Using Regional Economic Analysis in Urban Jobs Strategies

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Brian R. Bosworth
Regional Technology Strategies, Inc.

Joel Rogers
Center on Wisconsin Strategy

with

Daniel S. Broun
Regional Technology Strategies, Inc.

Matthew Zeidenberg
Center on Wisconsin Strategy

Preface and Acknowledgements

This is a guidebook about using regional economic analysis to support urban jobs programs. This guidebook was commissioned by the Annie E. Casey Foundation to support the member projects of its Jobs Initiative—in Seattle, Denver, St. Louis, New Orleans, Milwaukee, and Philadelphia; some of our examples are drawn from those cities, but the problems we address herein are basic and common to most urban areas. With the permission of the Foundation, the guidebook is being made available to community organizations and other parties interested in regional economic development and in developing and running a jobs project. We gratefully acknowledge the support of the Casey Foundation in the development of this guidebook, and thank Bennett Harrison of Harvard's Kennedy School of Government for helping us with its development. We hope that it is useful.

Introduction

What is the purpose of this document?

This is a methods and strategy guidebook for organizations working in depressed urban areas to help area residents get good family-supporting jobs.

A rising regional economy is certainly not a sufficient condition of job opportunity for the urban poor, but it is almost surely a necessary one.

Our focus is not on the supply side of urban labor markets. If it were, we would look at the residents themselves, their skills and job readiness problems, and determine how to solve these problems. We are looking instead at the demand side: the structure of the local economy and its employers who might provide residents with jobs. Our strategy guide is intended specifically to help organizations identify opportunities for two sorts of demand side intervention: 1) helping firms increase their ability to compete at higher levels of productivity and thereby to create more job-generating wealth in the region; and 2) influencing the employment practices of these firms so that they hire more people from depressed neighborhoods. We offer suggestions about how to get at this through more effective analysis of the regional economy and through understanding how individual employers and industries are organized.

Such demand side strategies are recommended for at least two reasons. First, successful employment programs depend on job growth. Putting poor people to work in good jobs that offer wages and benefits capable of supporting a family is very difficult under any circumstances. It is close to impossible, at least in a sustainable way, if there is little or no vitality in the regional economy. The few good jobs that a few firms might be able to create in a lackluster economy will be rationed among the best qualified or best connected, and probably will not help the many people with poorly-developed skills or few prior linkages to the labor market. A rising regional economy is certainly not a sufficient condition of job opportunity for the urban poor, but it is almost surely a necessary one.

Second, there is growing evidence that success in placing poor people into good jobs demands that your organization get inside the primary labor market of the firms. That is, you need to understand which positions firms have available, what work is required in these positions, and how they are filled. The Aspen Institute's recent review of privately-initiated sectoral strategies concluded that most successful initiatives have become deeply involved with the industry where they seek to place employees. Such successful programs provide value to the actors within

that industry through mutually beneficial, market-based relationships between low-income participants and firms.[1] This conclusion is consistent with the assessment of other analysts who have noted the generally weak ties between public employment and training agencies (and many private non-profit organizations as well) and the private sector firms in which they seek to place employees.[2]

What stands out from a review of the more successful programs is their relative success in integrating their programs into the fabric of the internal labor market of firms and their industry associations. In addition, a program is more likely to be able to help people find good jobs in an industry if that program is involved with the industry across the broad scope of its improvement efforts. For example, some community colleges have found that providing technical assistance and training to firms in organization, business strategy and advanced technology applications creates relationships of trust that can be leveraged to place graduates of their training programs. Such an advantage accrues whether the colleges are trying to place degreed or non-degreed applicants.[3]

This is only common sense. If you want to influence the employment behavior of the firms in your region, you are going to have to help them discover why a change in behavior is in their interest. If it were perfectly obvious that they should hire people from your target community with limited skills and poor work experience, they would be doing so. In other words, this project is about changing the recruitment, hiring and training practices of employers in your region. If you want them to do that, you will need good reasons for them to do so, as well as a relationship that enables you to communicate those reasons and support the changes that will make it possible for the firms to follow through.

As emphasized throughout this guidebook, you can have a positive impact on the competitiveness of firms in your region and gain access to their employment markets to the extent that you work with firms as interrelated enterprise systems rather than as independent entities. That is why this regional economic analysis is so important.

If you view your task simply as trying to convince any individual firm to hire individuals from poor neighborhoods with poorly developed job skills, then regional economic analysis is not likely to help you very much. You will have to rely on good luck and charismatic leadership. But changing the hiring practices of a few isolated firms is also unlikely to have any significant impact on your goals. What you want to do is

affect the human resource development policies and practices of large groups of employers in your community. And when you see your target as the larger system of interrelated firms and want to intervene at that level, you have to know a good deal about that system. You need to know how the firms are connected to each other in the regional economy. You need to be intimately familiar with the factors that drive their competitiveness. And you need to be able to identify points of leverage for your intervention—the places where thoughtful public policy and collective private sector actions can affect both firm competitiveness and human resource policies.

It is necessary to understand the structure and performance of your regional economy in order to develop an effective jobs program.

None of this is easy. If you expect to make a difference in stimulating more growth and job demand in the regional economy and become "players" in private sector-based collaboratives pursuing growth strategies, you will have to work very hard across several dimensions toward the following objectives:

- to understand the structure and performance of the regional economy;
- to identify the key business clusters whose performance will drive the regional economy;
- to determine the appropriate places where intervention can make a real difference in the competitiveness of firms in those clusters;
- to create alliances with other organizations, public and private, that are working to support these improvements;
- to help the firms find ways in which to support collective action;
- to provide real services to the firms in these business clusters that will make a difference in their business success;
- to develop and nurture trust relationships with private sector employers; and
- to sustain this effort over a period of several years.

When should you do this analysis?

Effective jobs programs require continuous interaction between learning about your regional economy and trying to influence it.

It is important to understand that doing this sort of work implies ongoing capacity for analysis, testing, feedback, and reevaluation. It's not something that needs to be "completed" before you begin other work. Specifically, don't think of what follows as a sort of study you need to finish before beginning your local project. Regional economic analysis involves a lot of data collection, surveys, focus groups and scores of interviews. It requires careful coordination with other organizations engaged in similar and complementary work. If you tried to do all of this before implementing a program, you might never get that far. Indeed, you might get paralyzed by too much information, or discouraged by the growing realization that you can never "know enough."

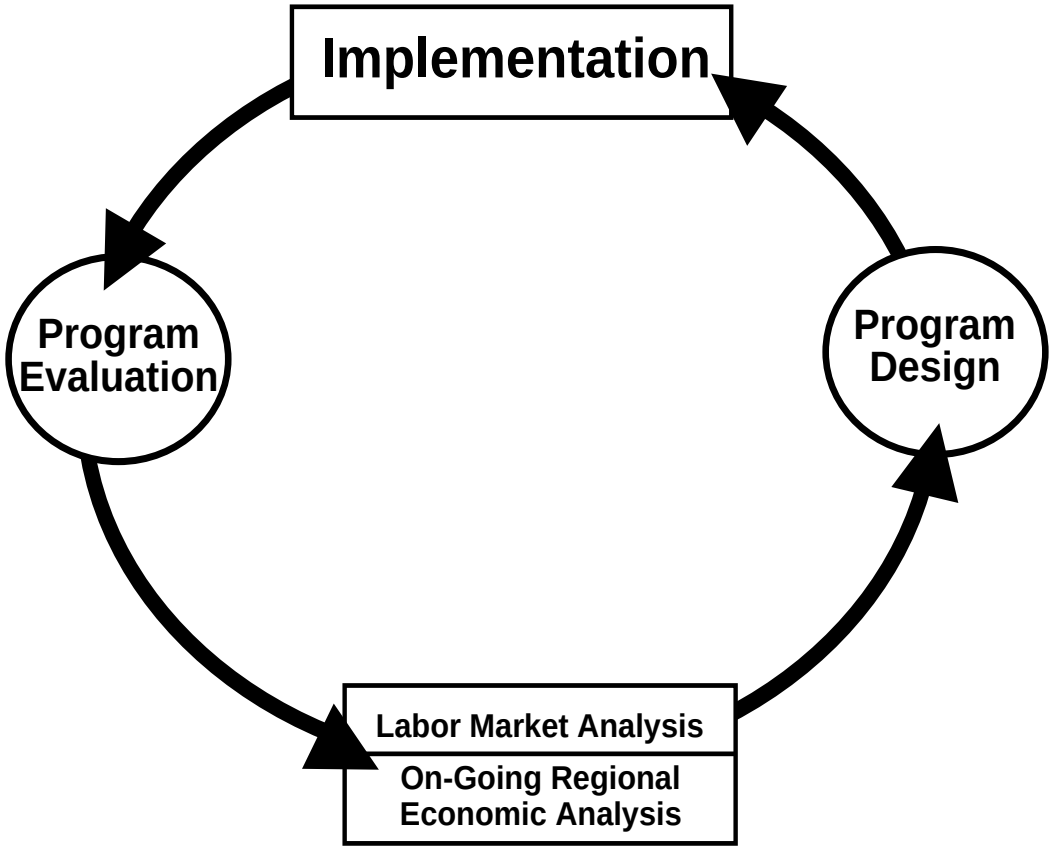
Equally, don't think of this as something that can be done once and for all. The economy changes. Indeed, over time, your project's own work should have some role in changing it. To gauge that work, correct mistakes, and see new opportunities as they arise, you will always need to be looking at economic trends, exploring new relationships with employers, and pursuing the objectives listed above.

Instead, think of this as an on-going process of research and analysis which supports and is in turn supported by ongoing project design, implementation and evaluation (as shown in Exhibit One). All of these things are going on at once. The quality of your research and analysis will be improved by your implementation activities. You will be learning how things work in the firms whose behavior you seek to influence. You will know what questions need to be asked. You will acquire greater vocabulary that will make your data collection efforts more efficient and more effective. And then you will use that improved research capacity to improve your program work, as illustrated by Exhibit Two.

In what follows, we will review a single path of analysis at three different levels. The first level will support a short-term strategy. Without spending a lot of time analyzing issues of underlying economic advantage, it will help you to quickly identify those specific companies in your region that are adding new employees. It will suggest specific ways to engage in structured conversations with those firms about their employment practices with a view toward encouraging them to hire residents of your target area.

This seems like a very obvious place to begin. Which firms are hiring? Are they hiring the people we want them to hire? How can we offer them support so that they hire more of the people we want them to hire? This

Exhibit One
Regional economic analysis is an on-going process, not a one-time study.



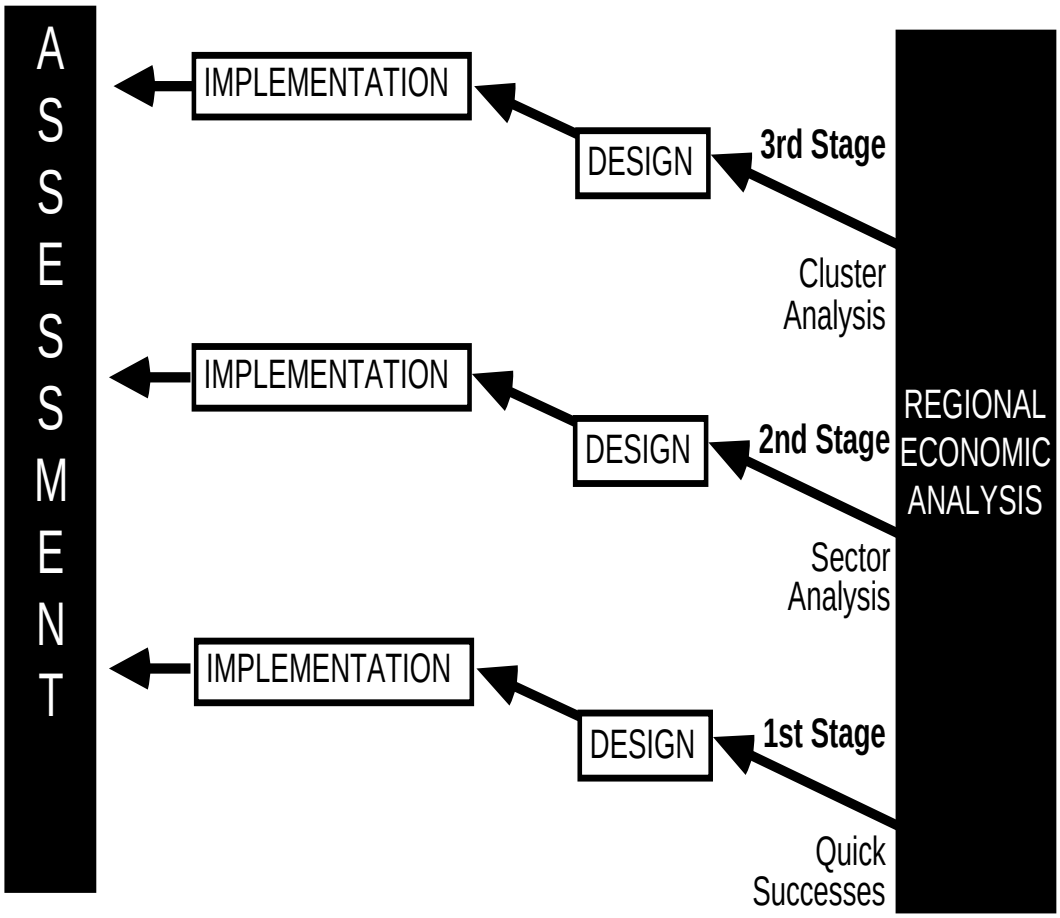
quick start approach should pay off in very short order. It should not require a lot of time in designing new programs — it can develop stronger employer connections for efforts already underway. It should be possible to link the findings of this analysis and the opportunities that result to neighborhood-based employment services and training programs that are already underway on the supply side. This will have the added consequence of starting what you should view as an on-going dialogue with the employer community in your region. The relationships you build here will inform and improve the further analysis outlined below.

The second level of analysis moves beyond this to an identification of major industry groups that have found special advantage in your region, and a focused assessment of the deeper factors that will determine their ability and willingness to hire residents of the target area. Here

you are explicitly concerned with issues of underlying economic advantage as you seek to understand how certain industry groups have become specialized and therefore particularly important to your regional economy. If you are going to get deeply involved in supporting the long-term competitiveness needs of some employers while also trying to influence their human resource strategies, it should be with those industry groups where your region has a comparative advantage. With some important practical limits, careful economic analysis can help you focus these efforts.

This middle level of analysis will examine how changes in these important industries are influencing their labor market behavior and needs. It will offer suggestions about how to engage those firms in a joint analysis of their collective workforce needs, and how the organizations

Exhibit Two
Regional economic analysis will produce progressively more complex results over time.



you represent can help them pursue solutions to identified problems in their deployment of human resources. It would support interventions targeted at these human resource issues rather than at growth and development of the industry per se, although these interventions need to have effects on growth and development as well. These discussions might lead to programs which could have employment consequences within a period of two or three years. Here you will likely be engaged in the design of new programs that focus on preparing people for employment in occupational groups that meet the needs of those industry groups that have long-term advantage in your region.

The third level of analysis builds on this toward the assessment of major business clusters in your community—interdependent industry groups whose fortunes are intertwined in the regional economy. It suggests how to analyze their current and prospective performance, and how to identify the programs and policies that might be undertaken cooperatively by joint action between the firms and the organizations you represent. This is the level of analysis from which to launch long-term programs where economic development and job opportunity are most tightly linked. It requires a deep understanding of the interrelationships and interdependencies among firms in order to have any significant impact on the factors that drive their competitiveness. Because it focuses around strategies that will affect the underlying competitiveness of the firms, it will take time—perhaps four or five years—for these interventions to yield results.

The regional economic analysis that will support these strategies is cumulative. At an early point it will yield a set of actions that focuses narrowly on supporting expanding firms to hire those targeted for employment through this program. At a more advanced stage, it will yield a set of actions that will support deeper interventions in the human resources dimensions of groups of firms in similar categories. At yet a further level of detail and sophistication, it will support more comprehensive strategies designed to influence the growth and development of major groupings of interdependent firms in large regional clusters.

In all of this it is important to keep a clear focus on what is practical and attainable for the specific programs that you are managing. The analytical framework presented here, especially in the third stage summarized above, results in a wide perspective on your regional economy and helps define several potential areas for intervention. Still, your resources are limited and your objectives are less grand than the wholesale "reinvention" of regional economic development. Inevitably, you

are going to have to focus on a few thoughtfully selected and carefully defined projects where you have discovered the opportunity to make a significant difference during the life of your jobs program. In the process, you will demonstrate how poor and poorly prepared people can be assisted to secure and prosper in good jobs.

Who should do this analysis?

You may be sorely tempted to turn over all the economic analysis to a consultant or to a local university. In fact, for a few specific number-crunching tasks, that is probably the smart thing to do. You will want to concentrate most of your time engaging in a structured learning dialogue with the firms in your region, helping them explore ideas and approaches that would advance their interests and those of your client job seekers as well. Still, very few of the methodological steps described below require special training or professional expertise beyond what might already be found in community organizations. Moreover, it seems important that the site team develop its own familiarity with the "numbers"—the quantitative profile of the regional economy that will result from the primary and secondary data collection and analysis recommended in this guidebook.

Finally, most of the information is remarkably accessible. As you will see from a glance at the Data Sources section at the end of this guidebook, the most useful groups of information are available on electronic media that are easily scanned and searched. Many of these have built-in database search capability. For others, you can import data into your own database software for subsequent analysis, usually with ease.

Therefore, you are urged to use members of your team to undertake most of the secondary and primary data collection and research. Your aim is that the entire team becomes familiar with the data and comfortable with the various techniques of collection and analysis. A few techniques discussed in this guidebook are a little more esoteric. You may want to hire trained researchers to perform them. These are specifically flagged as they come up.

Setting the Context: Regional Development Strategies

The major thesis of this guidebook is that employment problems and economic development programs are best approached regionally; that within the regional economy industry clusters of firms and industry sectors are the appropriate target for intervention; and that among these clusters and sectors initial emphasis on those in which a regional economy is specialized is likely to produce the most fruitful results. Jobs programs need to be integrated with overall regional development strategies that produce industries and jobs with high levels of productivity.

In this section, we review some experiences of regions around the world in creating dynamic economies with high wages and high skills. Because of the vast amount of literature on regional economic development, we can only skim the surface, but we can identify major elements that exist in successful regions. We also briefly consider other economic development strategies that have been attempted, and briefly examine their strengths and weaknesses. The purpose of this section is to place the type of jobs program we are advocating in some perspective from the point of view of the regional economic development literature. By doing this, we can see how one might go about creating a jobs program that promotes the type of economic development found in successful regions.

Regional economic analysis is the field that attempts to understand successful, dynamic regional economies. It is useful for informing regional economic development strategies. While this field is as old as cities themselves, and dates from the earliest city dwellers who wondered about how their economies worked, much modern analysis starts from the insights of Alfred Marshall, the well known turn-of-the-century English economist. Marshall professed admiration for the industrial districts of his time, such as the regions in England that gave consumers Lancashire cottons and Sheffield cutlery. He noted that regions that specialized cut down on "transaction" costs such as those associated with transportation and communication. They also reaped economies from the division of labor between firms, the sharing of knowledge and technology between firms, and the sharing of skilled labor. He also found that industrial districts enjoyed rich regional culture, which promoted rapidly advancing economic activity by developing the skills among workers and entrepreneurs necessary for such rapid development. The region as a whole gained economies of scale and scope, as

skilled workers and technologies were shared among firms, and firms were able to collectively undertake tasks that they would not be able to perform individually. (Economies of scale are achieved when the per-unit costs of production go down as levels of production rise; economies of scope are achieved when firms are able to undertake a variety of different productive activities at a per-unit cost that is less than that of undertaking just one such activity.)

Clusters of firms in a regional economy are the appropriate point of intervention for jobs programs.

In such regions, we distinguish between sectors and clusters of firms. Sectors are groups of firms that are engaged in the same business. Clusters are groups of firms that are dependent on one another. For instance, an injection molding plastics firm may supply to the auto industry. Thus, the plastics firm is in a cluster centered around the auto industry. A auto dealer would be another member of this cluster.

Clusters can also be formed of firms that are dependent on one another without directly trading with one another. For instance, a medical equipment firm and a drug company can be dependent on one another, if one builds the machine that tests for the condition that the other makes a drug to treat. If doctors don't have the machine, they may not use the drug.

In working to develop a regional economy based in part on exploiting specialization, it is important to focus on both sectors and clusters. We will return to this distinction later.

Third Italy and "Flexible Specialization"

The now classic instance of regional success through specialization is the "Third Italy"[4] (the provinces of Tuscany, Emilia Romagna, and Veneto, and those nearby). The economy of the Third Italy is characterized by networks of small firms girded together by trust and solidarity, and red (Communist) and white (Catholic) political and social institutions. This is sometimes referred to as a "thick" society, with a dense institutional infrastructure of business organizations, labor unions, churches, political clubs, and other secondary associations, intermediate between market and state, playing a strong role in economic development. The monitoring and enforcement capacities of these institutions, the flow of information they promote, and the trust and other capacity they bring to social projects all appear to be key to achieving economic development.

The success of such regions, however, is not limited to Italy. Similar regions have emerged in West Jutland in Denmark, Mondragon in Spain, Baden-Wurttemberg in Germany, and the clusters of entertainment-industry firms in Los Angeles, to cite but a few examples. All of these regions have industries that are engaged in flexible specialization (as opposed to mass production). Flexible specialization is a strategy wherein high-value-added, specialized products are produced in small quantities, and a wider variety of products is produced than under mass production. Industries in these regions consist of either networks of small firms, or larger firms that have reorganized away from mass production toward a more flexible form of production. None of these regions have taken the "low road" of a sweating strategy, competing on price alone. (In a sweating strategy, low-wage labor is employed at low levels of productivity, often with long hours and poor working conditions, and often to make low-priced, mass-produced goods.) All of them compete on their ability to deliver specialized, high quality products on a demanding schedule.

Successful regions around the world provide examples of vibrant economies to be emulated.

In addition, in successful regions, a culture that promotes rapid change and entrepreneurship is found.[5] Such a culture openly encourages new business startups, has fluid rather than rigid boundaries between workers and management, and makes capital and credit available for new ventures rather than exporting or saving it. Skilled production workers are encouraged to start firms, and given access to resources to do so. This culture adapts quickly to new markets and technologies and employs a highly flexible workforce. Most importantly, such regions have sets of institutions that facilitate collective learning among firms and workers. Finally, all of these regions have managed to exact a certain amount of labor peace. There is an accommodation between labor and capital, with labor reaping the benefits of investment in skill (and the increase in bargaining power that goes along with this), and business garnering higher profits by engaging in high-end production. Firms in such regions find the right balance of cooperation and competition. Firms (sometimes with state assistance) cooperate in providing technology services, training, access to credit, and access to markets.

Networks of firms have the flexibility often lacking in large vertically-integrated firms. Yet they possess the economies of scale and of scope normally associated with larger firms due to their connections and cooperation with one another, and their access to a shared pool of labor, knowledge, and technology. These economies would be lacking if they only engaged in market transactions with one another.

