruments actually used within the zone. Under the program-structure typology, enterprise zone programs can be divided into four types -- minimalist, pure, hybrid, and interventionist -- according to the mix of interventionist and noninterventionist measures (see Table 3.2). Under the program-intensity typology, which classifies enterprise zone programs according to the number of instruments and intensity of program administration, enterprise zones can be divided into self-moving, active-simple, activist, and passive-complex types (see Table 3.3).

The merit of these two typologies is that they provide a richer description of variations in enterprise zone programs and remind researchers not to treat enterprise zones alike. In evaluating enterprise zone performance, researchers should sufficiently consider these differences and draw generalizations specific to the type of enterprise zones, rather than relating performance to an idealized model that has rarely been followed in practice. However, even though the two typologies used in this dissertation considered differences in local programs by indicators that reflected the actual number and types of instrument used and by staff time and other implementation criteria, these two typologies were less than adequate. For example, case studies in this dissertation found that these indicators could only capture activities internal to the enterprise zone administration. In reality, much of the economic development effort within enterprise zones is administered and funded by agencies outside the zone administration and at different levels of the public sector. One conclusion is that these typologies (including those in other studies) tend to underestimate economic development efforts and the use of interventionist measure within enterprise zones.

7.3 Enterprise Zone Performance

The third research question was: How can the performance of different enterprise zones be measured and compared? This question reflects the difficulty in program evaluation. Since the outcomes of evaluation are sensitive to the chosen methodology, evaluation procedure ought to be carefully designed. This involves selecting appropriate performance indicators, using reliable data, and controlling other determinants to isolate the effect of the program. Consistent with the key mission in most enterprise zones, this dissertation measured zone performance in terms of their ability to stimulate employment and new business. Unlike some studies which use unverified data supplied by zone coordinators, this dissertation derived performance indicators from a more reliable dataset provided by the County Business Patterns. Also, this dissertation adopted multiple evaluation steps because it found that no single evaluation method was adequate. Therefore, it compared performance of each zone with its respective region; it used regression analysis to control for outside factors that might affect zone performance; and it solicited administrators' assessments of their programs, and used case studies to examine the connection between programs and performance.

This dissertation found that between 1986 and 1990 employment in selected enterprise zones seemed to grow faster than in their corresponding regions. On average, each zone added about 90 jobs per year, with an annual growth rate of 0.8 percent (while the aggregate growth rate of their regions was 0.1 percent). In terms of changes of business establishment, however, both zones and their regions experienced a net loss of businesses in the 1986-90 period, and the study found that enterprise zones performed much worse than their regions. On average, each zone lost four business establishments a year, giving them an annual

average rate of -0.5 percent (-0.2 percent for their regions). Further statistical analyses, however, indicated that neither difference between zones and regions was statistically significant. These analyses also concluded that changes in both employment and business establishment within zones were strongly associated with growth rates in their respective regions.

The next research questions was: What are the relevant factors affecting economic changes within an enterprise zone? Zone performance was measured by several differentials between the zones and their respective regions, and size (in terms of the number of businesses) was found to be an important factor. In particular, smaller zones tended to have better performance. It appears that businesses in such zones benefited from a better business climate and received more attention from zone administrators than businesses in big zones. Broad locational factors, such as by state or region, or whether the zone was within a metropolitan area or inner city, have found to have little or no effect on zone performance.

The age of the program was further found to be an ambiguous indicator of performance, though newer zones experienced faster growth. The most striking result was that no single individual economic development instrument, regardless of its nature, was found to improve performance. Furthermore, the number of instruments present was found to be related negatively to zone performance, indicating a possibility that zones which faced more unfavorable conditions initiated a greater number measures. Consistent with this, when zones were grouped according to the program-structure typology, minimalist zones, which used below-average number of measures (regardless of their nature), had a superior performance. When the program-intensity typology was related to performance, active-simple

zones worked better, indicating that active and proactive management had favorable effects on performance.

The final research question was: After controlling for other factors, what specific program structure or implementation styles determine performance? To answer this question, this dissertation examined ideas from locational theory and local economic development literature and concluded that regional economy, initial zone conditions, and program-related factors were the three major factors determining performance. Multiple regression analysis was conducted to test this understanding. The statistical evidence suggested that both regional economy, initial zone conditions, the size of enterprise zones, and strong public-private consultation were important determinants of zone performance. Such results were further verified by the three case studies in this dissertation.

7.4 Impacts of Enterprise Zones

This dissertation has found that the impacts of enterprise zone programs on a local economy may be significant, if active and sophisticated management was present. However, given unfavorable conditions in other more important factors, such as regional economy or initial endowment, few enterprise zones showed such promising characteristics. In particular, a majority of zones were not provided with enough financial or staff resources to manage local economic development. Therefore, the effects of local economic development efforts were minimal. As such, a greater degree of program impact was found in small zones, where local officials spend more time on a per-firm basis to assist businesses and market zone benefits. The enterprise zone survey used in this dissertation found that on average, only 30 percent of businesses within

enterprise zones used any form of zone benefits. Less than half of surveyed zone administrators believed that their programs had met such objectives as creating new jobs or promoting business startups effectively. The majority opinion among them was, however, that enterprise zones did generate intangible effects, such as improving public-private partnerships, focusing community attention, and concentrating existing resources.

In the case studies of two high-performance zones, this dissertation found that locational advantages and regional economy, again, played a crucial factor in the economy of the zone. Furthermore, even in the most prosperous enterprise zones, the economic and social conditions within a community, such as income, poverty and employment levels, did not improve as a result of the program. This dissertation found that a program specifically attempting to link employment in a high-growth area to distressed neighborhoods did not achieve its objectives. This suggests there may be structural problem in the employability of economically disadvantaged people. Even when economic development programs do succeed in inducing employment or business growth in a locality, the new opportunities may not necessarily benefit surrounding residents.

7.5 Policy Implications and Recommendations

Several implications and recommendations may be drawn from the findings of this dissertation. First, this dissertation has found that enterprise zone programs can improve public-private partnerships and help local communities rally and coordinate existing resources. But such impacts are reported by zone administrators most often at the outset of an enterprise program. This dissertation has also found that small zones tend to lead to higher employment and business growth than big zones.

These findings imply that in order to achieve maximum impact, enterprise zone program must be small and allow the public and the private sectors to develop a meaningful and sustainable relationship. Following the same logic, the total number of enterprise zones established in any one state must be limited. And only after positive results have emerged in a limited number of zones should new zones be set up. Furthermore, in order to sustain the early positive impacts of an enterprise zone program, there should be requirements in the enabling legislation for a business needs assessment, a community profile study, and the preparation of an economic development plan. Such initiatives often allow a community to rally behind a common objective and find the most appropriate path for their development.

Second, the evidence from zones surveyed in this dissertation indicates that there is no single way to organize an enterprise zone. Adopting particular types of measure does not guarantee success. An effective program has to fit the unique nature of a community. In particular, it must be based on an understanding of the cause of economic distress, specific locational factors, institutional capacity, and the existing relationship between the public and the business sectors. This indicates that local officials should make a greater effort to examine the particular set of circumstance in their communities before they initiate any program. Specifically, they should identify their development potential and limitations, and the capacity in their organizations.

The third implication from this dissertation is that successful zones tend to be more focused, and with a simple structure. In fact, increasing the number of development measures within a zone may prove counterproductive. Given the limited staff resource in administering an enterprise zone, a complex program may make outreach and marketing more

difficult. To businesses, a simple development-assistance package is more appealing than one with superfluous options. Thus, when local authorities establish their zones, they should place more emphasis on the quality of service delivered than on quantity of services. A simple structure helps focus on the key messages of a program. In fact, case studies show that business promotion at the project level is labor intensive and time-consuming. Local development agencies should keep the overall program simple but retain sophistication at the project level.