As previously noted, successful regional economies of this sort are characterized by a dense institutional infrastructure—business associations, unions, and other secondary associations—that supports their innovation. In addition to identifying how the institutional infrastructure contributes to economic success, social scientists have devoted much energy to identifying the sources of this infrastructure. In a social science version of the "nature vs. nurture" debate, some believe that essentially accidental and immutable characteristics of such regions (and their "natural" extension and reinforcement over time) explain their institutional resources, while others believe that deliberate intervention and attention to building those resources is key to understanding their growth and endurance. We are squarely on the "nurture" side in this discussion. That is, we believe that deliberate policies and private interventions can change the relevant institutional mix in regional economies. Indeed, we see the building of such institutional infrastructure as a central aspect of any good jobs project. By strengthening unions, associations of firms, community organizations, and the connections between them, and by using these institutions to promote collective learning, cooperation between firms, and access to services, the conditions of trust and solidarity required to have an economy like that of the Third Italy can be built.

...deliberate policies and private interventions can change the relevant institutional mix in regional economies.

As we say this, we recognize that the typical urban economy looks substantially different from the Third Italy, with its dense population of relatively advanced small firms. Indeed, there remains some dispute in the literature as to whether districts composed largely of small firms represent an emergent, lasting phenomenon, or an ephemeral one. But firm size is not by any means the important lesson here. Whatever the ultimate medium and long-term size distribution of firms is, there is a consensus among most scholars who have studied this topic that there are definite advantages to be gained by regional industrial specialization, and by all firms, large and small, adopting characteristics of flexibility and responsiveness, using a skilled workforce in the antithesis of the mass-production model made famous by Henry Ford.[5] And there is an emerging consensus, which we explicitly endorse, that doing so requires the development of a relevant institutional infrastructure.

Strategies of Regional Competitive Advantage

Regions need to find a specialization that gives them a comparative advantage over other regions: a concentration of a particular industry can in itself constitute an advantage over firms in other regions attempting to engage in the same industry without such a concentration. Porter considers the manner in which inner cities, often the target of state-sponsored economic development, can gain such a competitive advantage.[6] For instance, firms in the inner cities can tie into existing networks for such services as conventions and food processing.

Where competitive advantage should be sought depends on the nature of the regional economy: characteristic areas of concentration, available resources, and the structure of external demand. The quest for advantage should not be preoccupied with "big picture" views of the global distribution of manufacturing vs. service employment—a distinction that, in any case, is less and less robust these days. For a long time, the conventional view of trends in the advanced economies was that since these economies were moving away from manufacturing to service industries as the dominant employment sectors, the nature of the shrinking manufacturing base did not really matter. This view has been modified by those who take quality production seriously, while still recognizing the typical interdependence of manufacturing and service employment. In their view, both manufacturing and services need be included in any economic development strategy, even in advanced countries. But the type of manufacturing that must be promoted needs to be of an advanced kind to take advantage of the skilled labor typically available in the developed world.

Reciprocally, a problem with industrial districts as models of successful development (such as those in the Third Italy) is that they are mainly focused on manufacturing to the exclusion of services, although some of these regions do have a strong service component, as in Los Angeles and Silicon Valley. Krugman gives an example of a strong regional sub-economy—that of investment banking in New York—which shares some of the characteristics of an industrial district, yet is based wholly on services.[7] One might think also of publishing, also in New York. Both of these service industries produce high-value-added, specialized products (investment vehicles, books) and both are highly dependent on their embeddedness in social networks, like the industries of the Third Italy.

Publishing and investment banking might better be thought of as supra-economies; that is, economies that owe their existence to the economic dominance of one city (the economic capital) over a large number of others. Urban centers exist in hierarchies, according to Krugman; London and Paris play a similar role in their respective economies. At the same time, many cities without such "supra" status have emerged as regional centers for certain services, such as health, educational, and legal services.

Whatever we make of the different classification schemes, the bottom line for economic development practitioners seems to be this: it is worth paying close attention to the quality of your manufacturing base and the quality of your service base. Competitive advantage can be found in either, with the most important question, as ever, being the quality of jobs provided. Neither manufacturing nor services should be neglected; both should be developed.

The Reemergence of Regional Economic Development Strategies

Traditional economic development theory views development as the natural result of the co-occurrence of factors of production, including labor (skilled or unskilled), education, capital and technology, land, or natural resources. Depending on the particular configuration of factors that are present, different economies will emerge. So if, for instance, one has a large pool of unskilled workers, and nearby land suitable for growing cotton, a low-wage textile industry may emerge.

A series of regional economic development strategies, at best only partly successful, have led us to a model of economic growth based on the industrial district.

The view of development based on regions and regional competitive advantage acknowledges the importance of factors of production, but refuses to view them as static and preordained. The community and society as a whole produces skills and technology, and collectively saves to produce capital. Skills can be developed in the context of a particular industry, and technology is a combination of machines, skills, knowledge, and their social transmission. Development strategies can, in this view, reinforce the particular social environment and institutions needed to bring these factors together and make them work together. The bottom line is that social institutions matter, in addition to atomized "factors of production."

Beginning in the 1970s and largely in response to the stagnation that was occurring then, economic development reemerged as a field within the developed economies. Various strategies have been advocated by its practitioners, some of whom borrow ideas from Third World development. None of these strategies has been as successful as hoped, though some are still being practiced. It is useful to be familiar with them, so that you know them when you see them: local business leaders and economic development professionals may advocate one or another of these strategies. The failure of these strategies has led us to the current model of economic development based on the industrial district, with its regional sectoral strength.

The first of these strategies was an attempt to attract capital investment to regions by means of tax incentives and other subsidies, sometimes amounting to outright gifts to corporations. These were ineffectual, since each region was willing to match what its neighbors were offering. The result was a "march to the bottom" that lead to a deficit in the provision of public goods such as infrastructure, education, training, and technical assistance to firms. This deficit has only encouraged businesses to adopt a sweating strategy. It has not led to high-road development.

The second of these strategies was based on the deliberate subsidy and development of high-technology industries, a liberal industrial policy model. Sometimes these strategies would succeed, if policy-makers were shrewd enough to pick a winner, but more often they would fail. Even if the companies that were developed were successful in the marketplace, they tended to be disappointing in the number of jobs that they created, most of which were either low-wage, low-skill (for example, printed-circuit board assemblers), or high-level managerial and engineering. High technology companies create very few opportunities for skilled workers without a college degree. The strategy of developing high-technology industry is most successful when it is used in conjunction with modernizing an existing lower-technology enterprise, such as textiles or automobiles.

A third strategy, closely related, would have local authorities invest in companies particularly vital to the local economy. However, if there is a deficit in the skills or entrepreneurial knowledge of emerging markets in the existing private sector, the public sector is unlikely to fill it. One effect of public acquisition is to make firms more accountable to politics than to the market, often prolonging existing inefficiencies and postponing the needed transition to a more modern production regime. In addition, public investments in individual firms, unless they are very

large, are impractical as an economic development strategy. Many firms need to be so engaged in order to effect any development that is more than piecemeal.

A fourth strategy, which has been termed "local Keynesianism," involves putting dislocated workers on the public payroll, using them for reconstruction of antiquated infrastructure or other public projects such as public housing or the provision of social services. This is fine, insofar as it creates employment and demand, but it may cause fiscal strain on local government, and take resources away from economic development activities that would be more fruitful. Infrastructural investments, however, can be fruitful in that they lower costs for all participants in the economy who use the infrastructure.

Much of the work required in institution-building is of an organizational nature that can be done with limited resources.

A fifth strategy—associated with the neo-liberal right in the U.S. and the U.K.—is simple deregulation of labor markets, capital markets, and environmental and labor protections. The goal here is a fully atomized economy in which Margaret Thatcher's famous observation "there is no such thing as society, just companies and families" would in fact be made true. By withdrawing support from both the sanctions and supports (in physical and civic infrastructure) needed to support more advanced production, the neo-liberal strategy encourages firms to employ a sweating strategy. This may in fact produce relatively high levels of employment, but at the price of low wages and high inequality. Consider progress in U.S. labor markets over the last 20 years and you will have some idea of the general direction this strategy is headed in. It represents the opposite of the institution-building strategy we advocate.

Since these strategies are at best only half-solutions, and at worst extremely damaging, attention has now turned on how to stimulate the creation of vibrant regional economies based on clusters and sectors of specialized firms. These economies can be based on high-technology industries such as advanced machine tools, or on traditional manufactures such as shoes. In any case, they must meet high quality standards, practice flexible specialization, produce products and services in which much value is added by the production process, and have high wages. As we have observed earlier, there is some debate over whether it is possible to create the social conditions required for the formation of such an economy. But it is certainly worth trying, especially since much of the work required is of an organizational nature that can be done with limited resources.

The first step is to do an inventory of the local economy, and discover which firms, clusters of firms, and sectors have taken the high road to high skills and high wages, and which, with a little prodding from the state, community, and secondary organizations, would be willing to do so. Another way of looking at this is to attempt to identify those firms, clusters and sectors that suffer from a deficit of organization. Firms in this group need to be able to recognize their unmet needs, whether these needs are for skilled workers and training, modernization, technology, management, marketing and other extension services, or access to capital and markets. Once they are convinced that they do have unmet needs, they can be organized together to meet them with the assistance of the state and other secondary associations. Firms and the state can make the necessary investments in human capital to provide the skills needed, in concert with a jobs program and community-based organizations. Regionally-based trade unions, such as county and city labor councils, can be instrumental in bringing firms together and forging regional industry-wide compacts for profit-sharing, skill upgrading, and labor peace. The community of firms, community organizations, and labor organizations can enforce norms on firm behavior, so that firms receiving services do not adopt a sweating strategy.

The remainder of this guidebook describes the detailed procedures one might employ in order to implement this strategy.[8]

Getting Started

Selecting the geographic scope of analysis

A geographically defined target community, usually inside or contiguous to the larger "inner city," frequently characterizes jobs projects. One conventional way to think about the geographic scope of your economic analysis is to define the outer limits of where the residents of your target community (or communities) might reasonably expect to commute to work. However, the employment behavior of firms within that area will be determined by business factors that are driven by economic relationships with other firms and by relationships with support institutions not within this "jobs boundary." Therefore, it seems more helpful to define the geographic scope of your analysis less with reference to where your target population lives and more with reference to where there are reasonably concentrated groups of firms with common and complementary business interests, some of whom (or whose partners) might provide jobs for your clients or procurement contracts for businesses in your target communities.

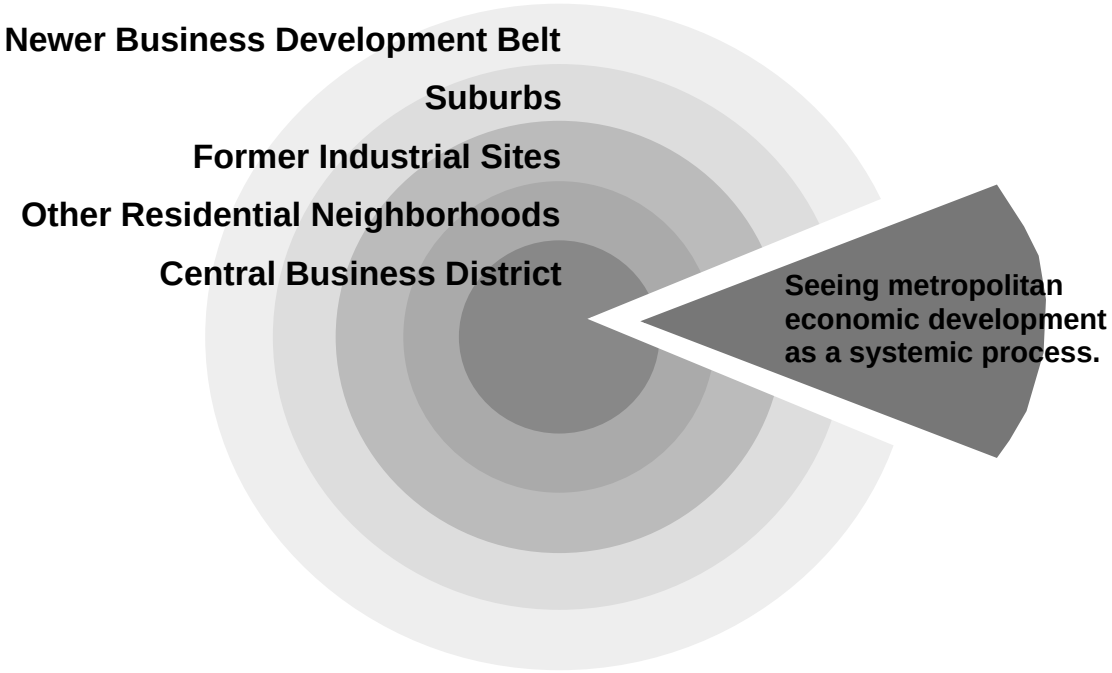
In other words, influencing the employment practices of firms located within close commuting distance may require a scope of analysis and intervention that is much wider: the close-in firms may be very dependent on the firms further out. By influencing the scope and quality of these inter-firm relationships and supporting their collective needs, you can best influence their competitiveness and employment strategies.

The spatial dimensions of urban economic development are frequently seen as a series of concentric circles (see Exhibit Three). Conventional wisdom holds that the poor inner city is at the center or the bull's-eye and the better off suburbs are in the outer rings. In fact, in most major metropolitan areas, the center or bull's-eye is the downtown business district. While in some cities that central business district may be gradually hollowing out, more frequently there is some economic vitality there, and often a good deal of new development. The depressed areas usually are in the next ring out. This is where the old neighborhoods are located in many cities, and is the area that has deteriorated most rapidly. Older industrial districts dating back forty or fifty years are usually in the next concentric ring, and here one often sees a high level of vacancy and disrepair. Redevelopment is very often constrained by environmental restrictions, development costs, poor transportation connections, high crime and other factors. The newer suburbs are in the next set of rings, and further out are the shopping malls and larger

stores that used to be located in the center. The outermost ring is where the newer businesses have located, connected to each other by interstate highways that provide quick access to airports, transportation centers and other cities. Land costs are lower, there is little crime, there are few environmental constraints on new facility development, and local political jurisdictions are anxious to accommodate new companies in order to create jobs.

While these concentric rings offer a useful way of understanding some of the spatial dimensions of metropolitan development, this representation can also present obstacles to problem solving. It is not feasible to work separately within each ring in the series of concentric circles. What is needed is a strategy that deals with the metropolitan economy as a whole, as an interdependent system of firms and workers tied to each other by complex business and employment relationships.

Exhibit Three
The spatial dimensions of metropolitan economic development may be represented as concentric circles, but successful strategies must deal with the whole.



Using Regional Economic Analysis

Throughout this guidebook, you will be urged to analyze the economy on the basis of the *economic region*—not the neighborhood or the city or even the county—and to see your economic development mission as influencing job growth and opportunity within that larger region. So, what is your economic region? Basically, it has almost nothing to do with political or civil jurisdiction. Rather, it is best understood as that geographic area which contains the majority of the transactions that take place among firms whose behavior you hope to influence. Under this definition, "region" varies depending on the cluster of economic activity you focus on.

Throughout this guidebook, you will be urged to analyze the economy on the basis of the economic region, not the neighborhood, city, or county.

For example, if you are seeking to influence the behavior of large primary health care providers in St. Louis, if they are all located within or reasonably close to the center city, and if the bulk of their economic transactions are with each other or other establishments also grouped within or close to the center city, then you might feasibly think of the center city as the appropriate region. By contrast, firms linked to the port and trade related activities centered around Seattle are widely distributed throughout the much larger Puget Sound area. Here you would want to use a very wide definition of region.

For most of our purposes here, the economic region is most appropriately understood to be a "metropolitan statistical area" (MSA). MSAs are defined periodically for federal statistical use by the Office of Management and Budget. The boundaries are always coincidental with the boundaries of a county, but most MSAs consist of more than one county. Typically, the MSA includes a large population nucleus and counties around that nucleus that have a high degree of interaction. More precisely, outlying counties are included in the MSA of that nucleus according to relative measures of population density and commuting patterns. Most frequently, when we discuss the economic region, we will be referring to the MSAs.

There may be a few occasions when it would be helpful to include in your analysis a county that lies outside your MSA. It could be helpful, for example, if you discover that a large firm or group of firms in an outlying county not in the MSA has multiple transactions with firms that are in the MSA. Such relationships would show up during the primary data collection phase of your analysis.

The Bureau of Labor Statistics of the U.S. Department of Labor designates Labor Market Areas (LMAs) for use by the states in reporting the unemployment insurance program. For the major LMAs (areas with a core population greater than 50,000), the LMA is identical to an MSA.

If the population of the MSA is larger than one million, and if there are distinct "sub-groups" of population, it may be sub-divided into two or more primary metropolitan statistical areas (PMSAs). For some business clusters, it might be helpful to concentrate on one of the PMSAs, rather than doing all your analysis at the larger level. There will be occasions when you will not want to look at the whole MSA when considering project design. For example, you may be exploring the development of youth employment initiatives and wish to deal with a cluster of employers who might be interested in participating collectively in a job experience and training program focused around a particular occupation or class of occupations. Here, because the commuting capabilities of youth would be quite different from the commuting patterns of adults, you may wish to deal with employers in a more tightly defined geography (i.e., just the core county).

Assessing the overall economic performance of the region

In order to proceed with any economic development or employment program in a region, it is important to understand the recent economic history of the region. Regional economic histories, measured in terms of trends over time in unemployment, inflation, and economic growth, often differ markedly from those for the nation as a whole. For instance, in recent recessions, certain parts of the country have recovered earlier than others. Part of the reason for this is differences in specialization. Different regions with different specializations will be affected differently by the business cycle.

Regional economic histories, measured in terms of trends over time in unemployment, inflation, and economic growth, often differ markedly from those for the nation as a whole.

While such macro-economic variables as unemployment, inflation, and economic growth are not particularly relevant to a particular sectoral strategy, the overall health of the economy is going to have some bearing on the ability to pursue sectoral strategies. While some sectors will be hiring at all times, even through recessions, fewer sectors will be hiring during downturns, and targeting sectors during these periods becomes even more critical.

The overall health of the economy, measured in terms of inflation, unemployment, and economic growth, has some bearing on the ability to pursue sectoral strategies.

Employment data are collected by the U.S. Census Bureau and by the U.S. Bureau of Labor Statistics (BLS). The main data sources are the decennial censuses, the *Current Population Survey*, and the *Current Employment Statistics Program*. The first of these contains the most complete data, but is only available for years ending in zero. The latter two surveys are conducted monthly on samples of individuals and establishments, respectively. Employment and unemployment data from these two surveys is reported monthly in a BLS periodical called *Employment and Earnings*, which is likely to be available at a nearby library. Data is reported for each state and metropolitan areas within each state. National data are available as well, which may be useful for comparing your region to the nation as a whole.

Inflation data are primarily available in the Consumer Price Index (CPI), also compiled by the BLS. The CPI is compiled in 85 city areas. The CPI is reported as a percentage of the 1982-84 price, and is based on a "market basket" of goods devised to be typical of the spending of an urban or suburban consumer. CPI data is available on a national, state, and city regional basis in the monthly BLS periodical, *CPI Detailed Report*, which should be available at a local library.

Two other BLS publications may be of interest: the *Monthly Labor Review,* which provides employment and inflation data in less detailed form, and the *BLS Handbook of Methods*, which provides detailed information on BLS statistical series. By examining issues of *Employment and Earnings* and *CPI Detailed Report* over time, you will be able to construct a regional time series for inflation, and one for unemployment.

Another important statistic you may want to collect for your region is economic growth. At a national level, the Gross Domestic Product (GDP) measures the value of all the goods and services produced in a year in the United States. The rate of growth of GDP provides a useful barometer of economic health. On a state or regional level, GDP can also provide a sense of growth and the state's position relative to the national economy. The U.S. Bureau of Economic Analysis (BEA) keeps some state statistics on growth. Additionally, the state department in charge of tax collection in your state (usually the Department of Revenue) will have time series information that suggests the rate of total growth in the state economy.

For general regional economic information, a good source is the Federal Reserve, the U.S. central bank. The Federal Reserve is composed of twelve regional banks, each headquartered in a major city (Boston, New York, Philadelphia, Richmond, Atlanta, Cleveland, St. Louis, Chicago, Minneapolis, Kansas City, Dallas, and San Francisco) and serving a region around that city. Each bank offers a wide range of reports and data, much of which is now accessible on the Internet. See the section on Data Sources at the end of this document for more information.

The First Stage of Research: Analyzing the Structure and Composition of the Regional Economy

While it should be understood that this is a highly stylized depiction of program development, it nonetheless is useful to view the first stages of regional economic analysis as designed to support a series of "quick-start" interventions. Frequently, this foundational research will simply validate what is already suspected or used as the underlying platform for on-going projects. Approaching the process of regional economic analysis in this fashion allows you and your partner organizations to lay a strong foundation and point toward the key pathways for more sophisticated analysis.

What is the unit of analysis?

After developing an overall sense of the structure of the regional economy, the most logical way to begin a more detailed analysis of the regional economy is to collect and organize easily accessible economic data from secondary sources. Obviously, the most important information you want is about the employer base of your region. So the unit of analysis at this stage is the individual firm.

All employers are assigned industry classifications by the Social Security Administration when they apply for an Employer Identification Number. The basis of this assignment is the Standard Industrial Classification (S.I.C.) coding system of the U.S. Bureau of Census as published in manual form in 1972 and last supplemented in 1987. The manual codes all economic activity into a hierarchy based on the similarities between products and services and the technologies and other methods used to produce them. Business are coded at the establishment level. The term "establishment" refers to a specific company location or plant. A single large firm may have scores of establishments.

Each business establishment is assigned a code according to what it mainly produces. The coding is hierarchical, proceeding from ten large groupings commonly called "sectors" or "industry divisions" to very specific products identified at a highly-precise, eight digit level of detail. The ten largest industry divisions are:

- Agriculture
- Mining
- Construction
- Manufacturing
- Transportation, Communication and Public Utilities
- Retail Trade
- Wholesale Trade
- Finance, Insurance and Real Estate
- Services
- Public Administration

There are 83 classes of firms at the two-digit level, which are commonly called "major industry groups." Classifications at the three-digit levels are referred to as "industry groups." (Appendix One provides a listing of all 1, 2, and 3-digit classification codes and titles.) At the four-digit level, the classifications specify "product lines" and with each additional digit the product classifications become more finely grained. For example, the Census codes "Business Services" as S.IC. 73, Computer and Data Processing Services as S.I.C. 737, and Computer Programming as S.I.C. 7372.

Except for a small group of statisticians, few people use these classification terms very rigorously when referring to categories of business. The terms "industry," "sector," and "sub-sector" are applied loosely at the two and three digit level in ways that can be confusing. We will try to be consistent here by referring to these groupings as they are specified by the S.I.C. manual, noting the exception when it occurs. We will use the term "cluster" as defined earlier: groups of firms that are dependent on one another.

The S.I.C. system is less precise than it might at first appear. The basis for classification is the primary activity of the establishment, and this sometimes masks important economic activity. Also, modern production and information processing technologies give firms much more flexibility than in years past to shift quickly from one product mix to another. S.I.C. codes may exaggerate the boundaries among firms and disguise complementarities. This means that while S.I.C. classification offers the

first logical step in assessing the composition of the regional economy, it must be supported by more qualitative research as described later in these guidelines.

Which major industry groups should you select for analysis?

...advanced communication, transportation and information processing technologies have freed up many services and other non-manufacturing sectors for trade across regional boundaries.

Obviously, you will want to focus this initial analysis on the economically important groups in your region. There is no need to do all this number-crunching for all 83 major industry groups. Agriculture, crops and livestock, forestry, and mining are not likely to be important for many regions. Depending on where you are in your analysis, you may choose to concentrate only on those major industry groups that are "traded" among regions, ignoring those that are both produced and consumed locally. In general, you will not need to carry out this statistical research for retail establishments or "public administration," i.e., government—except when dealing with very targeted employment issues.

Economic development professionals used to concentrate almost exclusively on manufacturing. But now most development analysts understand that advanced communication, transportation and information processing technologies have freed up many services and other non-manufacturing sectors for trade across regional boundaries. Finance, insurance and real estate services are traded services. Legal services, business services, communication services, transportation, and wholesale trade are rising elements of inter-regional trade. Educational institutions represent major traded services in many regions, as do cultural institutions and services. Health services were not generally understood to be a traded sector 15-20 years ago, but with the closing of community hospitals, the consolidation of major medical facilities and the rise of managed care, health services now are very clearly subject to inter-regional trade.

Formatting the results

You might begin with preparation of a table that shows, for each major industry group in your MSA, the following:

- the number of establishments,
- total employment,
- average annual payroll per employee,

- dollar value added (for manufacturing), and
- total receipts (for services) or value of shipments (for manufacturing)
- value added per employee (for manufacturing)
- receipts per employee (for services)

Exhibit 4 offers a suggested format for analyzing this information. It allows you to quickly locate the major sources of change in the regional economy. You can see which industry groups are losing and which are gaining. You should be able to spot opportunities for "quick hit" involvement with those groups that appear to be growing most rapidly and generating employment demand. For rapidly growing industry groups, you may wish to extend the analysis suggested above to the four-digit level, so that you can spot particular product lines which seem to be stimulating the employment growth. (You might also want to carry out this analysis for key groups where employment is most rapidly declining.) Be aware that you might have some problems with data suppression at the three or four digit level in some S.I.C. codes dominated by large establishments. (See the discussion of this problem in the Data Sources section of this guidebook.)

Most of this data is available (with a three year time lag) from the annually published *County Business Patterns.* (*CBP* is described in more detail in the section on Data Sources, as is the ES-202 data file, a comparable data set.) Value added and value of shipments is available from the *Census of Manufactures,* done every five years in years ending in -2 and -7. (See Exhibi 5 for a discussion of "value added" and its importance to this analysis.) For service firms, receipts are available from the *Census of Service Industries*, also done every five years. (Again, these Census reports are described in the Data Sources section.) Remember that data which is denominated in dollars must be adjusted for inflation before being used for comparative purposes. You are advised to use the Producers Price Index (PPI) for this purpose, since the more well known Consumers Price Index is more properly used for adjusting personal income data to account for inflation. (Both the PPI and the CPI are available from the U.S. Bureau of Labor Statistics.)

Ideally, you would collect this information at three to five-year intervals over the previous 12-15 years. This allows you to see trends developing over time. You will be somewhat frustrated to find that the most recent data from *County Business Patterns* and the Censuses are at least three years old. Certainly your regional economy has seen important

Exhibit Four
Display the information about industry groups in a way that will suggest which groups are most important to the regional economy.

3 Digit SIC	Number of Establishments			Employment			Value Added*			Value Added Per Employee*			Average Annual Wage		
	82	87	92	82	87	92	82	87	92	82	87	92	82	87	92
* for service firms, use gross receipts															

changes since that time. Still, unless you can gain access to your state's employment service agency records (see the Data Sources section under ES-202 data), you will probably be stuck with slightly out-of-date information at this stage of analysis. But the differences are not likely to be dramatic, and you will be able to obtain more up-to-date information once you identify the companies behind the numbers.

Analyzing Wage and Skill Levels

Once you know which S.I.C. codes seem to be generating the most employment growth in your region, you can also begin to assess the wage levels generally paid for those occupations in your region. You can also can begin to assess what it is that employers expect in the way of skills and experience. You will get a running start from secondary data sources here if you refer to the Bureau of Labor Statistics reports described in the Data Sources section. Again, you should try to gain

Exhibit Five
What is value added and why is it important from an economic development perspective?

Value-added is a term used in manufacturing, but it is also valid when applied to non-manufacturing. It is the difference between what the firm pays for the raw material, parts and components that it buys and the amount for which it sells its finished goods. The more the value added on a per employee basis, the more wealth created by the enterprise, and the greater the economic return to workers, managers and investors. Value can be added through the application of sophisticated process technologies and the smarter work of highly skilled workers and managers. Value can be added in the design and engineering process by incorporating product features and capabilities for which the customer is willing to pay a premium. Value can be added in the delivery logistics by getting the product to the customer in the time, the sequence and the mix that the customer needs. In other words, value added is not strictly a matter of conventional productivity; it also reflects quality and service.

Those firms using relatively basic technologies, low skilled workers and managers, and very traditional business practices are usually not going to be able to add a great deal of value to the raw materials and component goods with which they start. They will be able to compete only at the relatively low ends of their markets, where products must meet far less exacting requirements. Low-end products, produced with this sweating strategy, are more homogeneous and tend to compete chiefly on the basis of price. On the other hand, those firms which 1) figure out more rapidly than others how to adopt or adapt the highest levels of technologies, 2) use highly skilled workers in organizations that are highly responsive to change and adapt to new technologies quickly, and 3) use business practices that are responsive to customer needs and promote the production of quality products, will be able to compete more aggressively at the highest ends of their markets.

As a public policy, we advocate the promotion of a manufacturing economy that is very good at producing the highest value goods and services. Only by producing high value goods can our manufacturers pay the high wages and salaries that will contribute to a rising standard of living. If firms are slow in gaining the ability to produce high value goods and therefore are forced to compete at lower levels of value added, they will be pressured by competitive forces to pay lower rather than higher wages. This is due to the fact that at relatively low levels of value-added, they are compelled to compete more on the dimension of price rather than on the dimension of value. Often, that means they will seek out and migrate to low cost production environments in other parts of the world. Or they will exert downward pressure on production costs here, which can only have the consequence of reducing our standard of living. If the public policy objective of economic development strategies is a rising standard of living, it can be achieved only if our manufacturers try to compete at higher levels of value added.

access to the ES-202 reports of the state employment services agency, since they should provide more recent information about the wage and benefit levels of new hires and tell you their location, probably most usefully by postal zip code of residence. (For more suggestions on how to analyze your local labor market, see the next major section.)

Getting Names to go with the Numbers

At this stage of analysis, you have only numbers. You may know which major industry groups are growing, but you still don't know which firms to approach. For this information, you have to go to proprietary information sources. The two major sources of this information are Harris InfoSource International and Dun and Bradstreet Information Services.

These are both impressive, comprehensive data sources, whose data collection has improved markedly in recent years. For example, the Harris Manufacturers Directory will provide on diskette, for any S.I.C. code, by postal zip (or county or MSA), the name of all companies, their addresses, parent corporation (if any), employment, estimated annual sales, contact names and phone numbers. Harris will also provide information about changing employment levels by company, but that must be ordered as a customized list. Dun and Bradstreet Information Services provides roughly similar information on CD-ROM for a data base of 10 million establishments. It is perhaps not as comprehensive for manufacturers as Harris, but it is probably more comprehensive for non-manufacturers, especially for smaller companies. In addition, Dun and Bradstreet has a online service that makes all of its information accessible. Unfortunately, due to the fact that both services are targeted at corporate users, the costs of the data can be quite high. It may be worthwhile trying to negotiate a reduced rate for nonprofit use. (See the Data Sources section for more information on these sources.)

Using these two data sources, you will be able to identify most of the firms in your region that are members of the most rapidly growing industry groups. These sources will generate mailing and/or calling lists for interview or survey purposes. These lists can be imported onto commercially available geographic information systems (GIS) software, such as Arcinfo or Mapinfo, that will show the location of the firms on maps at various scales, down to street-level detail.

These lists of companies should actually be more up-to-date than the secondary data sources. However, be a little wary of the employment trend information from the proprietary data files, as some companies have been known to fudge a little on these unofficial reports. Moreover, the proprietary data sources probably won't have employment data for the smaller firms.

One goal of primary research is to identify employers with whom you can work in developing your jobs program.

Doing Primary Research

To get a good picture of the labor requirements and wage levels of the industries you have identified, you will most likely want to supplement your research with primary data collection from firms. At this stage, you can use your list to carry out further primary research, asking a limited set of companies details about their hiring practices in order to pinpoint particular barriers and opportunities for employment of residents of the impact areas. See Exhibit 6 for a sample interview format. A sample survey form can be found in Appendix Four.

The best way to gather this information is through face-to-face interviews, which can be time-consuming and expensive. Telephone interviews can be productive in terms of simply getting the information, but they may not be as beneficial, both in terms of getting a good feel for the industry and building relationships with the firm owners, managers and human resource directors. Surveys might be used when you have a relatively large number of firms in a particular category, but you will get only a fraction returned, so don't expect to get valid results if you survey less than 100 firms. If you have private sector volunteers working on your project, these face-to-face and telephone interviews can be a very useful way to utilize them.

Confidentiality may be important to many firms in this process. They will want some assurance that the information they give you will not be used in a fashion that might later embarrass them or their employees. One way to assure confidentiality is to avoid asking the firm to identify itself on written surveys and to guarantee them anonymity in telephone or in-person surveys.

When you have finished collecting the information, using whatever approach you choose, organizing a few focus groups to present your results will validate and add texture to them. The focus groups will also allow you to find champions within the industry who may be willing to

Exhibit Six
Sample survey or interview guide for firm human resource practices and willingness to work with you in devising new strategies.

- Are you satisfied that the education, job training and labor market system that now prevails in the region works well for your firm and will continue to meet your needs over time?
- What share of your employment needs are met through temporary help agencies? How much in terms of full-time equivalencies? Will this increase or decrease?
- What are the occupations for which you hire entry level workers?
- Where do your new hires come from?
- What wages do you pay for entry level in those occupations?
- What non-wage benefits are provided to new hires and when?
- What wage increments are generally available at various intervals of job tenure?
- What percentage of entry level employees can be expected to progress through these various levels?
- What is the highest level of job classification and wages that might reasonably be expected in this occupational path?
- What educational level do you generally expect for these entry level positions?
- What special training is required?
- How many employees from this community have you hired in past years?
- Do you see any special barriers to hiring good candidates from this community?
- What are your suggestions for improving the job readiness of candidates from this community?
- What kinds of on-the-job support would be important to you in considering the employment of individuals with a poor work history and poorly developed skills?
- Would you be willing to help us in the design of better ways to accelerate the job readiness?

get involved in program design and management. A more detailed discussion of primary research techniques is provided later in this guidebook.

You will want to be cautious throughout this primary research phase to create an image with the employer community that will allow you to optimize their participation in program design and management. Don't raise expectations that you cannot satisfy, and don't ask questions

about things that you will have no ability to influence. Give the firms a clear path toward more in-depth participation. For example, each firm that responds to your survey (and even those that did not if you can afford it) should receive a follow-up report that summarizes the findings of the research and lists the follow-up actions you plan to take.

Developing Strategies for Intervention

This first phase of research should result in the identification of several firms that are growing most rapidly within the regional economy, and in the development or improvement of projects to place workers with those firms. This level of secondary and primary research and analysis should contribute to a rich stock of information and opinion that can serve as a foundation for allocating initial investments. Ideally, you will identify those employers most likely in the short term to fill positions for which your program can offer candidates, and these employers will agree to participate in the activities of your task force. Your task force can then assess and remove barriers to employment. It is likely that there are already several job training and employment services programs in operation that could quickly adjust to meet the needs of the employers identified through this analysis.

Thinking Strategically About Your Regional Labor Market

Why Bother?
Elements of Regional Labor Market Restructuring

It is important to get a clear sense of supply and demand within the labor market because it, like all real markets, does not function perfectly. Actors within it (such as employers, workers and investors) lack critical information or access to resources for investment even in projects that would turn a profit and justify investment. For instance, it may pay to invest in a particular type of training or deployment of technology with concomitant skills upgrading, but resources may be unavailable, or actors may simply be unaware of the opportunity. They are plagued by a series of coordination problems in matching demand and supply. And even when supply and demand are equilibrated, they may be at levels that are not very satisfying for labor market participants. It is possible to get trapped in a "low-wage, low-skill" equilibrium, for example, in which most workers have poor skills and firms pay them low wages. This is because some firms profit handsomely from these low road forms of work organization, and so they have little incentive to invest in the technology or human capital needed for the high road that workers would find more satisfying. In this situation, an abundant supply of low-wage workers may in fact encourage firms to stay with low-road forms of work organization. Staying with those business strategies in turn keeps the supply of low-skill workers abundant.

So part of what needs to be done is simply to better connect people to jobs, or desired sets of skills, in the existing labor market. And part of what needs to be done is to improve the conditions of that labor market itself—to change the signals it sends labor force participants by changing the structure of the demand side.

Rethinking Career Ladders as a Strategy For Working on the Supply Side of the Labor Market

One way to think about what needs to be done to correct labor market problems on the supply side is to rebuild career ladders for employees. As we use the term, a " career ladder" is simply an institutionalized career path with measures of incremental progress along it. They used to exist, especially for less-skilled workers. They don't today, especially

for less-skilled workers. Their absence makes it more difficult to transition out of poverty, promotes inequality, and damages the chances of moving to high-road industrial restructuring.

In the days of "Fordism" (a.k.a. mass production, postwar American capitalism), career ladders were most fully developed in the unionized manufacturing sector where they ordered the internal labor markets of firms. Unskilled or semi-skilled labor market participants entered this market at the bottom of the ladder and climbed it one rung at a time. The ability to bid on higher rungs was determined by seniority. The availability of new places was determined by firm expansion and/or the movement out (owing to death, retirement, etc.) of those in higher rungs. In the ideal typical case, actually approached by many firms, such movement would allow everyone below to move up. Typically, firms would have many such ladders, with limitations on movement across them. In the most elaborate cases, such as among the Big Three automakers organized by the UAW, firms had dozens of such separate ladders, with hundreds of rungs, each corresponding to a particular job description. Rungs were sufficiently close to one another that by the time a worker was prepared to bid on a new job, he or she typically had already mastered its content through experience on the rung just below. Necessary human capital thus naturally accrued in the system through experience on the job.

The postwar system provided a stable career path for many workers.

This postwar system assured jobs with a future for many young workers with high school degrees. The guarantee that job stability grew with job seniority ensured that the incumbent workforce benefited from the system as workers moved up the ladder. Entry level workers banked on that promise of orderly and secure progression. Of course, the nation's economy was never perfectly organized and clearly beneficial for all workers. It was never the case that every high-school trained worker could count on getting into this system of ladders leading to decent income and job security. Racism and sexism in job access abounded even more fully than today. Even for white male workers, ladders were not well-defined, applicable, or even existent everywhere. Firm-based career ladders were most prevalent: (a) in large manufacturing firms where production systems encouraged the increasing specialization that can drive a firm-based ladder; (b) in sectors with significant growth that provided exit opportunities for employees moving to other firms; and (c) in the unionized sector, where contract language encouraged and developed the system. So even in the past, with ladders generally limited to specific areas, a large share of the labor force could not rely on the

orderly and secure progression offered by ladders. Nevertheless, for a very significant portion of the workforce, especially the less skilled workforce, the system in some sense worked.

Many career ladders have disappeared, and the labor market suffers from increased inequality.

Not any more. While internal labor markets certainly continue to exist, present work organization is widely characterized by the collapse of this orderly system. Firms have reduced the total number of job descriptions (stripping the rungs from ladders) and have cross-functionally defined job descriptions (ladders have crashed into one another). Accordingly, jobs on average carry somewhat more demanding human capital requirements. (Human capital is a economic term that refers to education, training, on-the-job experience and knowledge of firm-specific technologies and work organization.) Movement between jobs is more driven by worker demonstration of specific skills (albeit skills still specific to individual firms). The result is increased inequality in the labor market, with luck or skill more determinative of labor market position. There is also less regularity in career trajectories, and a much more forbidding system for would-be labor market entrants. People entering the labor market no longer go down to the factory and sign up with any confidence either that they have the skills needed for entry level jobs or that those jobs will naturally put them on a career path of increasing income and security.

The growth of service sector employment also complicates the picture of career ladders in the economy. Service jobs have never enjoyed the orderly Fordist system developed in manufacturing industries. In fact, career trajectories for service workers have often required advance through a series of industries. For example, a clerical worker moves up by moving from a small office to a large corporation. While the clerical employee's occupation remains substantially consistent, the industry of employment can vary widely with these moves. Thus, paths for advancement, to the extent that they have existed in service jobs, have never been well-defined and understood. Once again, luck is more determinative of occupational path than it would be if the rules and requirements for service sector advance were clear and well-understood.

In the absence of such understanding, the negative result is felt today most clearly among the isolated, young workforce that moves through a series of dead-end jobs without the possibility of a family supporting future. Anthropologist Katherine Newman has documented the struggles of fast food workers in Harlem.[9] Usually young, poor and of color, these youths rarely find the connections that can get them into any jobs with a future.

The suggestion of building community career ladders in regional labor markets arises from this state of affairs. In essence, the suggestion is to formalize skill requirements and the relation of different groups of skills.

When the relation between skills and jobs is known, an individual's position on a continuum of levels of skill can be used as a guide for hiring and career movement decisions on a multi-firm or industry basis (typically within a regional labor market). A natural correlate is to provide workers with the means, if necessary through formal training opportunities, to improve their skills and thus their labor market position. As this applies to the fast food industry, for example, Newman suggests that a network of fast food employers at least be able to certify their best workers as job-ready and recommend them for jobs paying higher wages and having more possibilities for advancement. Again, the idea is to establish, on an supra-firm basis, the sorts of career paths that used to be offered inside individual firms.

...any labor market has certain low-wage unskilled jobs that could provide a testing ground for more satisfying job readiness.

In principle, there is nothing particularly complicated about this suggestion. The first variant of the idea unfolds as follows. Any labor market, and any set of industries, rewards certain sorts of skills. It is possible to describe these more or less comprehensively, thus producing a skills map on a multi-firm basis (e.g., the basic skills needs of all those who would work as dental technicians, irrespective of their employer). Such specifications can be more modular (each module being one of the many specific skills needed by the technician) or occupational (clustering all the skills needed for doing the technician job), and in either case made sequential with regard to income. Through various means, workers can be provided with the resources needed to acquire these skills. Job search and internal labor market systems can be designed in ways that show, more or less visibly, the particular skills in demand. Wage and benefit systems can be designed in ways that reward the acquisition of such skills. Credentialing systems can be designed that permit workers to authoritatively demonstrate that they have skills, allowing them to move more freely between firms.

This is the second variant on the idea: any labor market has certain low-wage unskilled jobs that could provide a testing ground for more satisfying job readiness. Employers within the sectors offering such jobs typically complain of high turnover among their workforce. It is at least conceivable that such employers would have a stake in giving their

employees some value in the broader labor market, if such value had the paradoxical effect of increasing their stability at the firms adding it. And a stamp of approval as job-ready would do this.

This is tough work, but the experience of many communities shows that it can be done. It cannot be done sensibly, however, unless those doing it have a deep understanding of the key sectors in an economy, the most important employers in them, and their skill and employment needs. It cannot be done, in other words, without some regional sectoral analysis.

Making Jobs Better: the High Road to Modernization

Changing the demand side of the labor market is, if anything, harder. Once it is established how to connect workers to good jobs and move them through those jobs, it is vital that the jobs themselves be made more abundant and protected. In essence, this requires policies aimed at closing off the low road of industrial restructuring and helping pave the high road.

It is possible for firms to make good money by paying workers poor wages. This obviously has the effect of depressing wages. It also makes it more difficult for firms to make the different and socially preferable, competitive choice to pay workers a higher wage. Low-road firms erode the margins of high-road firms, making it difficult for the latter to take the time and make the investment in equipment and new work organization necessary for getting to and staying on the high road. One way of limiting the low-road option is to increase the minimum wage in the regional labor market. A second, less direct way would be to encourage stronger collective bargaining, especially among poorer workers. A third approach might be to remove existing subsidies to low-road firms —transportation policies that encourage their location away from low-wage areas, tax abatements and subsidies that encourage "sprawl" beyond those areas, direct giveaways of development funds or public contracts to those paying below-average wages. Without debating the particular merits of any of these particular ways of limiting the low-road option, the important point is to see the need to do so. There is nothing "naturally" occurring in most metropolitan labor markets that is consistently driving up wages. More deliberate intervention and care is required.

To thrive, firms of the sort that are good for metropolitan economies (e.g., firms paying living wages under competitive conditions) need an institutional infrastructure providing the inputs of advanced produc-

tion. That is, they need good education and training institutions to generate the skilled workforce upon which they rely, modernization services to disseminate best practices (that is, those combinations of technology and work organization that work best) among those trying to get onto the high road and new mechanisms to facilitate cooperation among firms in training and production. Because of collective action problems of all kinds, this sort of institutional infrastructure does not arise naturally. While it may be in the interest of any individual firm to have such public goods, it makes little sense for any one of them to make the investment to provide them, and few individual firms have the capacity to provide them alone even if they chose. Instead, groups of firms, unions, and workers need to be organized for such provision. In any regional economy, there will be many exemplary firms, and there will be at least some identifiable constituency for such high-road institutional infrastructure. But in most cases, those firms stand alone, and the supportive structures for generalizing their practice are vastly underdeveloped.

Because of collective action problems of all kinds, needed institutional infrastructure does not arise naturally.

Finally, it is important to knit the different policies and institutional supports together in ways that give the community clear policy direction, while enabling members of the community, both employers and workers, easy access to existing programs and supports. Today there is widespread movement to make labor market administration more integrated and functionally defined. Programs of income or information assistance and support for job seekers are being integrated in "one stop shopping" centers. Training programs are being consolidated on a regional labor market basis, often under the leadership of emerging "Human Resource Investment Boards." In many places, modernization programs have been linked into this reform of labor services and job training. While rife with its own dangers, the broad thrust of this reform is good. It tends to make labor market services and supports more efficiently delivered, more highly leveraged, and more directed toward specific regional economic development needs.

Running the Numbers

While this guidebook is primarily about the demand side of labor markets, it is useful to collect information about the supply side, as well, so that you know how to best make the match between supply and demand. If you are designing a career ladder or upgrading a production process, you will want to do this with a detailed knowledge of your local workforce, so that you can deploy education and training systems to match.