Fourth, no matter how the enterprise zone is organized, state and local zone administrations have to improve their monitoring efforts. This study has shown that most zones are not adequately monitored. The poor level of basic records reflects a lack of understanding of local conditions. As mentioned above, local zone administrations need to prepare complete plans and a baseline study before any measure is put into place. After that, they should periodically conduct business surveys to understand market changes and identify business needs. Focus groups or roundtable discussions should be conducted frequently to gauge the business climate and find areas for improvement of the economic development efforts.

The final implication of this dissertation is that development officials should not have excessive expectations of enterprise zones or of any other type of economic development programs. This dissertation has demonstrated that locational advantages and a strong regional economy are still the major impetus for local growth. Lacking these two favorable factors, economic development efforts only work at the margins. Intensive management and more resources definitely help, but they alone cannot reverse a downward spiral. Turnarounds may happen, but usually only incrementally and under specific favorable sets of circumstances.

Finally, this dissertation found that even when some enterprise zone programs succeed in creating jobs and business, they still may have little impact on the social conditions of the enterprise zone community.

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APPENDIX 1 CONTACTS AND INTERVIEWS WITH STATE ENTERPRISE ZONE ADMINISTRATORS

Contacting state enterprise zone administrators was the first step of the empirical work in this dissertation study. The purpose of this step was to understand enterprise zone programs from a broad perspective and to make preparations for the local enterprise zone survey.

The contacts were conducted in the latter part of 1993. In July, I communicated with state enterprise zone administrators and solicited information and material about their programs (see correspondences in Appendix 1A). After studying these materials, I telephoned them to arrange in-person interviews in November. A confirmation letter for the meeting was sent two weeks before the visit (see Appendix 1B). Since this represented exploratory work, I structured the interview in a less formal manner. Each interview lasted three to four hours and covered the following aspects: a) the history of the program and designation procedures, b) the administrative arrangement and program costs, c) program changes and performance evaluation, d) other economic development activities in the enterprise zones, and e) zone operation at the local level and arrangements between state and local agencies.

All interviews were cordial and informing. One state program administrator even took me to visit nearby enterprise zones. The schedule of visits with the state zone coordinators proceeded as follows:

- a) Delaware
Interview with Ms. Donna Murray, Senior Business Specialist of Delaware Development Office, was conducted on November 4, 1993, in the afternoon at the Delaware Development Office in Wilmington.

b) Maryland

Interview with Dr. Jerry Wade, Senior Research Economist of the Maryland Department of Employment and Economic Development, was conducted on November 2, 1993, in the morning at the Department office in Baltimore.

c) Pennsylvania

Interview with Mr. David Messner, Enterprise Zone Program Coordinator of the Pennsylvania Bureau of Community Planning, was conducted on November 1, 1993, in the morning at the Bureau office in Harrisburg.

d) Virginia

Interview with Mr. Dan Girouard, Enterprise Zone Administrator of the Virginia Department of Housing and Community Development, was conducted on November 3, 1993 in the afternoon at the Department office in Richmond.

The state enterprise zone administrator in California was not contacted because the author, through participation in an earlier study of the California zones, had discussed about the program with representatives from the Trade and Commerce Agency and had already obtained a number of legislative documents, designation and application guidelines, and internal reports.

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SANTA BARBARA • SANTA CRUZ

INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT
 316 Wurster Hall
 (510) 642-4874
 FAX: (510) 643-9576
 MESSAGE PHONE: (510) 528-XXXX
 E MAIL: Sidney_Wong@ced.berkeley.edu

BERKELEY, CALIFORNIA 94720

July 31, 1993

«sal»«firstName»«lastName»
 «title»
 «State dept»
 «address1»«address2»
 «city», «st» «zip»

Research on Enterprise Zones

Dear «sal» «lastName»:

I am involved in a research project here at Berkeley. This project will examine the operation of state enterprise zones. It consists of three processes: a) an analysis using either the DMI or derived SSEL data to compare net changes in numbers of establishment and jobs between 1986 and 1992 in the zone to adjacent reference spatial units; b) a sample survey of local zone administrators about the variation of local incentives that augment the state program; and, possibly, c) a micro-level financial model to test the sensitivity of firms to the incentives.

This research is an extension of an earlier project: *Evaluation of the Performance of California Enterprise Zones* by Professor David Dowall, Mr. Marc Beyeler, and myself, at the University of California at Berkeley. Besides California, this new project will cover Delaware, Maryland, Pennsylvania, Virginia, and West Virginia.

As a first cut, I shall be grateful if you can furnish me with the following information:

- a) Marketing and promotional materials of the state enterprise zone program;
- b) Names of operational zones, including such information as the designation date, and the county/counties where the zone is located;
- c) A list of contacts of local zone administrators and related business and community organizations;

- d) Geographical information such as ZIP codes of the zone and a map showing its boundaries;
- e) The administrative organization of the zone at both state and local levels; and
- f) Other materials such as annual reports or references concerning local research of the zones.

I plan to visit «State» in November for initial field work, and in March 1994, after the completion of employment data analysis, for conducting interviews with local zone administrators. I am looking forward to discussing the details of this research and our findings in California with you. Meanwhile, please don't hesitate to call me should you have any queries. Again, I appreciate your assistance in this research.

Sincerely,

Chun-cheung Sidney Wong

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SANTA BARBARA • SANTA CRUZ

INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT
 316 Wurster Hall
 (510) 642-4874
 FAX: (510) 643-9576
 MESSAGE PHONE: (510) 528-XXXX
 E MAIL: Sidney_Wong@ced.berkeley.edu

BERKELEY CALIFORNIA 94720

October 21, 1993

«sal»«firstName» «lastName»
 «title»
 «State dept»
 «address 1»
 «address2»
 «city», «State» «zip»

Meeting on «State » Enterprise Zones

Dear «sal» «lastName»:

This is to confirm that we will meet at your office in «city» at «time» on «date», November 1993. Possible topics which I would like to discuss at the meeting are:

- a) The evolution of the enterprise zone program and any major adjustments since its commencement;
- b) Other state supports in local economic development;
- c) Examples of successful zones;
- d) The role of your agency in the local zone operations; and
- e) Fiscal and financial costs of the program to the state.

Once again, I appreciated your sending me of the information of «State» enterprise zone programs. I found it very useful in establishing my research database and designing a questionnaire to local administrators.

I will also bring you a copy of the draft paper on California's Enterprise Zone Program which I shall present at the Association of Collegiate Schools of Planning conference in Philadelphia. I look forward to meeting you at the scheduled time.

Sincerely,

Chun-cheung Sidney Wong

APPENDIX 2 THE LOCAL ENTERPRISE ZONE SURVEY - THE MAIL SURVEY

To prepare for the mail survey, several preparatory tasks were conducted between November 1993 and May 1994. First, during that time I spent conducting interviews with state enterprise zone administrators, I visited the following local enterprise zones: Baltimore-Park Circle (MD), Harrisburg (PA), Philadelphia-West Parkside (PA), York (PA), Hopewell (VA), Petersburg (VA) and Richmond (VA). The visits provided a real-world experience and first-hand knowledge of what enterprise zones looked like. During the visits, I met local zone coordinators and had brief and informal discussions about their operations.

Second, based on lists of contacts obtained from state administrators, I wrote to about 100 local enterprise zone administrators to solicit enterprise zone information such as maps, marketing materials, and descriptions of zone benefits (see Appendix 2A). Two additional follow-up letters were sent in the following two months. By January 1994 I had obtained basic materials describing most of the zones. These materials helped me frame the research study, prepare questions for the mail survey, and start mapping zone boundaries onto zipcode maps.