Two primary data sources link demographic information (such as race, age, sex, and educational levels) with economic data (such as wages and incomes). These sources are the decennial census and the Current Population Survey (CPS). These two sources contain similar data. The CPS data is collected primarily to allow the Census Bureau to make estimates of various variables in between the decennial censuses. The CPS data are gathered monthly from a sample of sixty thousand households, and are designed to be representative of the nation as a whole. Monthly CPS data are statistically reliable only for eleven of the most populous states (CA, FL, IL, MA, MI, NJ, NY, NC, OH, PA, and TX) and only two metropolitan areas (the two largest—New York City and Los Angeles). While the CPS data from any given month do not provide a large enough sample for a state or regionally based analysis, a new compilation of CPS data has recently become available which provides a sample size large enough for wage analysis in nearly all states. The *CPS Outgoing Rotation Group Files* (CPS-ORG), available on CD-ROM from the National Bureau of Economic Analysis, provides a sample four times as large as any single month of CPS data. This data works well for wage analysis and the sample from the ORG may be large enough for meaningful analysis in your region.

However, for especially fine breakdowns, and small cities, you are better off using data from the most recent decennial census. This data is more out-of-date than the CPS data, but for representativeness, there is no alternative source of data. The decennial census collects universal data on sex, race and Hispanic origin, age, and marital status. For representative samples, the census also collects data on education (enrollment and attainment), citizenship, language, employment and unemployment, occupation, industry of employment, and income in the year previous to the census (1989 in the case of the 1990 census). The sample size on these data is slightly less than twenty percent of households. So these census data are representative even down to very small geographic areas. The smallest census units that you are likely to want to use are census tracts, which contain about 4000 people. The geographic level next up in the hierarchy from census tract is called a county civil division, and you may want to use these as well, depending on the level of detail you want. You may want to consult with staff at the closest Census Bureau Office, or researchers at a local university, to determine which census tracts correspond to your target region. The Census Bureau, will, for a fee, prepare a customized data set for you. The Census Bureau can also direct you to its various printed reports such as “Social and Economic Characteristics for Metropolitan Statistical Areas,” as well as the computer tape products “Summary Tape Files

3 and 4" (STF3 and STF4). These latter files contain census universe and sample data. Census data are also repackaged by a variety of private vendors on CD-ROM, and on the on-line service DIALOG (file CENDATA). A wide variety of data is also available on the Census Bureau's home page at *www.census.gov*.

Another useful product available from the Census Bureau is the Public Use Microdata Sample (PUMS). This is a sample of the complete census data set, and is available on CD-ROM. With this CD-ROM, and a certain amount of computer skill, it is possible to construct a wide variety of estimates for virtually any region of the country, although the minimum area that one can specify is somewhat larger than that given in the STF file (PUMS areas contain about 100,000 to 300,000 people).

Once you have obtained data for the geographical region you have in mind, you can construct relevant summary tables and maps. Tables and maps you may want to consider constructing include: race by census tract, median income by census tract, income distributions by race and sex, educational level distributions and medians by census tract, race, and sex, occupational distribution by census tract, zip code or county civil division, and percent of people in poverty by census tract, race, and sex. In order to construct maps containing these data, you may want to learn how to use geographic information systems (GIS) software such as Mapinfo or Arcinfo (as mentioned earlier), or contract with a firm, university, or other research group with this capability. From the point of view of job placement, you will want to look at the distributions of occupations, education, and income among your target population rather carefully. You will then want to work on matching these with available jobs.

One of the major sources of information on available jobs in a region is the ES-202 Covered Employment data, collected by your state department of labor under a federal mandate. This covers all firms with jobs covered by unemployment insurance, which is virtually all firms. This file contains employment data by industry and gross payroll. It is not reliable for wages, since it reports gross payroll only, but you can get a rough feel for wages by dividing gross payroll by the number of workers. This data is usually available directly from your state labor department, for the year previous to the current one. This is better than the three year lag associated with County Business Patterns, a very similar file. States typically construct projections of employment growth in

various industries. For instance, New Jersey constructs projections ten years into the future, based on current trends. These projections are also typically available from your state labor department.

The other major source of data on jobs in your region is the *Occupational Wage Survey*, which can be obtained from your state labor department or the U.S. Bureau of Labor Statistics. This is available for the year previous to the current one. This has information on salaries for a range of surveyed occupations. Your state may also collect wage data in a more extensive manner than does the *Occupational Wage Survey*, which is somewhat limited in the occupations it chooses. Check with your state labor department.

Your state labor department also has data on the occupational composition of industries, so you can identify what occupations are employed in a particular industry. Typically, states construct projections on the growth rates of various occupations based on the growth rates of industries and their occupational requirements. You may want to get a copy of the latest occupational projections for your state, again from your state labor department. These projections, coupled with information on wages in occupations from the *Occupational Wage Surveys*, can help you to select emerging target occupations for your target population. The U.S. Labor Department's *Occupational Outlook Handbook*, published yearly, has detailed descriptions of occupations, their income ranges, and the educational levels they require. The *Handbook* is on the Internet at *www.bls.gov*, and is also available in printed form in many libraries. By looking at this, you can tailor the training delivery planned for your target population based on the educational requirements of identified target occupations.

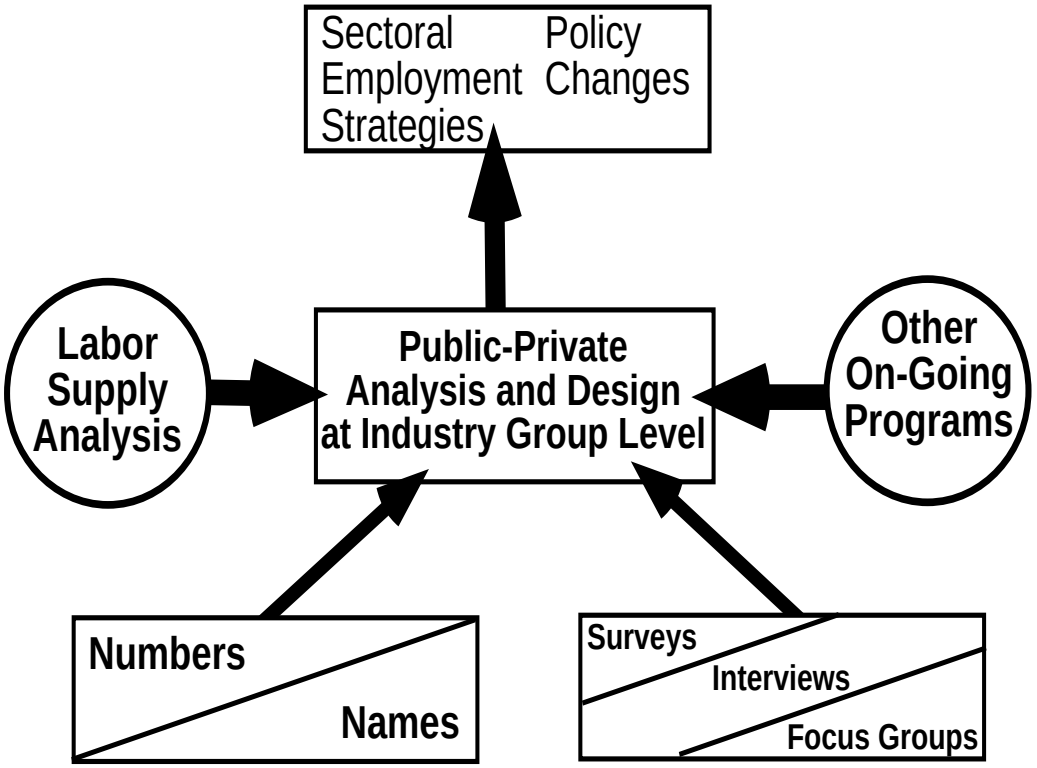
The Second Phase of Research: Determining Which Industries Appear to Have Some Specialized Advantage in Your Region

In the first phase, you focus on the identification of firms that are hiring employees in growing sectors and on the development of quick start strategies to optimize benefits for target clients. Moving beyond this to sectoral initiatives requires a more systematic analysis of key occupations and the factors that drive employment decisions in those occupations. Here you will want to work with sectors where the region has some specialization that should contribute to labor market demand over time. See Exhibit 7.

For modestly funded, quick-start strategies, it is perfectly reasonable to work with hiring firms whose current growth and apparent success may be purely idiosyncratic. But, when it comes to making significant investments in larger training and employment programs with groups of firms, you will want to concentrate on sectors where regional advantage will contribute to long-term growth. True, the Department of Labor produces projections of labor demand in various occupations, but your region may not be very well situated for the firms expected to use those occupations.

Quite simply, you want to ride winners. But don't get caught up in a sterile debate about the feasibility of choosing winners and losers. You are not choosing them, you are simply trying to figure out which firms seem to have an advantage in your region. At any particular point, an entrepreneur may choose to establish a company in your region for any one of several idiosyncratic reasons. For a number of other reasons, that firm may do well for a time, even for a long time. But over a significant period of time, when a significant number of similar firms prospers in a particular region as compared to other regions, it isn't by mere chance. There are reasons why firms in that particular industry group (or set of interrelated industry groups) prosper in a particular region while they don't elsewhere. Some particular factor gives them regional advantage. It may be proximity to raw materials, markets, specialized labor, essential infrastructure, high-quality research, sympathetic financiers. It may be that spin-offs from a particular company have over several years created a specialized business culture that has momentum and synergy. The point is that regional advantage exists and can be understood by careful analysis.

Exhibit Seven
The second phase of regional analysis should lead to sector-based strategies.



Secondary Research
- Location Quotients
- Shift Share Analysis
- Lists of Firms
- Industry Performance

Primary Research
- Changing Labor Force Requirements
- Occupational Paths
- Human Resource Policies
- Organization
- Industry Champions

Regional advantage can be volatile. Significant changes in technology or markets can erode advantage and in the modern economy, this can happen quickly. (Of course, thoughtful public policy can sometimes shore up eroding advantage just as thoughtful public policy can help emerging new specializations gain a stronger foothold in the region.) So when you look for regional advantage, you need to carefully inspect for changes over time. Moreover, you need to hedge your bets by working with several different industry groups.

In analyzing data collected from secondary sources, you should first compare the structure of the regional economy to that of the national economy along two dimensions:

1. where there are particular sectoral concentrations of economic activity by S.I.C. code in the region relative to the nation as a whole (or to the state, the multi-state Census region, or to other regions); and
2. where the trends of change that occur in those regional concentrations— especially in terms of employment, number of establishments and average payroll— differ from trends at the national level (or other regions selected for comparison).

Location quotient analysis helps you understand the specializations of your regional economy.

Using location quotient analysis

Location quotient analysis is a device for gauging the relative specialization of the region in selected industry categories. If employment is to be used as the relevant variable, a location quotient would be calculated by measuring the percentage of region's total employment that is found within a particular industry, compared to (divided by) the same ratio for the nation as a whole or the comparison region. If the resulting ratio is greater than one, then that industry is a net exporter of its production to other regions; in other words, the region is relatively specialized in that industry. The higher that number, the greater the location quotient and the more significant the regional specialization.

For example, about 10% of Milwaukee's jobs are in the machinery and metal products industry groups, compared with only 3% for the U.S. as a whole. This tells us that, in terms of jobs, Milwaukee is more than three times more specialized in these activities than we would have expected if all we knew were the national averages. Similarly, Seattle has a very high location quotient in aircraft and aircraft parts.

Of course, a region may have a very high location quotient in an industry group that provides little employment. For example, St. Louis has a very high location quotient for "water transportation of freight," not too astonishing for the region where the Missouri River meets the mighty Mississippi. But that three-digit classification employs only 927 workers. Therefore, it's a good idea to select for analysis only those industry groups where the share of employment and the location quotient are both high.

In Appendix Two, we have calculated the top thirty three-digit industry groups for St. Louis, giving equal weight to share of employment and location quotient. We compare these rankings for 1993 against 1988 in order to show how these regional specializations hold up (or don't) over

time. This analysis reveals that some big industries (aircraft and parts, motor vehicles and equipment, and beverages) retain their long-term significance in the regional economy. But it further reveals the growing significance (to the St. Louis regional economy) of the post-secondary education sector. It also shows that, while hospitals have rapidly increased employment in St. Louis, their gains have not kept pace with the rest of the nation; their location quotient has slipped, revealing a troubling erosion that bears further examination.

It can be interesting to compare location quotients based on employment with location quotients for the same industry that are based on the number of establishments, average payroll, or even on value added per employee. This can reveal, in the first instance, where a particular industry group in your region is more disaggregated (that is, has a smaller establishment size) than it is in the nation or other reference location. In the second and third instance, this analysis will suggest whether firms in a certain industry group in your region are more productive or simply pay higher wages than firms in other locations.

It is even more useful to isolate these variables at intervals over a span of several years. This will tell you whether certain industry trends are playing out on the number of establishments, the employment and the average payroll in your region differently than they are playing out elsewhere. Essentially, this is a quick way to approximate shift-share analysis, that is, a way to analyze and describe the differences between rates of growth of your regional economy and growth of the national economy.

Doing shift-share analysis

Shift-share analysis separates out national and regional economic growth on an industry basis.

Shift-share analysis is a method of data analysis that isolates the effects of regional differences on growth from those that affect the industry at the national level, giving you a comparative perspective. It will tell you whether your region's share of employment or number of establishments in a particular industry is changing faster or slower than for the nation as a whole. You may note that employment in a particular industry group in your region grew quickly (or declined) over time but you really want to know whether it grew more quickly (or declined more slowly) in your region than it did for the nation as a whole. This will begin to tell you something about the comparative advantage of your region for that industry group. Then you can ask questions about the reasons for that remarkable growth or decline, and figure out what this means for the way people are prepared for jobs and enter the workforce.

As these industry groups grow and decline, the occupational mix of the local labor market undergoes important changes. Individual firms may not be aware of these changes, and education, training and employment agencies may not understand the reasons behind shifting patterns of job demand. (The actual math of shift-share analysis is a little more complicated than suggested here. A more detailed discussion is presented in Appendix Three.)

Obviously, shift-share analysis requires that you select appropriate intervals to measure these changes. As noted elsewhere, almost all the data to which you will gain access will be at least two or three years old. One of the most basic sources of data, *County Business Patterns* , prepared by the Census Bureau, has only recently released its 1993 versions. As described elsewhere, the Census Bureau publishes a *Census of Manufacturers* and a *Census of Services* every five years and these are available for 1982, 1987 and 1992. Unfortunately, 1982 was a year of deep recession and is probably not a good point of comparison with 1987 or 1992. Still, it is important to inspect these statistical measures over time. Simply getting a fix on the regional economy for a single point in time will not be very helpful.

You should generally perform location quotient and shift-share analysis at the level of major industry groups (two-digit S.I.C. level) or, better, industry groups (three-digit level). Doing this analysis at the industry division level will present results so general as to be useless. At the four-digit level, you would most surely run into problems of data suppression or non-availability.

The location quotient analysis is not that hard to do. There is a national level *County Business Patterns* that will give you the national values, no matter whether you are focusing on establishments or employment. To compute a location quotient, the national value is the denominator and your MSA's value is the numerator. Shift-share analysis is a little more complicated. So perhaps this is something you should farm out to more specialized research organizations. But you ought to know when and why it should be carried out, and understand the general elements of analysis. You will want the results presented in a way that leads most usefully to analysis and to figuring out the right questions for primary research. Included with this guidebook are suggested formats for summarizing the data in ways that are most amenable to analysis as well as presentation and discussion with others.

Gaining or Losing Competitive Advantage

This secondary data collection and analysis will reveal those S.I.C. codes where the region appears to be gaining or losing some comparative advantage. Both areas will be important topics for further secondary and primary research. In those groupings where the location quotient is declining from a value higher than one, there is obviously some erosion of what has been a source of strength in the regional economy. The shift-share analysis will reveal if that decline is faster than for the nation as a whole. If so, then that further analysis may reveal special problems in the regional economy that might be mitigated through some intervention. If the location quotient is increasing faster than for the nation as a whole, that suggests the presence of some emerging factors giving greater advantage to the firms in your region. Again, thoughtful analysis should help pinpoint these emerging factors and begin to reveal how your region can optimize these factors to accelerate or consolidate the gain.

The spatial dimension of employment changes

You will want to inspect the *spatial* dimensions of these changes, especially those dealing with employment. In fact, you should compare all the industry groups you are tracking across all the counties in the region. If you have obtained good data from the proprietary information sources, you may be able to compare and contrast these groups by postal zip code or other geographic information. If you are relying essentially on data that is presented at the MSA level, it may not be apparent that jobs are shifting from one part of the region to another. These intra-regional changes will be especially important when dealing with population groups whose mobility is limited by lack of transportation and the relative paucity of the social networks that are useful in obtaining employment.

Assessing the dynamic factors of performance by industry group

At this point, you have presumably identified the most important industry groups in your economic region and you know which of those are declining or increasing in terms of both employment and establishments. You can even perform location quotients on average annual payroll to see if there are important discrepancies between wages paid in your region and for the nation as a whole or other regions. Don't forget to adjust for inflation and for differences in the cost of living.

Also, keep in mind that some industry groups use a lot more part-time workers than others. Be wary of jumping too quickly to conclusions about which industries in your region pay the highest wages based only on *County Business Patterns*, since this data set does not distinguish between part- and full-time workers. It simply lists numbers of workers for each industry, and total payroll.

Having identified these key industry groups, you will want to assemble as much information as is available from secondary sources to develop an understanding of the industry dynamics. Here you will have to rely on a very eclectic mix of sources. There are some U.S. government reports that will be helpful. The federal Department of Commerce publishes an annual *Industrial Outlook* which summarizes recent data on major trends in several hundred industries. You may try to contact a specific person at the Commerce Department who is responsible for annual updates in the industry you are analyzing. This person may be able to help you track down other published information. Trade associations frequently publish reports on key issues facing the industry. Trade periodicals can be a rich source of inside information about the industry in question. The best way to proceed is probably to search a good library data base to identify articles and books about the industry. We searched the Internet using three-digit classification titles, with mixed results. There is a huge volume of listings for each title, but it takes a long time to search through each to find useful information. For U.S. Census Bureau information, what is available is essentially a hard-to-use catalogue from which to order documents. You are probably better off calling the industry contact person at the Commerce department or a national trade association executive and ask for suggestions about sources of industry information.

Primary research and data collection

Reviewing this secondary information will help prepare you for more primary research by contacting the firms directly. Again, the proprietary data sources we have previously referred to will help you to identify the particular companies in your region that are among the largest or the most rapidly growing (or declining). As previously noted, face-to-face interviews are the most productive, but may be prohibitive at this stage; there may be just too many companies. Telephone interviews may not be satisfactory, because the issues you will be pursuing here are very qualitative and hard to cover in a phone conversation. Group interviews might be a good way to get started, and short surveys might work to gather qualitative information that confirms issues identified in

the group interviews. Among the questions you would seek to answer during this primary research are those that deal with trends, barriers and opportunities, and with special considerations that will affect labor market demand over the next several years. Included as Appendix Four to this document is a proposed survey form that might be a useful starting point in constructing a survey or interview guide.

More about working with firms in groups

One of the more compelling innovations in contemporary economic development is the proposition that development strategies and resources be focused around groupings of firms that work together in various types of networks, or are concentrated in regions as sectors or clusters, and are linked by similar products, common markets, shared technologies or common resource constraints. Several states (among them Arizona, Illinois, Connecticut, New York, and Oregon, all to varying degrees) are restructuring their economic development programs around this notion. Two observations led them to this. First, there is mounting evidence that one-by-one assistance to individual small firms is neither efficient nor effective. Second, dramatic changes in the economic environment seem to be widening the basis of competitive advantage from issues internal to the firm to issues of external relationships among firms.

Development strategies that focus on the individual firm simply don't seem to be very effective.

Development strategies that focus on the individual firm simply don't seem to be very effective. In any particular state or region, even among those with the most highly evolved infrastructure of programs and resources aimed at these small manufacturers, it is unlikely that more than 5% of the firms have had any substantive engagement with an agency or program that is able to help them. And many of the contacts are just that—brief, sporadic, *ad hoc* contacts focused around a narrowly defined problem that do not lead to any particular significant increase in the firm's ability to compete in those demanding, high value markets wherein returns to the firm, its workers, and its community are greatest. The programs are almost always far too poorly financed and thinly staffed to have much likelihood of success. For the firms, gaining the ability to compete in these high value markets is a complex, on-going process of continuous change and improvement. It is not likely to be affected by isolated, one-time contacts with public sector helpers, no matter how well-intentioned.

In survey after survey, firms of all sizes report that they do not effectively learn from public sector programs. For most of them, these programs are an alphabet soup of acronyms, a welter of white noise. Many development policy makers and practitioners are concluding that continued reliance on one-by-one approaches to helping the thousands of firms out there is unlikely to yield significant results. When asked, the firms report that they learn about new markets, technologies, and business practices from each other in the marketplace and from their engagements with customers, suppliers, cooperators and competitors. These firms need long-term, private sector-based learning systems.

Of even greater import than the question of efficiency in service delivery is the matter of the changing nature of competitive advantage. At least at the high value end of markets, goods and services increasingly depend on groups of companies working together in multiple and dynamic relationships with rapidly growing inter-dependency among firms in these groups or production networks. Competitive advantage must be found in the flexibility that can be achieved though external organization.

Firms need long-term, private-sector-based learning systems.

High value manufacturing and many of the traded services sectors are characterized by highly segmented, volatile, often international markets demanding high quality and high service. To meet those requirements, producers of goods and services must deploy advanced technologies operated by highly skilled workers working within the most sophisticated management practices. They must learn how to specialize and how to combine their specialized capabilities with others. Interdependency grows both *vertically* (upstream, with their best customers and downstream, with their preferred suppliers) and *horizontally* as they learn to cooperate with others to optimize their mutual complementarity.

It is in these new relationships that learning occurs at an accelerated rate. And at its core, becoming competitive in high value markets is about learning — learning about market opportunities and marketing practices; quality requirements and quality improvement practices; design, engineering, production and distribution technologies; capital and credit management techniques; evolving skill requirements; and new forms of work organization. Of course, internal organization must support learning within the firm. But the real frontier of the "learning organization" lies in the linkages among firms. The more strongly and deeply that high value firms are linked to each other, the more they can learn, and the more quickly they will do it. In this sense, economic

development programs generally should be about creating learning systems, not just transferring units of technology, subsidized finance or business practice.

Collaboration among firms can help achieve economies of scale in human resources development, technology, market research, sales, distribution and service. For many small companies, the cost of large-scale training, technology development or market planning can be prohibitive unless they can find a way to share those costs with other firms. Collaborative systems or institutions can bring these firms together to do things collectively that they might not be able to afford to do individually. Collaborative arrangements can also help firms discover new ways to pool their individual capabilities to develop, produce and market goods or services that combine their separate expertise.

Collaboration between firms can help them accomplish things that they would not be able to do on their own, in a variety of areas including human resource development and technology.

To the extent that your jobs program works with firms in groups, it encourages private sector-based learning systems, which in turn will help firms in your region get smarter more rapidly than firms in regions where such collaboration is not facilitated by economic development and employment training agencies.

The Third Phase of Research: Identifying and Assessing Business Clusters

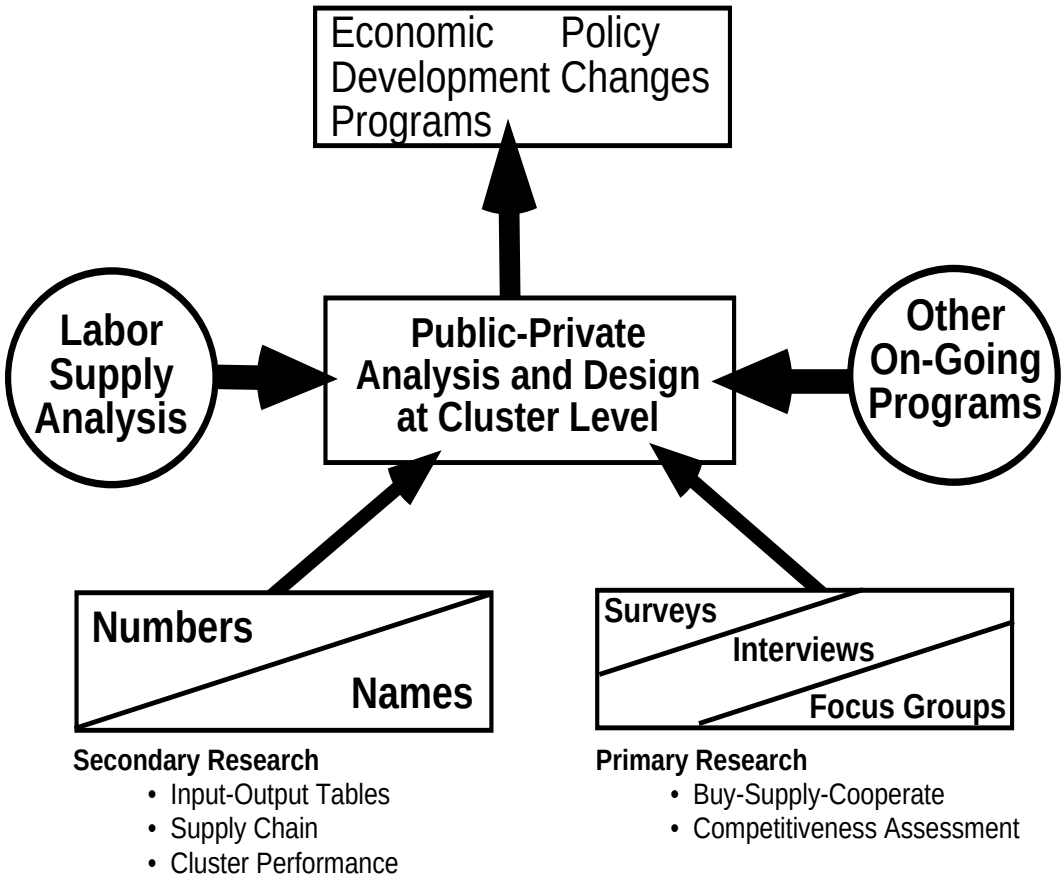
Why Is It Helpful to Focus Analysis on Clusters?

Focusing on groups of similar firms (sectors) is important because it supports strategizing about sets of occupations that are of common interest to lots of roughly similar firms. However, when it comes to a level of analysis that will support even more consequential long-term economic development interventions, it is frequently both feasible and necessary to define the relevant group as a set of inter-related industries. A particular S.I.C. code at almost any level in the hierarchy may group firms that produce similar products but which serve wholly different markets. Consider for example S.I.C. 37, the manufacture of transportation equipment. In St. Louis, for example, that includes making airplanes at McDonnell Douglas, as well as making cars at General Motors. It may also include making motorcycles and bicycles. In other words, firms that share the same S.I.C. code at the two or even the three-digit level often sell their products into totally different markets driven by radically different technology and demand considerations, and requiring widely divergent human resource strategies. S.I.C. codes reveal nothing about how industries are linked in business relationships. Over time, the big differences in their markets might mean that these firms are driven toward very different labor market strategies. They may move toward very dissimilar business strategies (e.g., in their degree of outsourcing from the region) and therefore to very different employment strategies. Conversely, firms with very different S.I.C. codes selling their products into very similar markets often find that they have convergent human resource issues.

Some analysts therefore have found it useful to view firms as part of a **value-added production chain**—firms that collectively produce and distribute a product or discrete service. For an example of a value-added chain in the apparel industry, take the case of the production and sale of a woman's sweater. The value chain might begin with a firm that produces cotton fiber (S.I.C. 221)and go upward through the yarn producer (S.I.C. 228), the fabric producer (S.I.C. 226), the clothing manufacturer (S.I.C. 233), the wholesaler (S.I.C. 513) and the retailer (S.I.C. 562) on the way to the final customer. This helps to understand linkages among firms with different codes and to see how the competitiveness of one kind of firm may be significantly affected by the fortunes and capabilities of firms upstream and downstream in different S.I.C.s that supply to, and buy from, one another.

Analysts have found it useful to view firms as part of a value-added production chain.

Exhibit Eight
This third level of regional analysis will support cluster-based economic development strategies.



However, there are thousands of these production chains in the United States. There are too many to map and they are often extremely dynamic—firms can move in and out of similar production chains from year to year or even month to month. Moreover, the notion of a vertical chain does not account for other key steps in the process. In the example of a woman's sweater, the narrow production chain approach leaves out consideration of the design firms that select colors, fabrics and styles, the marketing firms that research and shape consumer tastes, the metal or plastics firm that makes the zippers, the firms that make the looms and the cutting and sewing machines, and the tool and die makers that in turn make their machines.

It is often more helpful to generalize this concept of discrete production chains into what may be thought of as large "families" of associated production chains. For regional economic development, it matters very much when the firms in these relationships are very frequently geographically concentrated. These interdependent concentrations are frequently termed **clusters** and would include lots of firms from interrelated sectors. (See Exhibits 9, 10, and 11.) Thinking about firms as clusters may offer a distinct advantage in dealing with groups of firms. The tendency of businesses to locate near their suppliers, customers, important services and competitors— to "cluster"— occurs in all places and in all industries. Historically, as we have observed, it is a critical source of economic advantage. Specialization within the cluster promotes innovation. Dense concentration reduces the costs of transactions, stimulates supportive services on an economical basis and enhances the market visibility of all firms in the region. Information flows more quickly among firms who enjoy these close relationships than among those that are more isolated from each other.

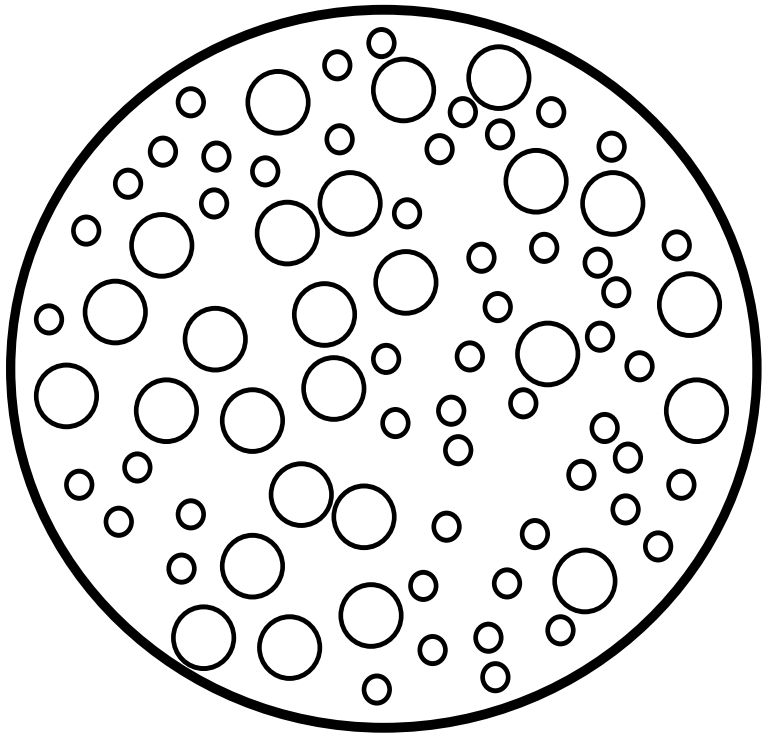
The tendency of businesses to locate near their suppliers, customers, important services and competitors, or to "cluster," occurs in all places and in all industries.

Economists have used a variety of terms to designate critical masses of geographically bounded, related businesses, e.g., agglomerations, industrial districts and technology regions. Here we use the term "cluster" to define a *geographically bounded concentration of similar, related, or complementary businesses with active channels for business transactions, communications, and dialogue, that share specialized infrastructure, labor markets, and services and that are faced with common opportunities and threats. Almost always the cluster will include both suppliers and customers.*

Firms in a cluster are frequently linked through buy-sell relationships. However, often there are more subtle, but still powerful, linkages among firms in a cluster. They may be mutually dependent on the same underlying technologies. They may draw from a common pool of labor skills. They may sell complementary goods and services into the same markets and therefore be similarly affected by changing demand. Hotels, restaurants and transportation services do not necessarily buy and sell from each other, but as key components of the tourism cluster they are each very dependent on one another. The hotels are not going to house more tourists if the taxis can't move them into town from the airports or if there are no good restaurants at which they can eat.

As illustrated in Exhibit 9, some clusters consist of many firms within a single major industry groups (two-digit SIC codes) or three or four closely related industry groups (three-digit SIC codes). These firms may

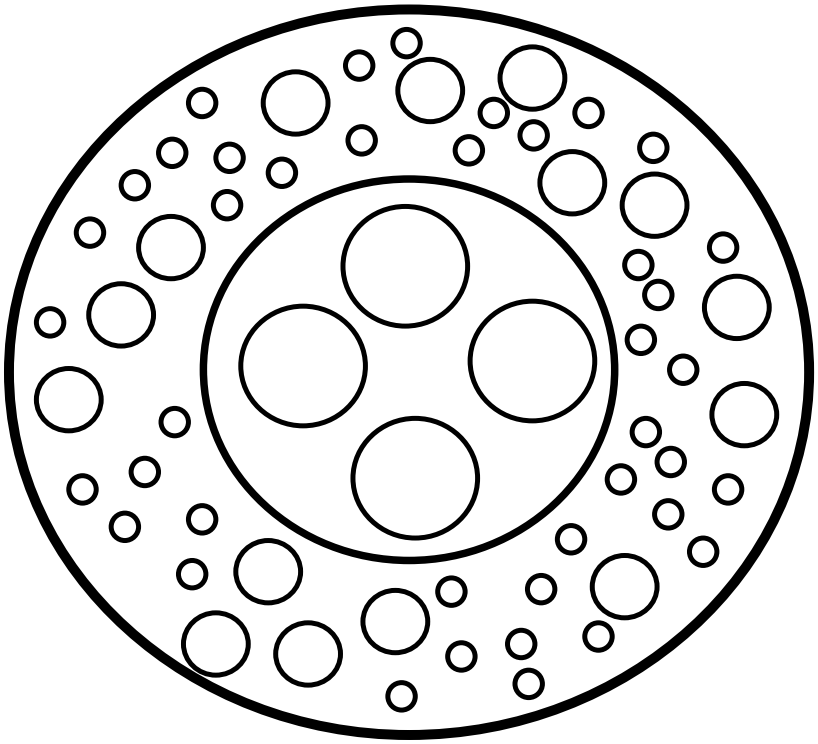
Exhibit Nine
Some clusters consist of many similar firms.



view some firms in the cluster as competitors, while seeing others in the same cluster as possessing different and complementary capabilities. Even those that compete for some orders may cooperate on others; competition and cooperation very frequently coexist in the same relationship. Even though they are not usually seen as one another's customers and suppliers, they frequently work for the same customers and do business with the same suppliers and vendors. They may come to depend upon their mutual complementarity. The principal customers for these firms may be quite widely dispersed outside the region.

Other clusters may be dominated by a relatively small number of comparatively large firms that are final assemblers or original equipment manufacturers (OEMs), which effectively control access to final markets (see Exhibit 10). Alternatively, the cluster may be dominated by a

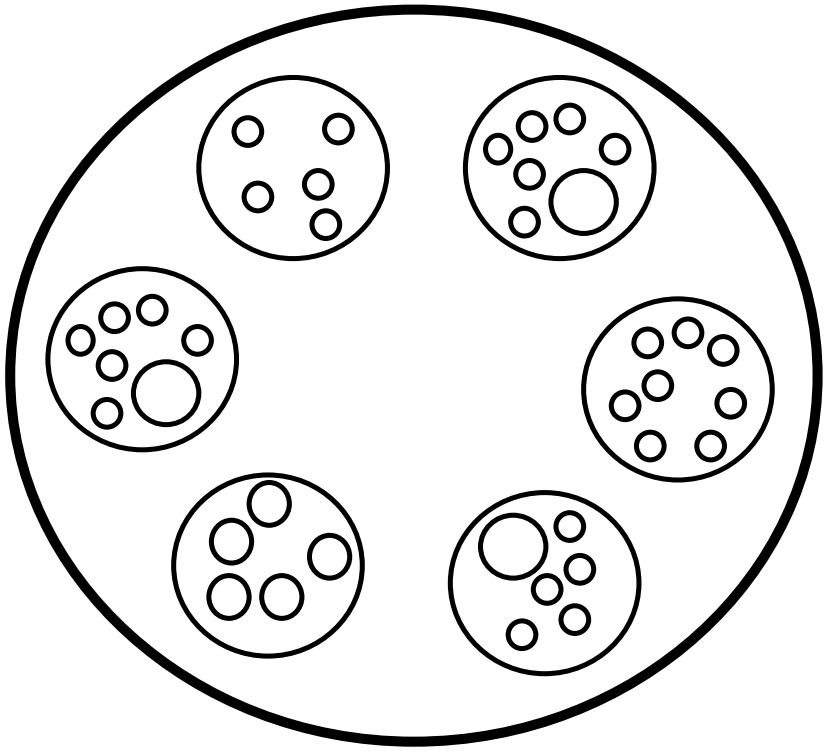
Exhibit Ten
Some clusters are dominated by three or four big customer firms.



small group of firms that control access to the raw materials. Aircraft and auto manufacturers would be classic examples of the former case of OEM-dominated clusters; pulp and paper manufacturers, an example of the latter. Supplier firms and material vendors, usually smaller firms, tend to cluster around these larger customers.

Finally, some clusters may consist of three or four or more distinct groups of firms in different major industry codes, or even in different industry divisions (see Exhibit 11). For example, a cluster of firms involved in jewelry manufacture may consist of several art design firms, jewelry manufacturers, wholesalers, retailers, machine builders, tool

Exhibit Eleven
Some clusters are "clusters of clusters."



makers and suppliers of raw materials such as stone, glass and precious gems. No single firm or small group of firms controls access to raw materials or final markets.

To stipulate a sharp, formal distinction between "sector strategies" and "cluster strategies" is not particularly useful, and for our purposes here the terms may occasionally overlap. You should understand that usually a cluster will include a broader range of interdependent firms—including customers and suppliers—than that of a sector. In manufacturing, for example, firms that make things from plastics, firms that make electronic components and firms that fabricate metal products might be seen as separate sectors or industries, but in fact they may be highly interdependent members of a cluster of firms involved in the aircraft industry.

Why Should a Jobs Program Concern Itself With Clusters?

There are three important reasons for a jobs program to look beyond sectors to clusters. First, part of your mission is to influence the growth of your regional economy and to help shape more effective strategies. Sustaining development that affects all groups within the regional economy is more likely to result from measures that optimize the relationships among firms and provide support to collective improvement measures than from individual contacts with individual firms. If your efforts contribute to an economic development strategy which focuses around the relationships among firms in tight business clusters, you can play an important role in fostering long-term economic growth in your region.

Second, dealing with groupings of interdependent and complementary firms in clusters casts a wider net of knowledge about market changes, emerging business strategies and imminent technological advances that might significantly alter labor force requirements over time. Similar firms that employ people in very similar occupations may tend to see their workforce issues through a similar lens. They may talk the same language, share the same biases, and be limited to the same set of information. Working with clusters of firms from various sectors is likely to expand the sensing capacity of the group.

For example, working with a group of similar home health care providers facing very similar markets and other competitive pressures may be satisfying in the sense that they will have shared vocabulary and virtually identical occupations and skill needs to facilitate the rapid and accurate exchange of information. They may share a similar view of the future of their industry, and (assuming they have some clear reason to cooperate) they may be able to move relatively quickly to a shared agreement of workforce development strategies. But they may all be unaware of looming technological changes or third party payment trends that eventually will drive major change in their staff deployment and in the skills required of entry level workers. If the group of home health care providers were enlarged to include manufacturers of medical devices, the conversation might widen to how new home care products may change the function of the health care professionals. If the group were further expanded to include representatives of health insurance companies, a further range of discussion might be feasible about the impact of managed care on the scope and intensity of home health aide services. In other words, working with groups of firms drawn from

clusters of inter-dependent businesses representing a variety of sectors or S.I.C. classifications may well permit the more careful identification of opportunity for collective undertakings that will affect the overall competitiveness of the group. Frequently, it is the transfer of knowledge across traditional and narrow sector lines that stimulates the group to action. It may be at the intersection of product groupings that opportunities for constructive cooperation are most apparent.

Third, a jobs development project may profit from a cluster orientation rather than a more narrow focus around similar firms due to the way that primary labor markets function. Very frequently, companies hire from their suppliers, vendors, customers and collaborators. Occupational ladders and employment paths often cross industry group boundaries within clusters. This might be especially important for programs looking to place individuals with limited job records and skills into low-wage, entry level jobs. These jobs may not pay wages that will support a family. Therefore the ability to move upward into higher paying jobs in related firms (i.e., within the cluster) may be a critical element of a successful jobs strategy.

A program involved in supporting the collective improvement efforts of a cluster of inter-dependent firms might have a leg up. The phenomenal growth of temporary employment firms in the past ten years is one manifestation of how firms look to reduce the margin for error in hiring new workers. For many firms, using temporary service agencies is a relatively low-risk way to recruit new workers. They get a chance to review skills, inspect workplace behavior and compare and contrast worker performance. Still other firms use supplier firms to do this kind of screening. As a result, many smaller contingent supplier firms frequently have become the "farm teams" for the clusters, helping prepare workers for a wide array of other firms with whom they have a variety of business relationships. In manufacturing, for example, there are more "sophisticated" firms that add significant value in the production process, which need employees with dependable work skills and behaviors, and therefore are in a position to pay good wages. There are less sophisticated firms that buy the output of the more sophisticated firms and sell them inputs, add less value in their production process, are somewhat less dependent on the skills and behaviors of their workers, and therefore pay lower wages. Because these firms are involved in market relationships, the more sophisticated firms frequently hire from the less sophisticated ones. As we have previously observed, these clusters frequently rely on a common labor market, and occupational mobility depends on the strength of cluster relationships. For many workers

"getting ahead" (especially in today's increasingly disaggregated production and enterprise systems) means moving from one employer to another within the cluster. The earlier section in this guidebook, "Thinking Strategically About Your Regional Labor Market" discussed how you might analyze and approach this situation to the best advantage of your jobs program.

So, How Do You Identify Clusters?

Location quotients will help you establish where there is a local concentration or specialization of industry. Measuring changes over time through shift-share analysis will demonstrate how industries locally are differing from those nationally and will hint at competitive advantages in the region. Further secondary data research analysis will begin to reveal which key clusters of industries drive the regional economy.

As has been previously observed, firms do not take root and develop at random; they do not grow in isolation from each other. They develop as part of a system of interrelated and supporting firms and industries. Each class of industry is related through purchases and sales to a particular set or cluster of other industries whose needs and capabilities are complementary. Growth in one sector drives demand in other sectors. Technological change alters historic linkages and creates new symbiotic relationships among certain classes of firms. And most importantly, when several sectors that are closely related to each other are tightly clustered in a region, economic advantage can result. These gains can be derived from lower costs in their multiple transactions with each other that result from proximity and volume. In addition, innovation and knowledge can spread more rapidly through these dense clusters than would be the case if the firms were more scattered and had more limited contact, especially when economic connections are reinforced by social infrastructure.

In identifying clusters, you want to focus on these market relationships. Cluster identification can begin with the manipulation of secondary data sources through a methodology termed "input-output analysis." Through intensive sample survey research, government agencies have periodically measured the portion of its input that each industry group (at the three-digit S.I.C. level) receives from other industries and the portion of its output that it sells to other industry groups. When several industries having a high location quotient are found to be highly interdependent, there is ample reason to assume the existence of a cluster, as defined above.

Input-output tables show these relationships among various industries. However, the process by which the tables are developed is very complex, and it is unlikely that they would be available for a specific MSA. A few states have constructed these tables. The economic research unit at your state university's School of Business will be able to tell you if such tables exist for your state. If not, you can use the national tables developed by the U.S. Department of Commerce and published periodically in the *Survey of Current Business*. The most recent set of national tables was published in 1994. However, these tables represent 1987.

Input-output tables show buying and selling relationships between industries.

A few important words of caution are in order. The calculations that produce the input-output tables are not nearly as precise as the numbers might lead you to believe. Plus, they are several years out of date. Technological change and market shifts have altered the production equation dramatically for many industries. Moreover, the national tables are really just averages of all the different regions. While the national tables may show that aerospace manufacturing generally draws heavily on the production of machine tools, careful regional analysis in Seattle and St. Louis (both with aerospace concentrations) may reveal far more machine tool companies located in Seattle than in St. Louis. And maybe that is because Boeing does more outsourcing than McDonnell-Douglas, or because the St. Louis facility can source its machine tools from other regions more easily than can be done in Seattle. Finally and most importantly, these tables reveal only buying and selling relationships among firms. As we have previously noted, buying and selling does not capture some of the most intimate and important inter-dependent connections among firms in a particular cluster.

The lesson is that national input-output tables are just one early source to consult. You must then check the local conditions via survey data and by interviewing local players. You should use input-output analysis only to give you a running start on identifying how different groups of industries are linked in your region. Primary research — talking to the firms in your region —will give you a much better feel for these market relationships and, in the process, will help you develop your knowledge of the industries and widen your contacts with key industry leaders.

On Which Clusters Should You Concentrate?

Depending on the level of detail of your analysis, you are likely to encounter several business clusters in your region. The first obvious question is which ones to work with. That selection should be driven by four considerations:

- **Which clusters are likely to grow the most rapidly and provide the greatest occupational growth within your region?** Ideally, you would work with those clusters that already demonstrate growth and seem likely to continue that growth several years into the future. However, that may not always be the case. There might be some industries that show little likelihood of overall growth, but that are facing some special issues that would generate job demand. For example, in many parts of the country, traditional metalworking shops are encountering a rapidly aging workforce. The average age of machinists and machine operators in this sector is frequently over 55 years. These firms may not be expected to demonstrate overall growth in sales and employment, but they will need to hire a number of workers in the next several years to replace those they will be losing from retirement. Some of those firms are immediately interested in recruiting young workers who can be trained by the older ones and can grow into the positions that will soon be vacant.

- **Which groups of firms are in the best position to hire individuals with poor skills and limited employment history and provide them with a pathway toward earnings that will sustain a family (i.e., have occupational ladders that extend down to relatively low-skilled entry levels)?** Some of the rapidly growing sectors and clusters may not be good targets for this program because they require entry level skills and education well beyond the levels of the target populations. Others may offer low-wage jobs for relatively inexperienced and poorly trained people, but they offer only those jobs and are unconnected with other jobs or other firms that represent a reasonable occupational ladder offering a pathway toward higher wage employment over time. It might be useful to consider employee interviews that seek to trace the occupational path of those who now have good jobs, to determine whether they got to those jobs through routes that had their beginnings in low

wage jobs. You should be especially alert to identify clusters where firms both permit and reward occupational mobility, both within the individual firms and over time by moving among several businesses in the cluster.