Third, in early 1994, I started designing the questionnaire for the mail survey after consulting a number of survey instruments in community and economic development. Preparation of the questionnaire closely followed guidelines suggested by Dillman (1978). Questions were revised upon suggestions from dissertation advisors, other faculty members, peer doctoral students, and two state enterprise zone administrators. After numerous revisions, draft questionnaires were pretested by eight individuals who were either coordinators of local enterprise zones in California and Virginia who were not selected in the study, or who were

practitioners in other economic development agencies in the San Francisco Bay Area. Based on their comments, the draft was revised and pretested again.

The final questionnaire was a ten-page booklet with a size of 8.5 by 7 inches (see Appendix 2B for a reproduction). It contains five sections: background, program management, zone administration, impacts of the zone, and other information. It was sent out in June 1994 to 78 zone administrations with a cover letter (see Appendix 2C) and a pre-paid return envelope. One week later, a postcard serving as a reminder and a thank-you note was sent out (Appendix 2D). A second follow-up letter with a replacement questionnaire was mailed to nonrespondents one month later (Appendix 2E). In August 1994 a final follow-up letter was faxed to nonrespondents to remind them to answer the survey. A telephone interview was carried out in November for those who did not respond to the faxed letter (see Appendix 3).

The final response rate to this survey is satisfactory. Of the 75 zone agencies to which I sent the survey, 51 responded, giving a response rate of 68 percent. The high response rate was a result of persistent follow-up actions. After the fourth week, the response rate was only 28 percent, but it increased to 51 percent after the post-card and the second letter were sent out. It further increased to 60 percent after the faxed letter was sent out.

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INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT
 316 Wurster Hall
 (510) 642-4874
 FAX: (510) 643-9576

BERKELEY, CALIFORNIA 94720

MESSAGE PHONE: (510) 528-XXXX
 E MAIL: Sidney_Wong@ced.berkeley.edu

November 24, 1993

«sal»«firstName» «lastName»
 «title»
 «dept»
 «address1»
 «address2»
 «city», «st1» «zip»

Enterprise Zone and Local Economic Development

Dear «sal»«lastName»:

As part of a research project of enterprise zone at the University of California at Berkeley, I am conducting a survey of enterprise zone programs in the Mid-Atlantic Region. This research specifically examines how local governments stimulate economic growth and conditions under which such efforts succeed.

I would be grateful if you would assist our research by sending the following information in the prepaid return envelope:

- a) marketing and promotional materials of the «ZoneNames» Enterprise Zone;
- b) map showing the boundary of the zone;
- c) designation date and zipcode of the enterprise zone; and
- d) names and contacts of several major participating businesses in the zone.

Should you have any questions, please do not hesitate to call me at (510) 528-XXXX. Your assistance is greatly appreciated.

Sincerely,

Chun-cheung Sidney Wong
 Research Associate

**THE ENTERPRISE ZONE PROJECT:
A MULTI-STATE INVESTIGATION OF ENTERPRISE ZONE
ORGANIZATIONAL STRUCTURES**

**LOCAL ENTERPRISE ZONE SURVEY
1994**

Institute of Urban and Regional Development
316 Wurster Hall, University of California
Berkeley, CA 94720
Fax: (510) 643-9576

The Enterprise Zone Project (EZP) is a university-funded multi-state study of the organizational structures of enterprise zones. It builds upon a previous study supported by the California Legislature. The goal of this survey is to identify the local programmatic features and institutional factors that influence zone performance.

If you have any questions regarding the survey, or the EZP, please feel free to contact the principal investigator, Sidney Wong at (415) 756-XXXX

BACKGROUND OF THE ZONE

Q-1 Name of the zone _____ and in what year was this enterprise zone first designated?
 Year _____ Month _____

Q-2 Which one of the following best describes the characteristic of the enterprise zone when it was designated? *(Please circle one number only)*

Downtown/main street	1
Commercial, but <u>outside</u> downtown/main street	2
Manufacturing/industrial	3
Transportation, warehouse, or wholesaling	4
Mixed and including the downtown/main street	5
Mixed, but <u>outside</u> downtown/main street	6
Other <i>(Please specify)</i>	7

Q-3 What was the land area of the zone when it was designated?
 _____ Acres or _____ Sq. miles

Q-4 At the time of enterprise zone designation, what led to the economic distress of the area? *(Circle all that apply)*

Closure of major plant	1
Transportation problem	2
Poor labor quality	3
Crime problem	4
Deficient infrastructure	5
Over regulation or high tax regime	6
Inadequate services	7
Poor business climate	8
High unemployment rate	9
Persistent poverty and blight	10
Other <i>(Please specify)</i>	11

Q-5 Apart from poverty, unemployment, and other economic distress considerations, did the following items play some role in the designation of this zone? *(Circle all that apply)*

Demonstration of community commitment	1
Availability of public resources	2
Ability to coordinate existing economic development efforts	3
Certain degree of development potential	4
Some minimal level of infrastructure and services	5
Other <i>(Specify)</i>	6

- Q-6 As of 1990, was there any other economic development program operating concurrently with the enterprise zone program within the zone ?
- | | | |
|--|---------------------------|---|
| | No (<i>Skip to Q-7</i>) | 1 |
| | Yes | 2 |
- ↓
- Q-6A Which statement best describes the importance of the enterprise zone program relative to other economic development efforts? (*Please circle one number*)
- | | |
|---|---|
| Not important | 1 |
| Of minor importance | 2 |
| Just part of the economic development efforts | 3 |
| One of the important economic development efforts | 4 |
| The most important effort | 5 |

PROGRAM ARRANGEMENT

- Q-7 What is the current status of the enterprise zone? (*Circle one only*)
- | | |
|-------------------------------|---|
| Active | 1 |
| Active, but preparing to exit | 2 |
| Other (<i>Specify</i>) | 3 |
- Q-8 How many firms are currently operating within the enterprise zone?
- _____
- Q-8A How many of them are receiving the zone benefits?
- _____
- Q-9 What size of establishment is targeted by the enterprise zone program? (*Circle all that apply*)
- | | |
|--|---|
| No special targeting | 1 |
| Less than 20 employees per establishment | 2 |
| Between 20 and 99 employees | 3 |
| Between 100 and 499 employees | 4 |
| More than 500 employees | 5 |
- Q-10 Which specific industrial sectors or types of firms are given priorities by the enterprise zone program? (*Circle all that apply*)
- | | |
|--|---|
| No special priorities | 1 |
| One or two important local firms/plants | 2 |
| Activities relating to agriculture or mining | 3 |
| Construction | 4 |
| Manufacturing | 5 |
| Transportation, distribution & wholesaling | 6 |
| Services for exporting out the region | 7 |
| Other (<i>Specify</i>) | 8 |

Q-11 Are the following zone incentives and regulatory relief offered by the state, the municipality, or both to businesses within the enterprise zone? *(Please circle one)*

	<u>Not Offered</u>	<u>Offered by the State</u>	<u>Offered Locally</u>	<u>Offered Jointly</u>
A Corporate income tax abatement	1	2	3	4
B Sales tax reduction for materials, equipment and machinery	1	2	3	4
C Sales/use tax reduction <u>without</u> conditions	1	2	3	4
D Tax credit for hiring economic disadvantaged persons or zone-related residents	1	2	3	4
E Tax credit for hiring new employees <u>regardless</u> their status or place of living	1	2	3	4
F Lender deduction of interest for loan to EZ businesses	1	2	3	4
G Employee income tax reduction for working in the EZ	1	2	3	4
H Tax credit for qualified investment in the zone	1	2	3	4
I Business expenses deduction	1	2	3	4
J Carry-over of net operating losses	1	2	3	4
K One-stop licensing & permitting	1	2	3	4
L Zoning relief or acceleration of zoning changes	1	2	3	4
M Fee waivers	1	2	3	4
N Property tax abatement for improved values	1	2	3	4
O Property tax abatement <u>without</u> conditions	1	2	3	4
P Utility tax reduction	1	2	3	4
Q Inventory tax reduction	1	2	3	4
R Preference or priorities in other programs	1	2	3	4
Other zone benefits <i>(Specify)</i>				
S _____		2	3	4
T _____		2	3	4
U _____		2	3	4

Q-11A Which items from the above are the most widely used by firms? *(Put letter of item in box)*

Most widely used

Second most widely used

Q-11B Were any of the above zone benefits introduced after 1990?