- **Which are significant employers in or close to the target area and have significant local ownership?** All thing being equal, you would probably prefer to work with employers who have establishments in or close to the target areas. This would reduce the demand for supportive services such as transportation and child care. Focusing on locally owned firms, if you have a choice, will frequently facilitate commitment and communication with the employers. It's easy for local units of larger, out-of-state parent corporations to suggest "corporate policy" as a reason for not getting involved in local workforce development and employment programs. Locally owned firms often see themselves as more rooted in their community, and hence may be more willing to alter traditional employment practices and get involved in efforts to improve workforce preparation and change.

- **Which have some needs that are not being met by existing mechanisms, including private markets, private investment and public institutions?** You are going to have more success to the extent you are working with firms that truly need and value the help you can give them.

Strategy: How Do You Make a Difference in the Performance of These Clusters?

Having identified the key business clusters in your region, the next obvious question is how some form of public-private intervention might strengthen the performance of the cluster in a way that will contribute to enhancing the competitiveness of the firms in the group and stimulate job growth. There are at least thirteen key criteria by which to measure the performance of the cluster and thereby to assess the feasibility of specific interventions. These criteria are listed briefly below, together with a starter set of questions that might be addressed to several of the firms in the cluster and which should begin to help identify opportunities for collaborative undertakings.

1. Technology Research and Development

The more R&D a sector carries out, the more advanced its production and human resource development practices are likely to be.

- What are the five or six most important R&D questions facing the industry?
- Where is the R&D carried out?
- How many firms in the cluster have a significant R&D budget?
- How are research findings disseminated to the industry at large?
- What is the process by which new ideas and innovations gain commercial acceptance and find specific applications?
- Do universities or other generally accessible institutions in the region have the research capacity to support the needs of these industries?
- Where is the most important research being carried out?
- How can research findings be most effectively integrated?

2. Diffusion and Adoption of Innovations in Products and Processes

Even if a cluster does not do a lot of R&D on its own, it can be a leader in introducing best practices into its production and organizational structure.

- What are the four or five most important recent technological innovations in this industry or set of industries?
- What percentage of firms in the group have and are proficient in the use of these technologies?
- What is the focal point through which information about that technology is distributed to firms (vendors, university labs, big customers, consultants, trade journals, expositions and trade shows, etc.)?

3. Capacity and Development of Common Pool of Human Resources

The more joint provision there is for development of human resources, the more likely the cluster is to succeed.

- Do the education and training institutions in the region offer specialized training to support the occupational groups important to this cluster?
- Do firms in the cluster routinely provide training for their employees?
- Is there a high level of labor mobility in the cluster?

4. Strength of Final Demand

Without strong and growing final demand, a cluster can lose its vibrancy.

- Does the cluster contain those firms that are most important in understanding and satisfying final market demand?
- Who or what most influences final demand?
- What are the factors that will most seriously build or erode final demand?

5. Customer-Supplier-Vendor Relationships and Availability.

The more diversity and trust in customer-supplier-vendor relationships, the more responsive a cluster tends to be to change.

- Are customer supplier relationships dominated by just a few large firms?
- Is the OEM-supplier relationship characterized by a high level of adversity and mistrust, or is there generally mutual respect?
- What are the most important "missing links" in the regional supply chain?
- Can new firms be recruited to serve specific supply niches?

6. Capital Availability and Accessibility

Capital sources need to be highly responsive to cluster needs, and understanding of short, medium, and long-term financing requirements.

- How well do banks and other lending institutions in the region understand the specialized needs of this cluster?

- Do the lending institutions meet the cluster's needs for asset financing and working capital?
- Is there private equity financing such as venture capital to support entrepreneurial growth?

7. Access to Specialized Business Services

Business services need to be customized to cluster needs.

- Do the accountants, lawyers and other professions that serve the cluster have specialized knowledge?
- Are there designers, marketers and distributors located in close proximity?

8. Global Connections

Clusters do best when they have access to diverse markets.

- What percentage of goods are exported?
- Does the cluster participate in international trade shows?
- Are specialized language services available?

9. Formal Inter-Firm Organization

Clusters thrive when member firms come together in associations.

- Do regional industry associations include broad cross-sector representation?
- Who or what gets the firms together?

10. Networking and Opportunity Driven Alliance-Building

Dynamic clusters develop networks in response to market opportunities

- Do networks of firms emerge spontaneously in response to market opportunities?

11. Entrepreneurial Energy

Dynamic clusters grow rapidly and add new firms.

- How many new business starts have there been annually?
- Do local firms encourage spin-offs and spin-outs?
- How does the local business climate support new business formation?

12. Scope and Diversity of Participation

Participation of a diverse variety of firms within a cluster allows for more resilience to change.

- Does the cluster include firms who participate in several different markets?
- Does the scope of participation suggest that the firms collectively have the ability to sense important changes in technology or demand that could quickly affect their competitive positions?
- Does the diversity of participation involve different underlying technologies?

13. Shared Vision and Strong Leadership

Strong leadership and shared vision allow the cluster to act effectively.

- Who speaks for the cluster?
- Do key people use similar vocabulary?

Each of these dimensions is important to the optimal functioning of a cluster. Each represents a field of activity that will significantly influence the collective competitiveness of the firms in world markets. In each of these areas, public policy can make a difference. Thoughtful involvement with industry leaders in determining how to strengthen, shore up or broaden access to the various assets or capabilities implied in these dimensions can affect the ability of the firms to compete at progressively higher levels of value-added and to develop new job opportunities. Programs involved with firms in these dimensions can begin to influence the firms' internal labor marketsin ways that can contribute to the success of the private-public partnership in placing poor people in good jobs.

An obvious question is whether it is necessary or even desirable to engage with firms in a particular cluster in all of these dimensions in order to influence their employment practices. The answer certainly is "no." Over a period of several years, working with firms on issues that arise in each of these areas can help them to improve their collective performance, which helps them to develop new job opportunities. But in the short term, you might want to work with them chiefly in the arena of human resources, where you might reasonably expect to influence their hiring practices in a way that will drive job opportunity for residents of the target neighborhoods. Over time, attention to these other performance dimensions will be important to the continued growth and prosperity of the cluster.

Primary Research Methods: Engaging Firms in Your Region in the Analysis Process

Why?

Regional economic analysis should not be seen just as a chance to determine what strategies a jobs project should pursue; it represents an opportunity to develop a relationship with the firms in your area that you will rely on to be actively involved in the project's implementation. If firms are engaged early and in an effective manner, the analysis phase of your project can strengthen industry buy-in to the design of your jobs project and thus encourage their full participation.

Engaging firms in the regional economic analysis phase not only represents a good marketing opportunity for your project, it is a crucial component of effective research design. This analysis will inevitably feature a strong primary research component: you will be talking with firms and groups of firms about what they consider to be the most important issues facing their industry and particular firm. Direct surveys, interviews and focus groups are all a part of good regional economic analysis. You will need to get the help of a few firms and industry champions to make sure that you ask the right questions and identify the right firms with which to speak. These firms will not need to work directly on the research. They need, however, to be informed of and to have input into the overall design, and they need to understand and help interpret the results.

How?

Of course, getting firms to participate in a research process can be a difficult task. However, there are a few relatively straightforward steps you can take to engage industry right at the beginning.

1. ***Develop good relationships with the officers of industry associations in the region:*** To varying degrees, trade and industry associations provide a forum for the consideration of issues that affect the competitiveness of their members. Some associations (the National Tooling and Machining Association, for example) are very concerned with issues that surround the ability of their firms to compete in national and international

markets. Others tend to focus their activities around lobbying on matters of joint interest to the membership (such as taxes and regulations), and social gatherings.

It would be wise to meet with the CEOs of all these associations in your region to ensure that they are well informed of your activities and plans. The associations should be able to help you find key champions within their membership who will agree to participate on the regional economic analysis research team and get involved in the design of surveys. The associations can also be good sources of information on identifying appropriate participants in focus groups.

2. ***Involve Large Customers at the Earliest Stage of the Analysis:*** Although much of the focus of your work will be around small and medium firms, you should not ignore larger firms in the analysis phase. Often large customer firms can offer a lot of information about the needs of smaller suppliers, and may be more in tune with general industry trends than are firms with few employees. Large firms will know in which areas their suppliers need the most assistance, and should be willing to pass that information on to you. Most small firms find that most of the learning they do comes from the association they have with their larger customers. Meeting the sophisticated needs of a large customer is often what spurs small firms to make substantive changes in their business practices.

   It is important that, when you involve the large customer firms in the analysis process, you talk to individuals who are involved in the decision making processes of the firm. Certainly, getting the CEO of a large company may be impossible, but asking for the participation of someone involved at a high level in supplier development, supplier relations, or procurement and purchasing is a very real possibility. Try to get yourself invited to a big customer's supplier meeting or "pre-bidding" conference. You won't understand the technical engineering detail, but you will get a finely grained feel for how the jigsaw puzzle of a production chain fits together.

   Identifying the appropriate large firms to approach can be done in several ways. The first was mentioned above: working with trade associations in the region. In many cases, these associations' leading firms are quite large and their activity in a civic

oriented group might indicate their willingness to participate in a jobs project. Preliminary talks with smaller firms will also reveal who their most important customers are.

3. ***Talk with Existing Service Providers:*** It is likely that you will not be attempting to work with firms in an assistance vacuum. Someone, somewhere in your region, is helping firms in some way. It is crucial that you talk to these entities not only to find out what kind of services they offer, but also to find out what particular customers might be most appropriately included on a market research team. Through their work, staff at these service providers will have noticed those "best practice" firms that can yield the most information about what can ensure a company's success in the regional economy. Additionally, and just as importantly, the providers can offer information about those firms most willing to participate in a jobs program. Firm owners and their staff are extremely conservative when it comes to allotting their time away from business—once you find a firm that is willing to contribute, it is important that you get their active commitment.

Why Survey?

One of the most commonly employed means of finding out the needs of local firms is to survey the companies directly. These "needs surveys" can be conducted by mail, fax or phone, and offer an excellent way to learn more about the specific needs of firms in your area. However, it should be pointed out that these surveys can be extremely time consuming and, if they are not carefully constructed, of little use. So do the secondary data research first to identify the most important sectors and clusters in your region. Don't flood all firms in the area with a questionnaire. Also, you should only do a survey to reveal the information that cannot be gained from looking at already existing national industry studies. Indeed, there are probably only three good reasons to conduct a survey of firms in your region.

***To probe for particular areas where firms in your region have specific problems limiting their competitiveness that may not be revealed through national analyses*:** The business needs of firms, whether in technology or general business practice, often differ greatly from sector to sector. For example, you wouldn't ask firms in the textile and apparel business about how they adapt technologies that are only relevant for the metal working sector. Likewise, you wouldn't need to survey firms to find out that they are generally interested in issues of

quality assurance. However, specific quality documentation needs may vary from sector to sector, and might only be revealed through a survey instrument. In addition, firms may only respond to the survey if they believe it is relevant to their particular sector.

***To explore how to package and deliver high impact services that firms will use*:** Short surveys designed to explore alternative ways to offer services to firms will produce information not generally available from other published sources. These types of surveys would explore who the firms now learn from; whether they view their customers as trustworthy sources of assistance; how they are connected to delivery institutions like community colleges, trade associations and manufacturing extension centers; what are the dominant issues of accessibility by location; which topics will bring people out of the shop and which won't; and, what assistance they now pay for, how much they pay and who they buy it from. These kinds of surveys don't ask about needs; they ask how to satisfy requirements.

***To build a relationship with your customer base that establishes credibility, legitimacy and confidence*:** A survey has the potential to serve as a marketing tool for your jobs project as much as it serves to uncover the needs of firms. A survey is a chance to introduce your initiative to firms and to let them know that the effort will be a real presence in the community.

How to Survey

***Assemble a set of good data bases*:** Before you do any survey, you first have to know the names and addresses of the particular firms you are going to survey. See the proprietary information services described at the end of these Guidelines.

***Talk to the firms on your market research team and other identified industry champions*:** Earlier in the market research phase, you identified the firms that would help guide the analysis phase of your jobs program. These individuals should be consulted on the type of survey which is most appropriate. They may also give insight into such issues as what questions to ask and the best way to ensure a high rate of return. Firms definitely have experience in receiving surveys, and they know which types pile up on their desks.

***Write the survey*:** Writing a survey of firms is easily done, but writing a survey that will actually yield the information you are after is a completely different matter. There are consulting firms whose entire purpose is survey research. Therefore, it may be helpful to contract with a firm or university to help you design a survey to meet your particular needs. If you decide to write the survey yourself, there are some books on survey design that offer advice on how to phrase questions in a way that yields the most appropriate response. We have also developed a model sample survey for you to use (see Appendix 4). Please note that this sample is not intended to be copied word for word—it should serve only as a guide to the type of questions you might ask. In addition, here are a few guidelines you should follow that will enable you to get a high response from the firms in your region and to yield the information that will be the most helpful:

- The survey should be in written form, not administered over the phone, so that the right person can respond with at least a little time to research the answers. However, if you must survey by phone, refer to the guidelines in Exhibit 12.
- The cover letter of the survey form itself should explain what your jobs program is about and how it might involve local firms.
- The survey should include a letter of support from one or two other firms and perhaps trade association executives about why this information is important.
- The covering letter should offer an opportunity for the respondent to learn about the final results of the survey. Firms often complain that they get nothing from filling out questionnaires; a promise of a summary of the results could increase the likelihood of a response.
- The actual survey should be short (one or two pages). The people you are sending these surveys to are extremely busy, and anything that cuts down on the amount of time they spend on the questionnaire is more likely to get a response.
- The survey should ideally be faxed out and be designed to be faxed back. People are much more likely to respond in this manner, and faxing ensures a much more timely response than does sending it out by "snail mail" (U.S. mail).
- Follow up with a phone call. As anyone who has ever gotten a questionnaire knows, it is easy to file it away and forget about it. Make sure that you remind people to respond to the survey. The time-consuming aspect of doing this and the time intensive components of survey work may make it more cost effective to contract with a survey firm than to do the work yourself.

Conducting Interviews with Firms

Although survey research can yield much useful information, it cannot replace speaking directly with firm representatives. Individual and group firm interviews are an excellent way to gather in-depth information about particular issues and to deepen your understanding about the human resource needs of small firms. They lend themselves to careful follow-up and to a close examination of relatively complex issues. On the other hand, these interviews take a lot of time both for your staff and for the firm and therefore work best when focused around a clearly definable subject that is of equal importance to both your jobs program and the firm.

Although survey research can yield much useful information, it cannot replace speaking directly with firm representatives.

Individual interviews will be especially helpful if the interviewees are carefully selected in advance on the basis of some special characteristics, and the discussions are then focused around those areas. For example, firms known to be among the leaders in their sector can be asked a set of questions designed to explore their relative success *vis a vis* more common practice firms. Those that have been successful in implementing an apprenticeship program can be interviewed about the key aspects of that process.

It is a good idea to write out an interview protocol before you speak to the firm, detailing the direction the discussion will take. You should fax a copy of the major questions from this protocol to the firm prior to the interview, so they know what to expect when you visit. You will not want to waste time during the interview having the firm representative root around for information.

You should suggest holding the interview at the firm. Firm owners are more likely to participate if they don't have to travel. In addition, you may want to consider asking the firm representative for a plant tour. Walking around a place of business can give you a good sense about a particular industry's operation, and offer insight into the difficulties they face.

Conducting Group Interviews

Group interviews are sometimes even more effective in that, if they are well facilitated, the participants will challenge and push one another, providing contrasting viewpoints of the issues under discussion. They take just as much time for the individual firm (often more because they

Exhibit Twelve
Phone Surveys

Surveying firms by phone can be a surprisingly effective way of learning aneeds and the problems they face in remaining competitive. Unlike a written survey, you can be sure that you will get a response—obviously, you don't need to do a phone reminder to get a firm answer the questionnaire. Phone interviews also have the advantage of taking less of your time—you don't have to travel to the site of the firm to speak with the owner.

However, phone interviews must be carefully done to avoid turning off would-be supporters of your jobs project. As anyone knows, receiving a telemarketing call can be an extremely annoying experience.

To do a phone survey properly, you should use the following guidelines to ensure that you get the best possible information from the company and to make sure that you don't quickly end up with a dial tone on the other end of the receiver.

- Send out a short flyer to the firm contact person stating that you will be calling them to do a interview. The flyer should introduce your jobs program, and state the reasons for doing the interview. It should also give the interviewee a good idea of when he or she might expect the call.
- Write out an interview protocol ahead of time. You might want to use the same protocol you used for the on-site individual interview. You don't have to stick entirely to this protocol, but it is important that you have prepared questions to prevent "dead-air" time.
- When you call, reintroduce your jobs program and ask whether this is a good time to call. If it is not, then set up a time with the interviewee at his or her convenience.
- Don't ask for information that the interviewee does not have readily available at his or her fingertips. The person you are interviewing wants to spend as little time as possible on the phone—don't make them waste their time by rooting around to find some statistical information. If you need something specific, ask if they could send it to you at a later date.
- Keep the interview short. Ideally, a phone interview should not take longer than thirty minutes. If an interviewee cannot give you that amount of time, then adjust your protocol to meet their time allotment.

must go to some central location) and require a good deal of logistical management. There are far more efficient ways to collect raw data, and that should not be the purpose of the group interview. Group interviews will not be successful if the participants are merely asked sequentially to answer lots of questions.

The general purposes of interviews, group or individual, are similar to those of surveys:

- to explore particular areas where firms in your region may face special competitive challenges not adequately revealed through the national level industry analyses;
- to shed light on how best to package and deliver high impact services;
- and to build a stronger relationship with firms in your region.

Indeed, group and individual interviews are sometimes used as substitutes for more detailed surveys.

The ideal group interview would consist of six to ten CEOs or top managers of firms in the region. It would be helpful to recruit top management from some of the best firms you have run across during your initial analysis of the region's economy—those firms that have had the most success themselves in confronting the issues of competitiveness and in managing human resource issues. You don't want firms who only have a dim view of competitive challenges and little experience developing jobs to be the ones shaping your strategy.

Depending on the questions to be addressed, the group might be relatively homogeneous (from the same sector or inter-dependent cluster), or it could consist of firms from several different product areas. The topics will be different for the different groups. You would be less likely to address issues of training in specific technologies with a group of firms from different industrial sectors. There probably would not be enough in common to optimize the discussion. On the other hand, a group of very different firms might be able to substantively contribute to a discussion of concerns about the general lack of preparedness of high school students in the city.

You probably should not rely on just one or two of these focus groups. A few especially articulate or long-winded participants can skew your findings. Holding focus groups is a relatively low expense method and a

good way to meet firms in your region. It would not be overkill to do as many as ten or twelve of these small sessions dealing with different issues, and perhaps talking to firm representatives from different clusters or sectors. You might also want to consider running several focus groups within the format of a single large workshop. If you can organize an event that will bring lots of firms together for a day or two, using breakout discussion sessions can be a highly efficient way to capture a wide range of opinion and advice.

Here are a few hints for organizing and running the group interviews:

- ask a business association known to (and respected by) most firms to lend their name to the letter of request to participate;
- schedule the interviews at least three weeks in advance, send out an agenda with reminder notices and make a phone call a few days before the event;
- invite ten to fifteen participants if you want six or eight to attend (these folks have a tough time with scheduling and many will not show; but even if they all do, you should still be able to accommodate that size group);
- schedule the sessions over a simple breakfast or lunch;
- ask a person experienced in facilitation to run the meeting;
- thoroughly inform the owners/managers whom you interview about the specific purpose of the session. It would generally be helpful to give them some preview of the topics to be covered;
- have a clear agenda, keep on it and stay focused; and,
- don't pack the meetings with lots of interested others—one person to run the meeting and one to take notes should be fine.

Assessing Already Available Services and Developing Relationships with Other Service Providers

While you are analyzing the makeup and performance of your regional economy, it is important to learn about the scope and quality of services already aimed at promoting job creation. In an ideal circumstance, your jobs project will have no competitors—it will have only cooperators and partners. Most successful programs seek to extend the reach of and coordinate, not replace, existing service providers.

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Certainly there may be a few providers in a region so turf conscious that they have no interest in coordination, or whose interest in cooperation only extends as far as being in charge. There also might be a few whose service quality is so bad that you want nothing to do with them. The challenge facing your program is to do the systematic market research that will reveal all the capabilities of all the major providers in a way that stimulates their interest in cooperation and their ability to specialize as part of a coordinated system aimed at getting people good jobs.

Getting organized for provider analysis

You should use the permanent market research team that you have used in other components of analysis as the basic coordinating vehicle for designing and carrying out this provider research. Doing so will help assure that the vocabulary and learning that emerge from these concurrent processes are consistent and reinforcing.

In addition, it is advisable to supplement that team with representatives of the key providers—community colleges, universities, small business development centers, specialized financing organizations, state and local economic development agencies, community development corporations, employment services and job training groups, private consultants and industry associations. Those providers who are surveyed generally have a higher interest in responding if they have been involved in the survey design and if they are promised an analysis of the results.

There probably exist a few service directories that could provide the basis for a beginning inventory of providers. The state department of economic development would be in the best position to locate them.

Clarifying your objectives in surveying other providers

A survey of providers is a good way to accomplish at least three objectives. First, it will help you to introduce your jobs program *on your terms* to other service-providing organizations in the region. Many of these organizations will have only a dim view of what your program is all about. This is your chance to explain it to them in terms of a partnership to better the needs of workers and firms in your region. It's an opportunity to help build that partnership.

Second, you can use a survey to help refine your own decisions about what strategies your program might pursue. You will be able to see what programs you will have to create from scratch and which are already being used by an existing provider. This means you have to be careful to get good information about the quality and intensity of the services provided, and about the lessons learned by these other providers, and about effective demand and utilization from their customers.

Third, this is the basic information you will use to determine where your clients, both prospective employees and firms, can go for the most effective assistance. You must take care to gather information about the things that accessibility of the service from the perspective of both firms and individuals. Among the logical questions your survey might have to address are the following:

- Where do people have to physically go to get the assistance?
- What are the qualifications of the person or persons providing the assistance?
- How much does the assistance cost?
- How much of the assistance is available?
- Are there are any long term obligations that result from using the help?

Developing rough categories of service to classify what the existing providers are doing

One of the problems that you will face is coming up with some neat way to categorize services that reasonably reflects the needs of both firms and prospective employees. The needs of firms are multi-dimensional and interconnected; solving them frequently requires simultaneous change across several fronts. The same can be said for the training needs of the potential worker: he or she may require sophisticated training or need business management skills.

Firms have a wide variety of needs that service providers can meet.