No 1

Don't know 2

_____ Yes *(Specify letter of item to the left)* 3

Q-12 Are the following kinds of economic development assistance offered to businesses within the zone only, outside the zone, or in both areas? *(Please circle one)*

	Not Offered	Enterprise Zone Only	Outside the Zone	Both Areas
A "Shopsteading"	1	2	3	4
B Venture capital support/low interest loan	1	2	3	4
C Loan guarantee	1	2	3	4
D Job training, including JTPA project	1	2	3	4
E Job referral/placement	1	2	3	4
F Labor-management dispute resolution assistance	1	2	3	4
G Assistance & counseling to businesses	1	2	3	4
H Infrastructure & physical improvement	1	2	3	4
I Crime prevention effort	1	2	3	4
J Business incubator	1	2	3	4
K Industrial/business park	1	2	3	4
L Land acquisition or site preparation	1	2	3	4
M Urban redevelopment/tax increment financing	1	2	3	4
N IRB/IDB allocation	1	2	3	4
O SBA/EDA programs	1	2	3	4
Other assistance <i>(Specify)</i>				
P _____		2	3	4
Q _____		2	3	4
R _____		2	3	4

Q-12A Which items from the above are the most widely used by firms?
(Put letter of item in box)

Most widely used

Second most widely used

Q-12B Were any of the above assistance introduced after 1990?

No 1

Don't know 2

Yes *(Specify letter of item to the left)* 3

Q-13 Of all economic development tools listed in Q-11 and Q-12, which two are the most effective in attracting businesses and employment to the zone?

The most effective tool _____

Second most effective tool _____

Q-14 Is a local economic development plan or business strategy in force in your community?
(Please circle one)

- No (Skip to Q-15) 1
- Yes 2

↓ _____

Q-14A What is the status of the plan or strategy? (Circle all that apply)

- An internal document 1
- A published document 2
- A published document that carried legal authority 3
- Other (Specify) 4

Q-14B In which year was the plan or strategy first prepared? _____

Q-14C What is the relationship of the enterprise zone program to the plan or strategy?
(Circle one)

- Separate and independent of each other 1
- Enterprise zone program was an instrument to implement the plan or strategy 2
- Enterprise zone program was an instrument to implement the plan or strategy, but in a new direction 3
- The enterprise zone program was the unifying theme of the plan or strategy 4
- Other (Specify) 5

ZONE ADMINISTRATION

Q-15 Was your agency the only lead agency for the administration of the enterprise zone program in the period between 1986 and 1990? (Please circle one)

- Yes (Skip to Q-16 at page 7) 1
- No 2

↓ _____

Q-15A Which best describes the administrative framework in that period?

- Jointly administered with another agency 1
- Another agency took the lead 2
- Other (Specify) 3

Q-15B Please identify the other lead agency and particulars

Agency name: _____

Contact: _____

Phone number: (_____) _____

Q-16 Which best describes your agency? *(Please circle one number only)*

- Government economic development department or division 1
- Government planning or community development department 2
- Office of the city/town manager 3
- Quasi-public or joint public-private development corporation 4
- Private-sector economic development association 5
- Community-based development corporation 6
- Other *(Specify)* 7

Q-17 In the whole year of 1993, how much money was spent by your agency in economic development programs and business promotion (excluding administrative expenses)?

\$ _____

Q-17A Of which, how much was targeted to this enterprise zone?

\$ _____

Q-18 What is the major funding source for the administrative expenses, including salary payment of your agency? *(Circle one only)*

- General revenue 1
- Fee or charges collected from businesses 2
- Other or mixed *(Specify)* 3

Q-19 In 1993, how much did your agency spend in administrative expenses, including payroll?

\$ _____

Q-19A Of which, how much is targeted to this enterprise zone? *(If separate accounting is not possible, please specify reasons)*

\$ _____

Q-20 How many staff were working in your agency in 1993?

	<u>Full-time</u>	<u>Part-time</u>
Administrators/executives	_____	_____
Professional/technical staff	_____	_____
Secretaries/clerks	_____	_____
Other <i>(Please specify)</i>	_____	_____

Q-21 In the same year of 1993, how many professional or technical staff (excluding clerical and secretarial) were assigned specifically for this enterprise zone?

- Working 37.5 hours or more a week _____
- Working 20 to 37.5 hours a week _____
- Working 10 to 19.9 hours a week _____
- Working 5 to 9.9 hours a week _____
- Working less than 5 hours a week _____

Q-22 In the past six months, what is the average total professional staffing time your agency devoted specifically to this enterprise zone ? _____ Hours per week

Q-23 Has the staffing level committed to this zone changed since 1989?

Increased substantially	1
Increased moderately	2
Roughly at the same level	3
Decreased moderately	4
Decreased substantially	5

Q-24 Which of the following experience or qualifications are possessed by any of the professional and administrative staff of your agency? *(Circle all that apply)*

Degree in business administration	1
Degree in community or economic planning	2
Over 5 years' experience in private-sector business	3
Skill in market analysis or financial feasibility study	4
Equity or debt financing experience	5
Business loan fund management skill	6

Q-25 In the past 12 months, how often were the following enterprise zone activities carried out? *(Please circle one number)*

			1 to 2	3 to 6	7 to 11	Monthly	Weekly	Not Sure
		<u>Never</u>	<u>Times</u>	<u>Times</u>	<u>Times</u>			
A	Mailing out EZ brochures to firms	1	2	3	4	5	6	9
B	Organizing workshops on zone benefits and other programs	1	2	3	4	5	6	9
C	Visiting firms to explain the EZ incentives and other initiatives	1	2	3	4	5	6	9
D	Providing firms with technical support in applying for zone benefits	1	2	3	4	5	6	9
E	Conducting survey to identify business needs	1	2	3	4	5	6	9
F	Promoting or organizing business service and information networks	1	2	3	4	5	6	9
G	Assisting firms to obtain credit or loan	1	2	3	4	5	6	9
H	Attending workshop or conference with other EZ coordinators	1	2	3	4	5	6	9

Q-26 Which of the following enterprise zone materials are available? *(Circle all that apply)*

Map showing the detailed zone boundary for distribution to businesses	1
List of participating and non-participating firms within the zone	2
Record of annual changes in employment and investment in the zone	3
Strategic plan of the zone implementation	4
Annual report of the enterprise zone program	5
Record showing firms' compliance with benefit conditions	6

Q-27 In the past 12 months, how often were the following participants consulted in the operation of the enterprise zone program? *(Please circle one)*

	Never	1 to 2 Times	3 to 6 Times	7 to 11 Times	Monthly	Weekly	Not Sure
A Private-sector EZ association	1	2	3	4	5	6	9
B Citizen advisory EZ committee	1	2	3	4	5	6	9
C Chamber of commerce	1	2	3	4	5	6	9
D Other business associations	1	2	3	4	5	6	9
E Professional groups	1	2	3	4	5	6	9
F Economic consultants	1	2	3	4	5	6	9
G Community-based organizations	1	2	3	4	5	6	9
H Redevelopment agency	1	2	3	4	5	6	9
I School district	1	2	3	4	5	6	9
Other <i>(Specify)</i>							
J _____		2	3	4	5	6	
K _____		2	3	4	5	6	