In terms of the needs of firms, there are several categories of services in which you can separate assistance:

- ***technology-based assistance*** to optimize technical functions and master computer-based systems for design and engineering; materials and requirements planning; fabrication, machining and assembly; materials handling and inventory management; inspection and testing; and electronic communications, quality process documentation and control.
- ***advanced business management,*** including practices such as strategic planning, quality management systems, compliance management and continuous improvement practices.
- ***marketing help***, including market research and planning and export development.
- ***work organization assistance*** with such issues as plant layout, team development, human resources management and flexible work practices.
- ***skills enhancement and job training*** including assistance with basic literacy as well as advanced technical skills.
- ***financial management assistance*** with credit and capital needs.
- ***interfirm cooperation activities*** designed to help firms learn to work more effectively with customers and suppliers and to bring firms together so that they can do things collectively that they might not be able to or afford to do individually.

For the individual, services can be broken down into the following broad categories:

- ***technical training*** that provides individuals with the advanced technical skills necessary to perform certain jobs.
- ***basic skills training*** that provides individuals with the rudimentary skills such as literacy and numeracy necessary to enter the workforce.
- ***financial assistance services*** that offer individuals assistance in getting the necessary capital to start a business or expand an existing operation. These types of services can also offer advice about how an individual can package him- or herself in order to obtain financial assistance from a commercial bank.
- ***business management assistance*** in how to start and operate a business. This assistance would provide support in the "basics" of running a business including writing a business plan, financial management, and marketing.
- ***support services assistance*** across a broad range of activities that deal with the "real life" difficulties that deter many individuals from entering the workforce. Some examples include: transportation services to and from places of work; child care services; long term health care; assistance in navigating state bureaucracies to obtain transfer payments and other subsidies while working.
- ***job placement services*** designed to give people "job readiness" skills: i.e. interview skills, resume writing. These types of services might include mentoring programs as well. Some programs under these categories might serve as clearinghouses for job openings.

There is obviously a certain amount of overlap within these broad categories both for those offered to the firm and to the individual. Some service providers may define as discrete services those activities they will want to place under more than one category. This is probably inevitable, and in any event it is consistent with your purpose. You are looking for a good description of what service capabilities are out there; you are not looking to "count" services and you therefore don't particularly need a set of mutually exclusive categories. As the responses from individual providers come in, you may develop more finely-grained subcategories, but there is no need to get too detailed in designing the categories. You should let the providers define what they do rather than force them into narrow boxes.

At a minimum, you will want to know the following about each set of activities described as a service by the provider:

- What specific change or improvement in the firm does it seek to bring about? In the case of a service aimed at an individual, what is the actual goal of the service?
- What activities are provided in support of this change or this goal? You should decide in which general category of service to place the activities described.
- What is the geographic area within which these activities are available and accessible?
- Who is eligible and what are the general conditions of use with which the firm or individual must comply?
- What is the process required to get the service?
- Who is the specific person to contact to get the service?
- If the service is at all subsidized, who subsidizes it, at what level, and for what period of time?
- How much of the service was provided last year as determined by number of recipients and intensity of use (measured by dollar cost)?
- How many people actually provide the service?
- How is quality measured and maintained, and when was the most recent evaluation done?

Administering a provider survey and collating the results

While the set of questions described above might result in a fairly long survey instrument, those surveyed generally have a vested interest in responding, especially if several of them have been involved in the survey design and if they are promised an analysis of the results. Note again the importance of including several service provider representatives on your market research team. It will be nonetheless useful to explain in the letter accompanying the survey questionnaire the reasons why the survey is being undertaken, and the fact that a broad-based team of people from firms, community leaders and other service providers have designed and are managing the process.

The results should be summarized in a database format so that they can be easily accessed as your service delivery strategy unfolds. It also might be feasible to summarize the information in a table, in which rows represent broad service categories and their discrete activities as subsets. The attributes of the activities as outlined above would be the columns of this table.

Data Sources

Most of the public (governmental) data sources listed below should be available at libraries that collect government documents. These libraries increasingly collect CD-ROMs as well as printed materials. Check with your local librarian or government agency to locate such a library. Many libraries collect state as well as federal materials.

In addition, much government data is already freely available on the Internet, and more is being added daily. Investing in an Internet connection, if you don't already have one, can be fruitful in mining government data.

While only federal and private sources of data are listed below, it is important to remember that state governments also collect a lot of data. Particularly useful for a jobs program are state departments of employment, revenue (taxes), transportation, and economic development. Many state governments are also putting data online.

County Business Patterns

A publication of the National Bureau of Census, *County Business Patterns,* provides information about almost all employers on a county-by-county basis. The data consist of information at the state level and for each county on employment level, payroll, number of establishments and the distribution of establishments by size, down to the four digit level of S.I.C.. The information is compiled from Social Security records submitted to the federal government by all employers, and it is considered quite valid and trustworthy.

County Business Patterns is available on hard copy, by state, and on CD-ROM in any reasonably sized library. It may be obtained on CD-ROM from the National Bureau of Census by telephone order at 301-457-4100 (national level data and for all states and all counties). The 1992 and 1993 versions are available on a single CD for $150 and the 1991 version is also available for $150. Annual versions on CD for the years from 1980 through 1990 cost just $50. Hard copies are available from the U.S. Government Printing Office at (202) 512-1800.

There are a few problems with the information in the *County Business Patterns*. First, it is somewhat out of date. For most states, 1994 information is just now becoming available. There is always a three to four

year time lag in *CBP*. Second, the information is not perfectly reliable. The data is taken from administrative records for the social security program submitted to the federal government directly from employers, so it should be very accurate, but it seems to frequently miss several employers, especially in smaller employment size groups. Third, it is not comprehensive; self-employed individuals and public sector employers are excluded. Fourth and most importantly, the information is sometimes suppressed. When there are so few establishments in a particular county in a certain S.I.C. code that the identity of these employers might be apparent to a clever researcher, the payroll and employment for those establishments is simply not published (although the number of establishments by size is not suppressed). These *CBP* limitations have always frustrated researchers, and a few groups of non-government economists have developed "enhanced" *CBP* data sets with careful estimates of specific values for data suppressed by Census. If the problem of data suppression in the *CBP* significantly inhibits your analysis, you may wish to inquire about its availability from economists at your local university.

ES-202 Data (the establishment files)

In some cases, a partial alternative to the limitations of the *County Business Patterns* is available in the form of ES-202 reports at your state office of employment services. All employers are required to submit a quarterly report for Unemployment Compensation purposes with their state employment service office. This report provides information at the four digit S.I.C. level about employment and wages with no deletion or suppression. It is more up-to date than the *County Business Patterns* reports. You will be able to get information from two years previous, and perhaps even the previous year's information. Most state employment offices began to record this information in easily accessible formats, first on tapes and then on floppy disks, in the early or mid-1980s. By now you should be able to get a ten year series.

The ES-202 reports are not summarized into public reports, and are not considered public information. However, most state employment offices will grant access to individuals whose research has a public policy objective or consequence. Gaining access usually means going to the employment service offices and doing the data collection and aggregation on the spot. Some of the more entrepreneurial employment service offices will perform the research for a fee, providing the data in the format you specify. The obvious advantages of using the ES-202 files are that

location quotients can be calculated with far greater accuracy, and you can get more current information that would suggest unfolding trends in these sectors.

There is a potential limitation of the ES-202 data of which you should be aware. Some companies report aggregated data for all their plants on one form, and you will find it difficult to figure out how their employment is scattered across the counties in your region or state. The data analysts at the state employment office should be able to tell you if that problem will seriously affect the quality of the information for your applications.

The Census of Manufactures

This data set is published every five years. The most recent one covering 1992 was published only in 1996 and the 1997 data will not be available until at least 2000. (There is an *Annual Survey of Manufactures* done on a sample basis every year; it is usually published about three years after it is collected.) The *Industry Series* of the *Census of Manufactures* provides national-level data only for all manufacturing down to the four-digit S.I.C. level. It will provide information about the number of companies and establishments, employment, payroll, labor costs, hours worked, assets, capital expenditures, rents, depreciation, inventories, cost of material and energy, value of shipments and value added. The *Geographic Industry Series* provides this same information for all states and metropolitan statistical areas. Like *County Business Patterns*, these are generally comprehensive data sets. *The Census of Manufactures*, the *Census of Service Industries* (see below) and the other economic censuses are published by the Census Bureau on a single Economic Census CD-ROM.

On computer media, this data set is available by calling (301) 457-4100. Hard copies are available from the U.S. Government Printing Office, which is at (202) 512-1800.

The Census of Service Industries (and others)

This data set is an analog to the *Census of Manufactures*, covering S.I.C.s Again, it is available to the four-digit level. There is no industry series for this group. The information is presented by geographical region — the nation, each state, all MSAs, and major counties. The *Census of Service Industries* does not have much of the detail that the *Census of Manufactures* provides. In fact, the only information you can

get from the *Census* that you can't get from *County Business Patterns* is receipts (of course, this information can be very important to sector and cluster analysis). The *Census of Service Industries* can be ordered on computer media at (301) 457-4100 and hard copies at (301) 457-2689. A similar data set covering transportation, communications, utilities, finance, insurance and real estate is available at (301) 457-2689 and for wholesale trade at (301) 457-2725.

Harris InfoSource International

Harris is a private firm which, for years, has carried out its own survey of manufacturers and has built up perhaps the best of the private data bases for industry. Harris' basic product is a *State Manufacturers Directory* available in hard copy or on computer diskette for various applications. For almost all manufacturing establishments (they obviously miss some), this directory will give you the company's name, address, parent if any, actual employment, estimated annual sales, principal S.I.C. codes, contact names and phone numbers. Usually, the diskette is available in a data base version with sophisticated search capability. On diskette, these state reports will cost from abut $300 to $800, depending on the size of the state.

Harris also publishes specialized directories at the national level only for the electronics industry, and at the multi-state, regional level for "high tech" industries (defined in a somewhat fuzzy manner).

Harris also is willing to provide information about non-manufacturing firms. However, they do not gather this information directly from the firms. Rather, they buy it from other information services (i.e., the Yellow Pages). They will only sell this data on specific order. That is, you call them and indicate that you want certain information on all service industries in a particular area. Harris will contact its providers, figure out how much it will cost them to acquire and organize this data in the format you want it, and will then quote you a price. They have a minimum charge of $250. You can get information about non-manufacturing firms organized by state, county or ZIP code and providing the name of the firm, contact name, phone number, S.I.C. (to the 8-digit level) and number of employees. This information will come on a diskette but without a database search application, so you will have to download it into your own database system for analysis.

Harris publications and diskettes may be ordered by calling 1-800-888-5900. Harris InfoSource's Web site is at *www.harrisinfo.com*.

The Federal Reserve

For general regional economic information, a good source is the Federal Reserve, the U.S. central bank. The Federal Reserve is composed of twelve regional banks, each headquartered in a major city (Boston, New York, Philadelphia, Richmond, Atlanta, Cleveland, St. Louis, Chicago, Minneapolis, Kansas City, Dallas, and San Francisco) and serving a region around that city. Each bank offers a wide range of reports and data, much of which is now accessible on the Internet. For instance, the Federal Reserve Bank of Chicago published a report in 1991 entitled "The Great Lakes Economy: Looking North and South" which looked at the impact of North American free trade on the Great Lakes region's economy. Another Chicago Fed report in 1993, entitled "Regional Economies in Global Markets," discussed the impact of trade on regional economies, with special focus on the region served by the Chicago Fed. The Federal Reserve produces many such reports which may be of interest to your jobs program. The Federal Reserve banks also produce periodicals. For instance, the Chicago Fed produces one periodical called the *Chicago Fed Letter*, a monthly letter on topics of regional economic interest, a second called *Great Lakes Economic Report*, which appears quarterly, and a third called *Economic Development News and Views*. A good deal of materials from the Chicago Federal Reserve are available on the Chicago Fed's Web site, at *www.frbchi.org*. The Board of Governors of the Federal Reserve's Web site is at *www.bog.frb.fed.us*, and this has links to all the Web sites of the regional banks.

STAT USA

Another good Internet source of Federal data is the "STAT USA" database put together by the U.S. Department of Commerce, at www.stat-usa.gov. This is available only by subscription at $150 per year and contains a wide variety of economic and population statistics from the Bureau of Labor Statistics, the Census Bureau, and the Bureau of Economic Analysis (BEA), among other. It may be well worth the price of admission.

Dun and Bradstreet Information Services

Dun and Bradstreet Information Services is perhaps the largest supplier of basic company data base information for general telemarketing and direct mail marketing purposes. It has an information base of about 10 million companies. In manufacturing, it may not be quite as comprehensive as Harris, simply because Harris has been at work in the manufacturing sector for several years and may have built up a better base

(this is just speculation). But D&B goes well beyond the Yellow Pages for its general listings and is certainly more comprehensive than Harris outside of manufacturing. D&B also has an edge in the accessibility of its data. Basically, D&B has two products: a "metered" CD-ROM and an on-line service. (D&B will also do more customized work for the over-worked among us. Such work tends to be quite expensive, but sometimes it is the best way to get enhanced information on special markets.) The CD-ROM contains all of its listings and is up-dated quarterly. You can buy the current version for $849 or an annual subscription for four quarterly updates for an additional $199. The CD-ROMs are metered (like a postage meter); you begin with a certain number of credits which you spend down as you output data in the various formats offered (mailing lists, telemarketing lists or full company record sheets). Periodically, you must replenish the credits by telephone. You can preview all the output on screen, setting up lists by such attributes as postal zip (nine digit), S.I.C. code (down to six digits), employment size, rate of employment growth, and annual sales. You pay only for the actual data lists that you output, and if you rank the list so that most stuff of interest to you comes first, you have the option of outputting only those toward the top of the list.

D&B's on-line service costs $95 for the basic subscription. It works similarly to the CD-ROM version, in that you are charged for only for the lists that you output. You have a few more options about output formats and level of detail. The on-line service is, of course, always immediately up to date. The cost structure seems slightly more expensive than the CD-ROM version. You are probably paying for the timeliness of the data, but for the more detailed formats, it may be worth while.

D&B's services may be ordered by telephone at 1-800-624-5669. D&B's Web site is at *www.dbisna.com*.

Bureau of Labor Statistics Services

The Bureau of Labor Statistics produces and publishes several periodic reports about employment, earning, prices, productivity and technology by major industry sectors on a national basis, and for states and MSAs. BLS issues long-term employment projections for over 200 industry sectors in which they forecast demand and utilization.

There are a large number of publications that might be helpful to your jobs program's site teams , both on analyzing key trends in certain sectors and clusters and in profiling labor market issues. An extended conversation with the State Occupational Information Coordinating Committee (SOICC), usually accessible through your state department of employment services, might be the most time-effective way to identify those that would be most useful to you. Each state has such an office, and it should have a few people fairly skilled at information collection and analysis on labor market issues.

Specific reports you will find especially helpful include the following: *Area Wage Surveys* by MSA (annual); *Geographic Profiles of Employment and Unemployment* for the larger MSAs and some central cities (annual); *Industry Wage Surveys* for the nation as a whole and for most MSAs (annual); and *Occupational Outlook Quarterly*.

BLS periodicals you may find useful are the following: *Employment and Earnings* (for employment, unemployment, and wage data);*CPI Detailed Report* (for Consumer Price Index inflation data); *PPI Detailed Report* (for Producer Price Index inflation data); *Monthly Labor Report* (which gives a general overview of BLS statistics).

In addition, the *Occupational Outlook Handbook*, published annualy, has detailed descriptions of occupations, their income ranges, and the educational levels they require. The *Handbook* is also available on the BLS Web site at *www.bls.gov*.

All of these reports usually can be ordered from your regional office of BLS or directly from the Bureau of Labor Statistics at (202) 606-7828. Most of the reports can be purchased on diskettes or CD-ROMs. A good deal of this information is also available on the BLS's web site at *www.bls.gov*.

Remember that your state labor department also is likely to have much useful data. For instance, Wisconsin does an annual wage survey that is more comprehensive than that done by BLS.

U.S. Decennial Census Data

The U.S. Census Bureau puts out printed reports such as "Social and Economic Characteristics for Metropolitan Statistical Areas," as well as the computer files "Summary Tape Files 3 and 4" (STF3 and STF4). These latter files contain tabulations of census universe and sample data. Census data are also repackaged by a variety of private vendors on CD-ROM, and on the on-line service DIALOG (file CENDATA). A wide variety of data is also available on the Census Bureau's Web page at *www.census.gov*. For instance, the entire STF3A file is searchable there, down to census tract level, and the output can be easily read into a spreadsheet. Census also has a lot of geographic data, in its TIGER line files, also available on the Web.

Another useful product available from the Census Bureau is the Public Use Microdata Sample (PUMS). This is a sample of the complete census data set, and it is available on CD-ROM. With this CD-ROM, and a certain amount of computer skill, it is possible to construct a wide variety of estimates for virtually any region of the country, although the minimum area that one can specify is somewhat larger (areas that contain about 100,000 to 300,000 people).

Notes

1 Peggy Clark and Steven L. Dawson, with Amy J. Keys, Frieda Molina, and Rick Surpin, *Jobs and the Urban Poor: Privately Initiated Sectoral Strategies* (Washington, D.C.: The Aspen Institute, November 1995).

2 See especially Paul Osterman in *Employment Futures* (New York: Oxford University Press. 1992) and Bennett Harrison, Marcus Weiss, and Jon Gant in *Building Bridges: Community Development Corporations and the World of Employment Training* (New York: The Ford Foundation, 1995).

3 See Stuart Rosenfeld in *New Technologies and New Skills: Two Year Colleges at the Vanguard of Modernization* (Chapel Hill, North Carolina. RTS, 1995).

4 The region is called the Third Italy in contrast to the two better known regions of Italy: the poor South and the industrial region containing the cities of Milan, Genoa, and Turin.

5 Werner Sengenberger and Frank Pyke, "Industrial Districts and Local Economic Regeneration: Research and Policy Issues," in Sengenberger and Pyke, eds., *Industrial Districts and Local Economic Regeneration.* (Geneva: International Institute for Labour Studies, 1992.)

6 It may be that small firms, not as tightly bound by existing practices, were able to practice flexible specialization first. There is no doubt that every section of the United States has a large small-firm sector, and these are the firms that are most in need of modernization, marketing, capital, and labor market services. The provision of these services is a critical place for Casey program intervention. Larger firms are rushing to imitate small firms in practicing flexible specialization. The failure of the Ford and GM plans for a world car is seen as one of many forebodings of the ultimate death of the mass-production model, although it no doubt has a long time yet before it is fully played out. This model certainly will continue to thrive in lower-income markets, but it is not a model that gives the richest rewards to economic development; rather, industrial districts give us such a model.

7 Michael E. Porter, "The Competitive Advantage of the Inner City," *The Harvard Business Review* (Cambridge, MA: 1995).

8 Paul Krugman, *The Self-Organizing Economy* (Oxford: Blackwell, 1996).

9 Sources for this section included the following publications: Charles F. Sabel, "Flexible Specialization and the Re-emergence of Regional Economies," in Paul Hirst and Jonathan Zeitlin, eds., *Reversing Industrial Decline? Industrial Structure and Policy in Britain and Her Competitors*. (Oxford: Berg, 1989); Charles F. Sabel, "Studied Trust: Building New Forms of Cooperation in a Volatile Economy," in Sengenberger and Pyke, eds., *Industrial Districts and Local Economic Regeneration.* (Geneva: International Institute for Labour Studies, 1992); Jonathan Zeitlin, "Industrial Districts and Local Economic Regeneration: Overview and Comment, in Sengenberger and Pyke, eds., *Industrial Districts and Local Economic Regeneration*. (Geneva: International Institute for Labour Studies, 1992.)

Appendix One

1987 Standard Industrial Classification Codes and Titles (1-digit, 2-digit, 3-digit levels)

Agricultural, Forestry and Fishing

07 Agricultural Services
071 Soil Preparation Services
072 Crop Services
074 Veterinary Services
075 Animal Services, except Veterinary
076 Farm Labor and Management Services

08 Forestry

09 Fishing, Hunting and Trapping
098/ Ag. For and Fish Admin and Auxiliary

Mining

10 Metal Mining
101 Iron Ores
102 Copper Ores
103 Lead and Zinc Ores
104 Gold and Silver Ores
106 Ferroalloy Ores, except Vanadium
108 Metal Mining Services
109 Miscellaneous Metal Ores

12 Coal Mining
122 Bituminous Coal and Lignite Mining
123 Anthracite Mining
124 Coal Mining Services

13 Coal and Gas Extraction
131 Crude Petroleum and Natural Gas
132 Natural Gas Liquids
138 Oil and Gas Field Services

14 Nonmetallic Minerals, except Fuels
141 Dimension Stone
142 Crushed and Broken Stone
144 Sand and Gravel
145 Clay, Ceramic and Refractory Minerals
147 Chemical and Fertilizer Minerals
148 Nonmetallic Minerals Services
149 Miscellaneous Nonmetallic Services
149/ Mining Administrations and Auxiliary

Construction

15 General Contractors/Operative Builders
151 General Building Contractors
153 Operative Builders

16 Heavy Construction, exc. Building
161 Highway and Street Construction
162 Heavy Construction, exc. Highway

17 Special Trade Contractors
171 Plumbing, Heating and Air-Conditioning
172 Painting and Paper Hanging
173 Electrical Work
174 Masonry,Stonework and Plastering
175 Carpentry and Floor Work
176 Roofind, Siding and Sheet Metal Work
177 Concrete Work
178 Water Well Drilling
179 Misc. Special Trade Cotnractors
179/ Construction Admin and Auxiliary

Manufacturing

20 Food and Kindred Products
201 Meat products
202 Dairy products
203 Preserved Fruit and Vegetables
204 Grain Mill Products
205 Bakery Products
206 Sugar and Confectionery Products
207 Fats and Oils
208 Beverages
209 Misc. Food and Kindred Products

21 Tobacco Products
211 Cigarettes
212 Cigars
213 Chewing and Smoking Tobacco
214 Tobacco Stemming Products

22 Textile Mill Products
221 Broadwoven Fabric Mills, Cotton
222 Broadwoven Fabric Mills, Manmade
223 Broadwoven Fabric Mills, Wool
224 Narrow Fabric Mills
225 Knitting Mills
226 Textile Finishing, except Wool
227 Carpets and Rugs
228 Yarn and Thread Mills
229 Miscellaneous Textile Goods

23 Apparel and Other Textile Products
231 Men's and Boy's Suits and Coats
232 Men's and Boy's Furnishings
233 Women's and Misses' Outerwear
234 Women's and Children's Undergarments
235 Hats, Caps and Millinery
236 Girls' and Children's Outerwear
237 Fur Goods
238 Misc. Apparel and Accessories
239 Misc. Fabricated Textile Products

24 Lumber and Wood Products
241 Logging
242 Sawmills and Planing Mills
243 Millwork, Plywood and Structural Members
244 Wood Containers
245 Wood Buildings and Mobile Homes
249 Miscellaneous Wood Products

25 Furniture and Fixtures
251 Household Furniture
252 Office Furniture
253 Public Building and Related Furniture
254 Partitions and Fixtures
259 Miscellaneous Furniture and Fixtures

26 Paper and Allied Products
261 Pulp Mills
262 Paper Mills
263 Paperboard Mills
265 Paperboard Containers and Boxes
267 Misc. Converted Paper Products

27 Printing and Publishing
271 Newspapers
272 Periodicals
273 Books
274 Miscellaneous Publishing
275 Commercial Printing
276 Manifold Business Forms
277 Greeting Cards
278 Blankbooks and Bookbinding
279 Printing Trade Services