Q-28 Has the level of involvement by the above participants in the enterprise zone administration changed since 1989? *(Circle one)*

- Increased substantially 1
- Increased moderately 2
- Roughly at the same level 3
- Decreased moderately 4
- Decreased substantially 5

IMPACTS OF THE ENTERPRISE ZONE

Q-29 From the experience of this enterprise zone, would you agree on the following statements? *(Circle one)*

	1=Strongly Disagree		4=Neutral		7=Strongly Agree		
A Tax incentives and regulatory relief are sufficient to reverse economic distress	1	2	3	4	5	6	7
B For municipalities, state-supported enterprise zone is the economic development tool with least cost	1	2	3	4	5	6	7
C Enterprise zone plays a crucial role to concentrate existing resources and focus community commitment	1	2	3	4	5	6	7
D Success of the zone depends on the management sophistication and program intensity	1	2	3	4	5	6	7
E The enterprise zone is no more than the fashioning and repackaging of existing development efforts	1	2	3	4	5	6	7

Q-30 Please rate the effectiveness of your enterprise zone program in meeting the following objectives? *(Please circle all that apply)*

	<u>Not an EZ Objective</u>	<u>Not Effective</u>	<u>Some- what Effective</u>	<u>Very Effective</u>	<u>Not Sure</u>
A Retaining & expanding existing businesses	8	1	2	3	9
B Promoting business startups	8	1	2	3	9
C Attracting firms relocating to the zone	8	1	2	3	9
D Creating new jobs	8	1	2	3	9
E Creating job opportunities for economically-disadvantaged	8	1	2	3	9
F Community revitalization	8	1	2	3	9
G Improving overall business climate	8	1	2	3	9
H Removing regulatory barriers	8	1	2	3	9
I Coordinating existing economic development programs	8	1	2	3	9
J Improving infrastructure	8	1	2	3	9
K Better public-private partnership	8	1	2	3	9
L Main street revitalization	8	1	2	3	9
Others <i>(Specify)</i>					
M _____	8	1	2	3	
N _____	8	1	2	3	

Q-30A Which of the above items are the most important achievement of the enterprise zone? *(Put letter of item in box)*

Most important

Second most important

Q-31 If possible, please name one or two enterprise zones in your state or neighboring state that you regard as very successful *(Please specify state if it is in other state):*

Zone one: _____ (State ____)

Zone two: _____ (State ____)

Q-32 What would you suggest to improve the effectiveness of your enterprise zone program?

OTHER INFORMATION

Q-33 Has there been a major reorganization of the enterprise zone activities or management since 1986?

No (Skip to Q-34) 1
 Yes 2

↓ _____

Q-33A Could you state in which year the organization took place and how?

Year _____ How?

Q-34 Since 1986, has the zone crossed jurisdictional boundary between boroughs, townships, cities, or counties/independent cities?

No (Skip to Q-35) 1
 Yes, How? 2

Q-35 Please identify the zipcode(s) of the enterprise zone _____

Q-36 Is your agency currently applying for the federal empowerment zone/enterprise communities?

No 1
 Yes 2

Q-37 Could you please provide us the following materials?

- A An organization chart of your agency in the late 80s
- B The most recent and the 1990 annual reports of your agency

Q-38 Since which year have you been involved in this enterprise zone? _____

Thank you for your responses to this survey. It would be useful if you could provide the name of someone who could be contacted to provide additional assistance.

Agency: _____

Contact: _____

Title: _____

Phone: (____) _____ Fax: (____) _____ *Please turn over*

Is there anything else you would like to add about your enterprise zone such as the strength of the program or any unintended outcomes? If so, please use the space below for that purpose. Also feel free to give us any other comments that you think may help our study.

If you are interested in having a copy of: a) the summary of the results of this survey, b) the special zipcode tabulation of employment and socio-economic statistics for your EZ community, or c) the summary of the California Enterprise Zone Study, please check the boxes below.

Survey Result	<input type="checkbox"/>
Zipcode Statistics	<input type="checkbox"/>
Summary of California EZ Study	<input type="checkbox"/>

Again, your return of this survey by July 14, 1994 is greatly appreciated.



UNIVERSITY OF CALIFORNIA, BERKELEY

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SANTA BARBARA • SANTA CRUZ

INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT
 316 Wurster Hall
 (510) 642-4874
 FAX: (510) 643-9576

BERKELEY, CALIFORNIA 94720

June 9, 1994

«sal»«firstName» «lastName»
 «title» «dept»
 «address1»
 «address2»
 «city», «st1» «zip»

Dear «sal» «lastName»:

The popularity of enterprise zones is puzzling. In less than a decade, over 3,000 enterprise zones have been established in 37 states. However, we don't really understand how well zone incentives contribute to business and job growth. Is enterprise zone a mere repackaging of any available economic development efforts? Or, if enterprise zones promote businesses, do factors such as intensive marketing and partnership play a more important role than tax incentives?

You can help us to find out how enterprise zones operate and why some work more effectively than the others. You are invited to participate in this survey because your «Zone» is one of the most established ones in the country. Without your help, our understanding of enterprise zones could not be complete.

Individual answers to this survey will not be reported. We will summarize the survey as a statistical profile and coordinate the findings with the «State Enterprise Zone Agency». You are welcomed to share with us the statistical profile and other research products on enterprise zones. Please pick your choices at the end of the questionnaire.

The survey is *specifically* about the «Zone» and is designed to be completed within 20 minutes. You probably need to check the annual report of 1990/91 for one or two questions. When you complete the survey, please return it in the enclosed self-addressed envelope in a week's time but not later than July 14, 1994.

Please feel free to forward the questionnaire and this cover letter to another agency if you think that the staff in that agency is more suitable to answer this survey. Thank you in advance for your time and effort.

Sincerely,

Sidney Wong
 Principal Investigator, Enterprise Zone Project

Enterprise Zone Project

Institute of Urban and Regional Development
316 Wurster Hall
University of California at Berkeley
Berkeley, CA 94720

«sal» «firstName» «lastName»
«title»
«dept»
«address1»
«address2»
«city», «st1» «zip»

(Attn: «Zone» Enterprise Zone)

June 17, 1994

Last week a questionnaire about the operation of enterprise zones was mailed to you.

Please consider this card a "Thank you" for your assistance if you have already completed and returned the questionnaire to us.

If you haven't had a chance to do so yet, please help us by filling it out and returning it now. Without your help, our understanding of enterprise zones won't be complete.

If for any reason the questionnaire has not reached you, please call me now at (415) 756-XXXX so that I get another one in the mail to you today.

Sincerely,

Sidney Wong
Principal Investigator, EZP

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INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT
 316 Wurster Hall
 (510) 642-4874
 FAX: (510) 643-9576

BERKELEY, CALIFORNIA 94720

July 14, 1994

«sal»«firstName» «lastName»
 «title» «dept»
 «address1»
 «address2»
 «city», «st1» «zip»

Dear «sal» «lastName»:

Five weeks ago we sent you a questionnaire about the operation of the «Zone». As of today we have not yet received your response.

Please accept our thanks if you have returned the questionnaire to us. If you have not had a chance to do so, won't you please take the time now to fill it out? In the event that the it did not reach you, a replacement copy is enclosed.

If it is not convenient for you yourself to complete the questionnaire, please have another member of your staff do so.

Your experience and knowledge is crucial to our understanding of how local authorities use enterprise zone, among and with other development tools, to promote businesses and generate jobs. Only through your input can an overall view of enterprise zones across the nation be formulated.

You are invited to share with us the survey results. Please check the box at the back page of the questionnaire.

Thank you so much for the help only you can give.

Sincerely,

Sidney Wong
 Principal Investigator, Enterprise Zone Project

Encl.

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SANTA BARBARA • SANTA CRUZ

INSTITUTE OF URBAN AND REGIONAL DEVELOPMENT
 316 Wurster Hall
 (510) 642-4874
 FAX: (510) 643-9576

BERKELEY, CALIFORNIA 94720

August 1, 1994

«sal» «firstName» «lastName»
 «title» «dept»
 «address1»
 «address2»
 «city», «st1» «zip»

Dear «sal» «lastName»:

We are writing to you about the multi-state study of enterprise zones. We have not yet received your response since the middle of June.

This study is one of very few multi-state enterprise zone studies that have ever been done. Therefore, the results are of particular importance to practitioners who are interested in how to make their zones work better. The usefulness of the survey results depends on whether we can analyze all the sampled zones. As those who are eager to turn in questionnaires may represent zones that differ substantially from zones that have not been represented, our study may be biased if it cannot cover all the zones.

This is the reason that we fax this letter to you urging you to complete and return the questionnaire now. If it is not convenient for you yourself to do it, please have another member of your staff do so.

Please feel free to call me at (415) 756-XXXX if you have any questions such as that the questionnaire is too long. If we have not heard from you in the next few weeks, we will contact you to see if there is anything that we can do to minimize your inconvenience.

We'll happy to send you a copy of the survey results. Please check the appropriate box at the back page of the questionnaire.

We thank you in advance for your help.

Best regards,

Sidney Wong
 Principal Investigator, Enterprise Zone Project

FAX to: «FaxNumber»

APPENDIX 3 THE LOCAL ENTERPRISE ZONE SURVEY - THE TELEPHONE SURVEY

In September 1994, three months after the mail survey was first sent out, I started the preparation of a telephone interview as a follow-up action for those zone administrators who did not respond to the mail survey. Basically, this involved translating certain portions of the mail questionnaire into a shorter form suitable for telephone interview. Only questions that were considered important for building variables in the performance analysis were included in the telephone interview. Ms. Martha Garcia helped me to do the translation and conducted the actual telephone interviews. The translated questionnaire was enclosed as Appendix 3A. It was prepared according to the Dillman guidelines. The questionnaire was pretested twice over the phone with fellow students and economic development officials between September and October. The telephone survey was conducted in November. The telephone follow-up captured three additional responses and also involved contacting about ten respondents for clarification of some of their answers.

**THE ENTERPRISE ZONE PROJECT:
A MULTI-STATE INVESTIGATION OF ENTERPRISE ZONE
ORGANIZATIONAL STRUCTURES**

**LOCAL ENTERPRISE ZONE SURVEY
1994**

TELEPHONE INTERVIEW

(For Internal Use)

**Survey Period
November to December 1994**

Institute of Urban and Regional Development
316 Wurster Hall, University of California
Berkeley, CA 94720
Fax: (510) 643-9576

Zone Code Number: _____ Zone Name: _____

Respondent: _____

Date: _____ Time: _____

Introduction

How are you? «FirstName» or «Sal» «LastName». Thank you for taking part in this survey. As we discussed before, this interview will take no more than 30 minutes. All the questions are about your agency's involvement with «Zone Name». Your responses will be kept confidential

Do you have any question before we begin?

(The Enterprise Zone Project is a university-funded multi-state study of the organizational structures of enterprise zones. It builds upon a previous study supported by the California Legislature. The goal of this survey is to identify the local programmatic features and institutional factors that influence zone performance. About 70 zone coordinators in California, Maryland, Pennsylvania, Virginia have been or are being interviewed)

If you don't have questions, we can begin. First, I am going to ask you two questions regarding the administration of your zone.

1. Was your agency the only lead agency involved in the administration of the enterprise zone program between 1986 and 1990? *(Circle one)*

Yes

No

(If yes, SKIP question 2 and ask question 3)

2. Since you are not the lead agency, which of the following statements best describes the administrative framework of the zone between 1986 and 1990? *(Circle one)*

Jointly Administered with Another Agency? 1

Another Agency took the lead? 2

Other? 3

If other, ask what the administrative framework is.

I am now going to ask you two questions relating to your agency's expenses in 1993.

3. In 1993, excluding administrative expenses, how much money did your agency spend on economic development programs and business promotion?

\$ _____

4. How much of this money was specifically targeted to «Zone Name»? \$ _____

Now let us discuss your agency's staff.

5. In 1993, how many full-time employees were working for your agency? _____
6. Of these full-time employees, how many were:
- | | |
|----------------------------------|-------|
| Administrators or Executives? | _____ |
| Professional or Technical Staff? | _____ |
| Secretaries or Clerks? | _____ |
| Other Staff? | _____ |

I am going to ask you several questions regarding the number of professional and technical staff working for your agency. Please do not include clerical and secretarial staff when answering the following five questions.

7. In 1993, how many professional or technical staff were assigned for the «Zone Name» enterprise zone:
- | | |
|--|-------|
| A. Working <u>37.5 hours</u> or more a week? | _____ |
| B. Working <u>20 to 37.5 hours</u> a week? | _____ |
| C. Working <u>10 to 19.9 hours</u> a week? | _____ |
| D. Working <u>5 to 9.9 hours</u> a week? | _____ |
| E. Working <u>less than 5 hours</u> a week? | _____ |

Let us now look at staffing in your enterprise zone from another perspective. Instead of the number of personnel, we are interested in total working hours.

8. In the past six months what was the average total professional staffing time your agency devoted specifically to the «Zone Name»? Please give us the number in hours per week. _____ Hrs.
9. Have the number of working hours committed to this zone changed since 1989? *(Circle one)*

Yes

No

(If No, skip question 9A and ask question 10)

- 9A. Has the number of working hours increased substantially, increased moderately, decreased moderately, or decreased substantially? *(Circle one)*

Increased Substantially	1
Increased Moderately	2
Increased Moderately	3
Increased Substantially	4

Now I am going to ask you a series of yes/no questions regarding your staff expertise.

10. Which of the following experience or qualification is possessed by any of the professional and/or administrative staff working for your agency? *(Circle answer)*
- | | | |
|--|-----|----|
| A. Degree in Business Administration? | Yes | No |
| B. Degree in Community or Economic Planning? | Yes | No |
| C. Over 5 years of experience in private sector business? | Yes | No |
| D. Skills in market analysis or financial feasibility studies? | Yes | No |
| E. Equity or debt financing experience? | Yes | No |
| F. Business loan fund management skills? | Yes | No |

Let's talk about the materials that your agency prepares for its enterprise zone program.

11. Does your agency prepare the following materials? (*Circle answer*)
- | | | |
|---|-----|----|
| A. A map showing the detailed zone boundary for distribution to business? | Yes | No |
| B. A list of participating and non-participating firms within the zone? | Yes | No |
| C. A record of annual changes in employment and investment in the zone? | Yes | No |
| D. A strategic plan of the zone implementation? | Yes | No |
| E. An annual report describing the enterprise zone program? | Yes | No |
| F. A record showing firms' compliance with incentive conditions? | Yes | No |

I am going to read 8 kinds of activities that relate to the administration of enterprise zones. For each activity please indicate whether or not it occurred within your zone in the past 12 months, and how often the activities were carried out? (*Circle number*)

- 12.
- | | <u>Never</u> | <u>1 to 2
Times</u> | <u>3 to 6
Times</u> | <u>7 to 11
Times</u> | <u>Monthly</u> | <u>Weekly</u> | <u>Not
Sure</u> |
|---|--------------|-------------------------|-------------------------|--------------------------|----------------|---------------|---------------------|
| A. Mailing EZ brochures to firms in the past 12 months? Never, 1 or 2 times, 3 to 6 times, 7 to 11 times, monthly, or weekly? | 1 | 2 | 3 | 4 | 5 | 6 | 9 |
| B. Organizing workshops for business to advertise the EZ program? Never, 1 or 2 times, 3 to 6 times, 7 to 11 times, monthly, or weekly? | 1 | 2 | 3 | 4 | 5 | 6 | 9 |
| C. Visiting firms to explain EZ incentives and other initiatives? | 1 | 2 | 3 | 4 | 5 | 6 | 9 |
| D. Providing firms with technical support when applying for zone benefits? | 1 | 2 | 3 | 4 | 5 | 6 | 9 |
| E. Conducting surveys to identify business needs? | 1 | 2 | 3 | 4 | 5 | 6 | 9 |
| F. Promoting or organizing business service and information networks? | 1 | 2 | 3 | 4 | 5 | 6 | 9 |
| G. Assisting firms in obtaining credit or loans? | 1 | 2 | 3 | 4 | 5 | 6 | 9 |
| H. Attending workshops or conferences with other EZ coordinators? | 1 | 2 | 3 | 4 | 5 | 6 | 9 |

Now we will discuss how often your agency consults other enterprise zone participants. For each of the participants whom I am going to mention, please indicate how often they were consulted in the past 12 months -- Never, 1 to 2 times, 3 to 6 times, 7 to 11 times, monthly, or weekly? (*Circle number*)

13.	Never	1 to 2 Times	3 to 6 Times	7 to 11 Times	Monthly	Weekly	Not Sure
A. Private-sector enterprise zone association?	1	2	3	4	5	6	9
B. Citizen advisory enterprise zone committee?	1	2	3	4	5	6	9
C. Chamber of Commerce?	1	2	3	4	5	6	9
D. Other business associations?	1	2	3	4	5	6	9
E. Professional groups?	1	2	3	4	5	6	9
F. Economic consultants?	1	2	3	4	5	6	9
G. Community-based organizations?	1	2	3	4	5	6	9
H. Redevelopment agency?	1	2	3	4	5	6	9
I. School District?	1	2	3	4	5	6	9

14. Has the overall level of involvement by these participants changed since 1989?
(*Circle one*)

Yes

No

(*If No, skip question 14A and read the statement of thanks below*)

14A. Has the level of involvement increased substantially, increased moderately, decreased moderately, or decreased substantially? (*Circle one*)

Increased Substantially	1
Increased Moderately	2
Increased Moderately	3
Increased Substantially	4

Statement of Thanks

Thank you very much for answering these questions. The information you gave us will help us understand how enterprise zones operate. Please be assured that your answers would not be individually disclosed. Rather, we will summarize the survey as a statistical profile.

If you have any questions about the survey, please call me or Mr. Sidney Wong at (415) 756-XXXX. Once again, thank you very much and take care.

APPENDIX 4 CASE STUDY PREPARATION FOR THE THREE ENTERPRISE ZONES

The case study was conducted in two stages. First was an analysis based on secondary information and surveyed data. Second was a visit to the three chosen enterprise zones. In the first stage, I conducted a detailed analysis of the socioeconomic character of each selected enterprise zone and its region. I tabulated the 1980 and 1990 census information by zipcode, zone, region, and state for each enterprise zone and conducted comparisons among these units. Based on the special CBP tabulation, I analyzed changes in establishment and employment for each relevant zipcode, zone, and region. A shift-share analysis for the employment of the zone against the region was prepared. Second, I analyzed the geographical and historical background of the state and regional economies of the selected zones.

In the second stage, I visited the zones and stayed two to three days to conduct a windshield survey. During the visit, I interviewed the zone coordinator and any other economic development officials who had projects in the zone. I also interviewed representatives of local business associations. Based on the contacts provided by the zone coordinators, I also visited some factories and firms to discuss conditions there with their operators. I interviewed local historians and visited local libraries to study the economic development of the enterprise zone communities. All interviews were conducted in accordance to a protocol (see Appendix 4A) and tape recorded. During the visit to the enterprise zone agencies, I took time to review their documents, including their original zone application, annual reports, publicity materials, other economic development materials.

The site visit was prepared in April 1995. I contacted prospective zone coordinators by phone and scheduled appointments. During the contact, I requested that they schedule additional appointments with other enterprise zone participants. The visit was then confirmed by a fax letter. To facilitate the interview, I provided the following information to the interviewees: a) an economic analysis for all the zipcodes in the enterprise zones at two-digit SIC level, b) a summary of the local enterprise zone survey, and c) a summary table of enterprise zone studies.

The visits to Jeannette and Frostburg took place between May 21 and 23, and May 24 and 26, respectively. The visit to Sacramento took place on June 27 to 29. List of interviewees is recorded at the end of the bibliography section.

Protocol for Case Study 1995 Local Enterprise Zone Study

Name of Zone _____

Name of Interviewee _____ Title _____

Organization _____

Date of Interview _____ Time _____

ESTABLISHMENT AND EMPLOYMENT CHANGES

Explain why this zone is selected in this case study. Present business establishment data to interviewee and mention key findings -- zone change is 2 % (mean) or 4 % (median) lower than county changes but selected cases outperformed their counties (Frostburg, 9%; Jeannette, 3.3%; Sacramento, 67%).

1. Could you estimate how many of the new firms in your zone are startup firms, branch firms, or relocation firms?

Startup _____ Branch _____ Relocation _____

2. Could you give some examples for each group and tell why they have come to your zone?

Startup _____

Branch _____

Relocation _____

Present employment data and results of shift-share analysis. Explain key findings -- Overall average: 4.6% higher than county, but Frostburg (61%), Jeannette (0.7%), Sacramento (81%). Employment differential shifts: Frostburg (rapid growth -- agricultural services, wholesale, textile & apparel, retail in eating & hotel); Jeannette (modest growth -- construction, textile, general manufacturing, retailing in eating); Sacramento (all sectors were growing).

3. Which type of industry has the greatest expansion in employment and why?

4. Does your office keep records on firm and job changes? _____ May I have a copy of these records?

BUSINESS CLIMATE & PROGRAM STYLE

- 5. Can you briefly describe the business development strategy of the city? Does it have a distinct emphasis (such as type of industry, small business startup, business retention, attraction of established business)?

- 6. Does the program differ from those in nearby cities? How do they compete for business?

- 7. How could you rate the business climate of your community, and how did it change after the zone was designated?

- 8. What is the relationship between the business community and the local government? How do they work together in promoting the local economy?

BACKGROUND & LOCATIONAL FACTORS

11. After these years of effort, how has the enterprise zone program helped remove those unfavorable factors?

12. Are there any factors, positive or negative to business development that you would consider beyond the control of your community (i.e., linkage to university, regional trend, etc.)?

13. Would you describe how these factors affect business?

Favorable _____

Unfavorable _____

14. How about factors that are within the control of local communities? Please indicate experiences from your zone that might be replicable elsewhere in improving these factors.

PROGRAM STRUCTURE

Present the summary of the survey. According to the structure typology, zones can be classified into four types --- minimalist, pure, traditional, and interventionist. Explain classification logic (Sacramento & Frostburg - minimalist; Jeannette - complex).

15. Why has such a program structure been chosen instead of others?

16. Are existing resources capable of supporting your program?

17. Of all the instruments of the enterprise zone program, is any one playing a critical role? Why?

18. From your experience, is a complex program with a large number of instruments necessary?

The intensity typology classifies zones into self-moving, active-simple, activist, and passive-complex. Explain the logic (Frostburg & Jeannette: self-moving; Sacramento: active simple).

19. Is this a fair characterization of your zone?

20. Conventional wisdom is that outreach, expertise, and public-private participation are crucial to a successful program. Are these three factors playing an important role in your zone? How?

21. Since no zone has unlimited resources, did I miss elements other than outreach, expertise, and public-private participation that are equally important?

Explain the econometric model results. Two groups of factors are important to how the zone works better than the county: A) Original Employment Size of the Zone (-), The Initial Condition or Racial Composition (-), and The Regional Growth (+); B) the Participation Index (+), Number of Measures (-), and the Outreach Index.

22. Would you comment on this model? Does the result make any sense?

INTERNAL & EXTERNAL ORGANIZATIONS

23. Is economic development the primary function of your office?

24. How many other organizations are actively involved in the enterprise zones? What are their roles (i.e., EZ association, chamber of commerce, community development agency)?

25. How are these activities coordinated? Who takes the leading role?

BUSINESS SECTOR

26. What are the major concerns of private firms? Has a business survey been conducted?

27. How do local firms know about the enterprise zone program and other business-assistance programs?

28. How do firms that are located elsewhere or people who are potential entrepreneurs of startup firms know about these programs?

29. Please indicate how many firms use tax incentives or participate in local economic development program? Why do some of them participate and others not?

30. Is any particular program popular among private business?

31. Does the business sector participate in the formulation of an overall business development strategy? How?

GENERAL IMPACTS

32. Would you assess the direct and indirect impacts of your enterprise zone program? Were these effects sustainable?

33. If the program could be redone, what changes would you make?

34. Has the enterprise zone program met other community development goals?

Request publicity materials, annual reports, application records, organizational structure charts, and other contacts.

APPENDIX 5 COMPILATION OF EMPLOYMENT AND ESTABLISHMENT DATA

Since 1964, the County Business Patterns (CBP) has been published on an annual basis by the joint effort of the Social Security Administration and the Bureau of the Census to provide nationwide economic statistics. It reports the mid-March employment, first quarter and annual payrolls, total number of establishments, and number of establishments by employment-size class.

The CBP has been the most widely consulted source of economic data because it is the only public series that provides data by two-, three-, and four-digit level of the Standard Industrial Classification (SIC) system. Though the CBP does not cover agricultural production, railroads, government or household employment, it still has wider coverage than the 5-year economic censuses, which exclude two major sectors --agricultural services, forestry, and fisheries; and finance, insurance, and real estate -- and parts of two others -- religious organizations; and local and interurban ground transportation, air transportation, pipelines, communication, and public utilities. The CBP series is also the most important data source for economic studies of small areas, since it provides separate reports for every county and Metropolitan Statistical Area (MSA) in every states, the District of Columbia, and Puerto Rico.

The CBP data are extracted from the Standard Statistical Establishment List (SSEL), an internal computer database that covers all known U.S. business firms and their establishments (US Bureau of the Census, 1979; US Comptroller General, 1979). The SSEL records the first-quarter employment, payrolls, gross sales/receipts and other information at establishment level. The data are gathered from various sources such as

records of the Social Security Administration, the Internal Revenue Service, and various programs conducted by the Bureau such as the Annual Company Organization Survey, the Annual Survey of Manufactures, and Current Business Surveys.

The Bureau of the Census provides special tabulations of the CBP at the zipcode level. The tabulations include only the number of business establishments at the four-digit level of the SIC. Within each zipcode, establishments are tabulated by the following employment size categories: 1-4, 5-9, 10-19, 20-49, 50-99, 100-249, 500-999, and 1,000 and over. Unlike CBP, the zipcode tabulations do not report employment and payroll figures.

Census Bureau and Income Tax confidentiality laws require that data cannot be reported so that an individual firm can be identified. Therefore, the SSEL is not accessible by agencies or individuals outside the Bureau, making the zipcode tabulations of CBP probably the only available source of public data for local economic studies at the sub-county level.

To carry out analysis of economic changes of enterprise zones and their respective regions between 1986 and 1990, I combined the establishment data from the zipcode tabulations and the regular CBP data. In deriving employment estimates for each zipcode at the two-digit SIC level, the following steps were carried out for both the 1986 and 1990 data:

1. At the state and national levels, CBP publishes the total number of establishments and employment by two-digit SIC and by employment size class. Using these data, I calculated the employee-to-establishment ratios for each individual employment-

size class for the whole U.S. and the five target states for each two-digit SIC level industrial group.

2. At the two-digit SIC level, some state-wide CBP data are suppressed for disclosure restrictions. In these cases, I estimated the employee-to-establishment ratio based on nation-wide CBP data for that particular two-digit SIC and employment-size class. In some rare cases where even the nation-wide CBP data were not disclosed at the two-digit SIC level, I used data from the next-highest level of aggregation, i.e., the industrial division level, to make the estimates.

3. Next, I estimated the county-wide employee-to-establishment ratios. As CBP reports only total employment and number of establishments for each employment size-class at the county level, the calculation of employee-to-establishment ratios has to be based on modifications of the state-wide ratios. I multiplied the state ratios by the establishment count in each employment-size class for each two-digit SIC industry in the target counties. An estimated total employment was obtained by summing up estimated employment counts across each employment size-class and comparing these with the actual total reported in CBP. Some adjustments were made manually at this stage to purge certain data anomalies.

4. I next used a proportional adjustment procedure to adjust the employee-to-establishment ratios by multiplying them with the ratio between the actual and estimated employment total. I designed a built-in routine in the UNIX computer program to make sure that the adjusted employee-to-establishment ratios fell

inside the range of the employment size-class. If an adjusted ratio went beyond the range, it was substituted by the original state-wide ratio. After about eleven iterations, the county-wide employee-to-establishment ratios were finalized when the estimated and actual employment totals converged.

5. Then, I aggregated the special establishment tabulations from the four-digit SIC level to the two-digit level of aggregation for each zipcode. Multiplying the county-wide employee-to-establishment ratios of a specific employment size class and two-digit SIC category by the number of establishments in those categories, I obtained the complete employment estimates for each zipcode in the target counties and states for 1986 and 1990.

6. Since the SIC codes were revised in 1987, some adjustments had to make the 1986 employment and establishment figures consistent with those of 1990. Based on Appendix A of the 1987 edition of the SIC Manual (Office of Management and Budget, 1987), I changed the SIC code of six two-digit industries in 1986 to bring it into line with the updated SIC. Finally, the 1986 and 1990 zipcode employment and business establishment datasets were combined after zipcodes with missing data in either year were taken off.

Using the completed dataset for the 1986 and 1990 employment and business establishment at the zipcode level, I started compiling data for the enterprise zones and their corresponding regions in my studies. Based on the maps obtained from local zone administrators, I superimposed zone boundaries on the zipcode maps for each enterprise zone. When a zone

fell completely within a zipcode, I allocated the employment and establishment data of the entire zipcode to the zone. If a zone straddled zipcodes, I combined zipcodes to form a zone. I selected the zipcode that had the highest percentage of its area in the zone as the core zipcode and allocated all the data from it to the zone. For the non-core zipcodes, I apportioned the data according to the enterprise zone area in the zipcode.

Apart from aggregation to zones, I also aggregated the zipcode data to the respective regions of enterprise zones. Basically, the region was defined as the county where a zone was located. However, several adjustments needed to be made. I combined counties to form the region when the original county was small or the zone was at the county border. Conversely, when the county was too large, I took areas about ten to fifteen mile around the zone. A zipcode list arranged by county from the on-line CD-ROM services of the 1990 Census Information helped the aggregation of regions which comprised a county or a group of counties. For regions that were only part of a county, I relied on plotting the region on zipcode maps to generate the zipcode list.