28 Chemicals and Allied Products
281 Industrial Inorganic Chemicals
282 Plastics Materials and Synthetics
283 Drugs
284 Soap, Cleaners, and Toilet Goods
285 Paints and Allied Products
286 Industrial Organic Chemicals
287 Agricultural Chemicals
289 Miscellaneous Chemical Products

29 Petroleum and Coal Products
291 Petroleum Refining
295 Asphalt Paving and Roofing Materials
299 Misc. Petroleum and Coal Products

30 Rubber and Misc. Plastics Products
301 Tires and Inner Tubes
302 Rubber and Plastics Footwear
305 Hose, Belting, Gaskets and Packing
306 Fabricated Rubber Products, nec
308 Miscellaneous Plastics Products, nec

31 Leather and Leather Products
311 Leather Tanning and Finishing
313 Footwear Cut Stock
314 Footwear, except Rubber
315 Leather Gloves and Mittens
316 Luggage
317 Handbags and Personal Leather Goods
319 Leather Goods, nec

32 Stone, Clay, and Glass Products
321 Flat Glass
322 Glass and Glassware, Pressed or Brown
323 Products of Purchased Glass
324 Cement, Hydraulic
325 Structural Clay Products
326 Pottery and Related Products
327 Concrete, Gypsum, and Plaster Products
328 Cut Stone and Stone Products
329 Misc. Nonmetallic Mineral Products

33 Primary Metal Indsutries
331 Blast Furnace and Basic Steel Products
332 Iron and Steel Foundries
333 Primary Nonferrous Metals
334 Secondary Nonferrous Metals
335 Nonferrous Rolling and Drawing
336 Nonferrous Foundries (casting)
339 Miscellaneous Primary Metal Products

34 Fabricated Metal Products
341 Metal Cans and Shipping Containers
342 Cutlery, Handtools and Hardware
343 Plumbing and Heating, except Electric
344 Fabricated Sturctural Metal Products
345 Screw Machine Products, Bolts, etc.
346 Metal Forging and Stampings
347 Metal Services, nec
348 Ordnance and Accessories, nec
349 Misc. Fabricated Metal Products

35 Machinery/Equipment, exc. Electrical
351 Engine and Turbines
352 Farm and Garden Machinery
353 Construction and Related Machinery
354 Metalworking Machinery
355 Special Industry Machinery
356 General Industrial Machinery
357 Computer and Office Equipment
358 Refrigeration and Service Machinery
359 Industrial Machinery

36 Electric and Electronic Equipment
361 Electric Distribution Equipment
362 Electrical Industrial Apparatus
363 Household Appliances
364 Electric Lighting and Wiring Equipment
365 Household Audio and Video Equipment
366 Communications Equipment
367 Electronic Components and Accessories
369 Misc. Electrical Equipment and Supplies

37 Transportation
371 Motor Vehicles and Equipment
372 Aircraft and Parts
373 Ship and Boat Building and Repairing
374 Railroad Equipment
375 Motorcycles, Bicycles and Parts
376 Guided Missiles, Space Vehicles, Parts
379 Misc. Transportation Equipment

38 Instruments and Related Products
381 Search and Navigation Equipment
382 Measuring and Controlling Devices
384 Medical Instruments and Supplies
385 Opthalmic Goods
386 Photographic Equipment and Supplies
387 Watches, Clocks, Watchcases and Parts

39 Miscellaneous Manufacturing Industries
391 Jewelry, Silverware and Plated Ware
393 Musical Instruments
394 Toys and Sporting Goods
395 Pens, Pencils, Office and Art Supplies
396 Costume Jewelry and Notions
399 Miscellaneous Manufactures
399/ Manufacturing Admin. and Auxiliary

Transportation/Communication/ Public Utilities
41 Local and Interuban Passenger Transit
411 Local and Suburban Transportation
412 Taxicabs
413 Intercity and Rural Bus Transportation
414 Bus Charter Service
415 School Buses
417 Bus Terminal and Service Facilities

42 Trucking and Warehousing
421 Trucking and Courier Services, exc. Air
422 Public Warehousing and Storage
423 Trucking Terminal Facilities

44 Water Transportation
441 Deep Sea Foreign Trans. of Freight
442 Deep Sea Domestic Trans. of Freight
443 Freight Trans. on Great Lakes
444 Water Transportation of Freight
448 Water Transportation of Passengers
449 Water Transportation Service

45 Transportation by Air
451 Air Transportation, Scheduled
452 Air Transportation, Non-Scheduled
458 Airports, Flying Fields, And Services

46 Pipelines, except Natural Gas
461 Pipelines, except Natural Gas

47 Transportation Services
472 Passenger Transportation Arrangement
473 Freight Transportation Arrangement
474 Rental of Railroad Cars
478 Misc. Transportation Services

48 Communications
481 Telephone Communications
482 Telegraph and Other Communications
483 Radio & Television Broadcasting
484 Cable and Other Pay TV Services
489 Communication Services, nec

49 Electric, Gas and Sanitary Services
491 Electric Services
492 Gas Production and Distribution
493 Combination Utility Services
494 Water Supply
495 Sanitary Servies
496 Steam and Air-Conditioning Supply
497 Irrigation Systems
497/ TCPU Admin. and Auxiliary

50 Wholesale Trade—Durable Goods
501 Motor Vehicles, Parts, Supplies
502 Furniture and Homefurnishing
503 Lumber and Construction Materials
504 Professional and Commercial Equipment
505 Metals and Minerals, except Petroleum
506 Electrical Goods
507 Hardware, Plumbing and Heating Equipment
508 Machinery, Equipment and Supplies
509 Misc. Durable Goods

51 Wholesale Tade—Nondurable Goods
511 Paper and Paper Products
512 Drugs, Proprietaries and Sundries
513 Apparel, Piece Goods, and Notions
514 Groceries and Related Products
515 Farm-Product Raw Materials
516 Chemicals and Allied Products
517 Petroleum and Petroleum Products
518 Beer, Wine and Distilled Beverages
519 Misc. Nondurable Goods
519/ Wholesale Trade Admin. and Auxiliary

Retail Trade

52 Building Materials and Garden Supplies
521 Lumber and Other Building Materials
523 Paint, Glass, Wallpaper Stores
525 Hardware Stores
526 Retail Nurseries and Garden Stores
527 Mobiel Home Dealers

53 General Merchandise Stores
531 Department stores
533 Variety Stores
539 Misc. General Merchandise

54 Food Stores
541 Grocery Stores
542 Meat and Fish Markets
543 Fruit and Vegetable Markets
544 Candy, Nut and Confectionery Stores
545 Dairy Products Stores
546 Retail Bakeries
549 Misc. Food Stores

55 Automotive Dealers and Service Stations
551 New and Used Car Dealers
552 Used Car Dealers
553f Auto and Home Supply Stores
554 Gasoline Service Stations
555 Boat Dealers
556 Recreational Vehicle Dealers
557 Motorcycle Dealers
559 Automotive Dealers, nec

56 Apparel and Accessory Stores
561 Men's and Boys' Clothing Stores
562 Women's Clothing Stores
563 Women's Accessory and Specialty Stores
564 Children's and Infants' Wear Stores
565 Family Clothing Stores
566 Shoe Stores
569 Misc. Apparel and Accessory Stores

57 Furniture and Homefurnishings Stores
571 Furniture and Homefurnishings Stores
572 Household Appliance Stores
573 Radio, Television and Computer Stores

58 Eating and Drinking Places
581 Eating and Drinking Places

59 Miscellaneous Retail
591 Drug Stores and Proprietary Stores
592 Liquor Stores
593 Used Merchandise Stores
594 Miscellaneous Shopping Goods Stores
596 Nonstore Retailers
598 Fuel Dealers
599 Retail Stores, nec
599/ Retail Trade Admin. and Auxiliary

Finance, Insurance and Real Estate
60 Depository Institutions
601 Central Reserve Depository
602 Commercial Banks
603 Savings Institutions
606 Credit Unions
608 Foreign Bank & Branches and Agencies
609 Functions Closely Related to Banking

61 Nondepository Institutions
611 Federal and Federal-sponsored Credit
614 Personal Credit Institutions
615 Business Credit Institutions
616 Mortgage Bankers and Brokers

62 Security and Commodity Brokers
621 Security Brokers and Dealers
622 Commodity Contracts Brokers, Dealers
623 Security and Commodity Exchanges
628 Security and Commodity Services

63 Insurance Carriers
631 Life Insurance
632 Medical Service and Health Insurance
633 Fire, Marine and Casualty Insurance
635 Surety Insurance
636 Title Insurance
637 Pension, Health and Welfare Funds
639 Insurance Carrier, nec

64 Insurance Agents, Brokers and Services

65 Real Estate
651 Real Estate Operators and Lessors
653 Real Estate Agents and Managers
654 Title Abstract Offices
655 Subdividers and Developers

67 Holding and Other Investment Offices
671 Holding Offices
672 Investment Offices
673 Trusts
679 Misc. Investing
679/ FIRE Admin. and Auxiliary

Services

70 Hotels and Other Lodging Places
701 Hotels and Motels
702 Rooming and Boarding Houses
703 Camps and Recreational Vehicle Parks
704 Membership-Basis Organization Hotels

72 Personal Services
721 Laundry, Cleaning and Garment Services
722 Photographic Studios, Portrait
723 Beauty Shops
724 Barber Shops
725 Shoe Repair and Shoeshine Parlors
726 Funeral Service and Crematories
729 Misc. Personal Services

73 Business Services
731 Advertising
732 Credit Reporting and Collection
733 Mailing, Reproduction, Stenographic
734 Services to Buildings
735 Misc. Equipment Rental and Leasing
736 Personnel Supply Services
737 Computer and Data Processing Services
738 Miscellaneous Business Services

75 Auto Repair, Services and Parking
751 Automotive Rentals, No Drivers
752 Automotive Parking
753 Automotive Repair Shops
754 Automotive Services, Except Repair

76 Miscellaneous Repair Services
762 Electrical Repair Shops
763 Watch, Clock and Jewelry Repair
764 Reupholstery and Furniture Repair
769 Misc. Repair Shops

78 Motion Pictures
781 Motion Picture Production and Services
782 Motion Picture Distributions and Services
783 Motion Picture Theaters
784 Video Tape Rental

79 Amusement/Recreation Servcies
791 Dance Studioes, Schools and Halls
792 Producers, Orchestras, Entertainers
793 Bowling Centers
794 Commercial Sports
799 Misc. Amusement/Recreation Servcies

80 Health Services
801 Offices/Clinics of Medical Doctors
802 Offices/Clinics of Dentists
803 Offices of Osteopathic Physicians
804 Offices of Other Health Practitioners
805 Nursing and Personal CAre Facilities
806 Hospitals
807 Medical and Dental Laboratories
808 Home Health Care Services
809 Health and Allied Services, nec

81 Legal Services

82 Educational Services
821 Elementary and Secondary Schools
822 Colleges and Universities
823 Libraries
824 Vocational Schools
829 Schools/Educational Services, nec

83 Social Services
832 Individual and Family Services
833 Job Training and Related Services
835 Child Day Care Services
836 Residential Care
839 Social Services, nec

84 Museums, Botanical, Zoological Gardens
841 Museums and Art Galleries
842 Botanical and Zoological Gardens

86 Membership Organizations
861 Business Associations
862 Professional Organizations
863 Labor Organizations
864 Civic and Social Organizations
865 Political Organizations
866 Religious Organizations
867 Membership Organizations, nec

87 Engineering and Management Services
871 Engineering & Architectural Services
872 Accounting, Auditing/Bookkeeping
873 Research and Testing Services
874 Management and Public Relations

89 Services, nec
899/ Services Administrative and Auxiliary

Nonclassifiable Establishments
nec-not classified elsewhere

Source: Standard Industrial Classification Manual

Appendix Two

Top 30 3-Digit Industry Groups for a Sample Metropolitan Area (St. Louis)

St. Louis 1988 Industries Ranked by Share

Rank	Business Type	Employment	Employment Share
1	Eating and Drinking Places	147423	0.1413
2	Hospitals	51535	0.0494
3	Aircraft and Parts	38075	0.0365
4	Motor Vehicles and Equipment	24962	0.0239
5	Grocery Stores	23987	0.0230
6	Department Stores	22729	0.0218
7	Trucking & Courier Services, Ex. Air	19993	0.0192
8	Colleges and Universities	18786	0.0180
9	Nursing and Personal Care Facilities	17983	0.0172
10	Religious Organizations	16537	0.0159
11	Commercial Banks	14999	0.0144
12	Personnel Supply Services	13655	0.0131
13	Telephone Communication	13500	0.0129
14	General Building Contractors	12368	0.0119
15	Offices & Clinics of Medical Doctors	11593	0.0111
16	Hotels and Motels	10663	0.0102
17	Services to Buildings	10535	0.0101
18	Computer and Data Processing Services	10524	0.0101
19	Machinery, Equipment, and Supplies	10060	0.0096
20	Miscellaneous Business Services	9928	0.0095
21	New and Used Car Dealers	9874	0.0095
22	Professional & Commercial Equipment	8868	0.0085
23	Air Transportation, Scheduled	8517	0.0082
24	Commercial Printing	8506	0.0082
25	Gasoline Service Stations	8495	0.0081
26	Plumbing, Heating, Air-Conditioning	8350	0.0080
27	Miscellaneous Shopping Goods Stores	7638	0.0073
28	Elementary and Secondary Schools	7579	0.0073
29	Engineering & Architectural Services	7526	0.0072
30	Guided Missiles, Space Vehicles, Parts	7500	0.0072

St. Louis 1988 Industries Ranked by Location Quotient

Rank	Business Type	Employment	Quotient
1	Footwear Cut Stock	1367	20.01
2	Bus Charter Service	1995	9.25
3	Water Transportation of Freight, NEC	927	9.24
4	Telegraph & Other Communications	1800	8.50
5	Aircraft and Parts	38075	5.22
6	Hats, Caps, and Millinery	866	4.13
7	Water Supply	1065	3.51
8	Electric Distribution Equipment	3145	3.38
9	Botanical and Zoological Gardens	385	3.38
10	Secondary Nonferrous Metals	475	2.90
11	Primary Nonferrous Metals	1135	2.89
12	Refrigeration and Service Machinery	6745	2.89
13	Guided Missiles, Space Vehicles, Parts	7500	2.88
14	Motor Vehicles and Equipment	24962	2.85
15	Beverages	5231	2.74
16	Industrial Organic Chemicals	3983	2.73
17	Handbags and Personal Leather Goods	525	2.70
18	Central Reserve Depository	750	2.47
19	Automobile Parking	1313	2.31
20	Ordnance and Accessories, NEC	2500	2.30
21	Metal Cans and Shipping Containers	1279	2.24
22	Flat Glass	375	2.18
23	Pens, Pencils, Office, & Art Supplies	718	2.08
24	Eating and Drinking Places	147423	2.05
25	Printing Trade Services	1678	2.03
26	Blankbooks and Bookbinding	1721	2.03
27	Miscellaneous Transportation Services	734	1.96
28	Iron Ores	175	1.92
29	Labor Organizations	3983	1.88
30	Petroleum Refining	1750	1.86

St. Louis 1988 Industries by Combined Rank

Rank	Business Type	Employment	Share	Quotient
1	Aircraft and Parts	38075	0.0365	5.22
2	Motor Vehicles and Equipment	24962	0.0239	2.85
3	Eating and Drinking Places	147423	0.1413	2.05
4	Guided Missiles, Space Vehicles, Parts	7500	0.0072	2.88
5	Refrigeration and Service Machinery	6745	0.0065	2.89
6	Colleges and Universities	18786	0.0180	1.56
7	Beverages	5231	0.0050	2.74
8	Hospitals	51535	0.0494	1.35
9	Telephone Communication	13500	0.0129	1.38
10	Elementary and Secondary Schools	7579	0.0073	1.47
11	Religious Organizations	16537	0.0159	1.34
12	Electric Distribution Equipment	3145	0.0030	3.38
13	Air Transportation, Scheduled	8517	0.0082	1.34
14	Computer and Data Processing Services	10524	0.0101	1.31
15	Trucking & Courier Services, Ex. Air	19993	0.0192	1.21
16	Commercial Printing	8506	0.0082	1.26
17	Passenger Transportation Arrangement	3563	0.0034	1.70
18	Department Stores	22729	0.0218	1.14
19	Services to Buildings	10535	0.0101	1.19
20	Nursing and Personal Care Facilities	17983	0.0172	1.12
21	General Building Contractors	12368	0.0119	1.16
22	Security Brokers and Dealers	5289	0.0051	1.34
23	Bus Charter Service	1995	0.0019	9.25
24	Ordnance and Accessories, NEC	2500	0.0024	2.30
25	Soap, Cleaners, and Toilet Goods	2660	0.0025	1.80
26	Plumbing, Heating, Air-Conditioning	8350	0.0080	1.15
27	Electrical Goods	6118	0.0059	1.20
28	Roofing, Siding, and Sheet Metal Work	3497	0.0034	1.39
29	Operative Builders	2691	0.0026	1.60
30	Professional & Commercial Equipment	8868	0.0085	1.06

St. Louis 1993 Industries Ranked by Share

Rank	Business Type	Employment	Employment Share
1	Eating and Drinking Places	77965	0.0719
2	Hospitals	68788	0.0634
3	Colleges and Universities	28496	0.0263
4	Grocery Stores	24746	0.0228
5	Nursing and Personal Care Facilities	21618	0.0199
6	Department Stores	21404	0.0197
7	Trucking & Courier Services, Ex. Air	20725	0.0191
8	Aircraft and Parts	18250	0.0168
9	Religious Organizations	17741	0.0164
10	Personnel Supply Services	17312	0.0160
11	Offices & Clinics of Medical Doctors	16694	0.0154
12	Commercial Banks	16167	0.0149
13	Motor Vehicles and Equipment	14995	0.0138
14	Miscellaneous Business Services	13779	0.0127
15	General Building Contractors	12447	0.0115
16	Telephone Communication	12398	0.0114
17	Computer and Data Processing Services	12196	0.0112
18	Services to Buildings	12003	0.0111
19	Hotels and Motels	10249	0.0095
20	Misc. Amusement, Recreation Services	9913	0.0091
21	New and Used Car Dealers	9661	0.0089
22	Professional & Commercial Equipment	9603	0.0089
23	Management and Public Relations	9524	0.0088
24	Air Transportation, Scheduled	9370	0.0086
25	Machinery, Equipment, and Supplies	8516	0.0079
26	Miscellaneous Shopping Goods Stores	8437	0.0078
27	Elementary and Secondary Schools	8323	0.0077
28	Gasoline Service Stations	8310	0.0077
29	Miscellaneous Plastics Products, NEC	8282	0.0076
30	Commercial Printing	7993	0.0074

St. Louis 1993 Industries Ranked by Location Quotient

Rank	Business Type	Employment	Quotient
1	Footwear Cut Stock	964	20.18
2	Rental of Railroad Cars	395	17.02
3	Hats, Caps, and Millinery	1609	7.27
4	Telegraph & Other Communications	425	6.47
5	Functions Closely Related to Banking	2531	4.81
6	Water Supply	1055	3.73
7	Ordnance and Accessories, Not Elsewhere Classified	2135	3.21
8	Aircraft and Parts	18250	3.14
9	Beverages	5059	3.07
10	Refrigeration and Service Machinery	5896	2.86
11	Electric Distribution Equipment	2180	2.83
12	Metal Cans and Shipping Containers	1165	2.64
13	Pens, Pencils, Office, & Art Supplies	897	2.62
14	Guided Missiles, Space Vehicles, Parts	3750	2.61
15	Printing Trade Services	1819	2.61
16	Industrial Organic Chemicals	3645	2.60
17	Combination Utility Services	6215	2.58
18	Airports, Flying Fields, & Services	2672	2.57
19	Photographic Studios, Portrait	2062	2.51
20	Central Reserve Depository	750	2.48
21	Secondary Nonferrous Metals	394	2.45
22	School Buses	3416	2.31
23	Steam and Air-Conditioning Supply	40	2.29
24	Botanical and Zoological Gardens	385	2.25
25	Miscellaneous Furniture and Fixtures	1054	2.11
26	Petroleum Refining	1750	2.08
27	Colleges and Universities	28496	2.04
28	Soap, Cleaners, and Toilet Goods	2998	2.04
29	Miscellaneous Transportation Services	924	1.99
30	Motor Vehicles and Equipment	14995	1.81

St. Louis 1993 Industries by Combined Rank

Rank	Business Type	Employment	Share	Quotient
1	Aircraft and Parts	18250	0.0168	3.14
2	Colleges and Universities	28496	0.0263	2.04
3	Motor Vehicles and Equipment	14995	0.0138	1.81
4	Refrigeration and Service Machinery	5896	0.0054	2.86
5	Combination Utility Services	6215	0.0057	2.58
6	Beverages	5059	0.0047	3.07
7	Air Transportation, Scheduled	9370	0.0086	1.43
8	Guided Missiles, Space Vehicles, Parts	3750	0.0035	2.61
9	Religious Organizations	17741	0.0164	1.25
10	Industrial Organic Chemicals	3645	0.0034	2.60
11	Elementary and Secondary Schools	8323	0.0077	1.35
12	Hospitals	68788	0.0634	1.18
13	Trucking & Courier Services, Ex. Air	20725	0.0191	1.18
14	Services to Buildings	12003	0.0111	1.22
15	School Buses	3416	0.0031	2.31
16	Telephone Communication	12398	0.0114	1.19
17	Functions Closely Related to Banking	2531	0.0023	4.81
18	Professional & Commercial Equipment	9603	0.0089	1.19
19	Commercial Printing	7993	0.0074	1.21
20	General Building Contractors	12447	0.0115	1.14
21	Airports, Flying Fields, & Services	2672	0.0025	2.57
22	Miscellaneous Personal Services	3704	0.0034	1.41
23	Department Stores	21404	0.0197	1.08
24	Computer and Data Processing Services	12196	0.0112	1.10
25	Ordnance and Accessories, Not Elsewhere	2135	0.0020	3.21
26	Electric Distribution Equipment	2180	0.0020	2.83
27	Search and Navigation Equipment	3550	0.0033	1.33
28	Automotive Repair Shops	6781	0.0063	1.10
29	Eating and Drinking Places	77965	0.0719	1.01
30	Nonferrous Rolling and Drawing	2560	0.0024	1.52

Appendix Three

Shift-Share Analysis[1]

Shift-share analysis is a good way for you to see how your region, and particular industries within the region, performed in relation to national rates of growth. Shift-share analysis assumes that industry growth is composed of three factors:

National share: The rate of national employment growth in all sectors.
Industry mix: The difference between the rate of a growth of an industry in the national economy and total national growth.
Local Factors: The difference between the growth rate for a particular sector in your region and its growth rate nationally.

Shift share is relatively easy to perform, but you will need to use a spreadsheet program such as *Lotus* or *Excel* to do it efficiently. The basic formula for shift-share is as follows:

Total Employment Shift = $NS_1 + IM_1 + LF_1$

National Share: $NS_1 = e_i^{t-1}(E^t/E^{t-1})$

Industry Mix: $IM_1 = e_i^{t-1}(E_i^t/E_i^{t-1}) - (E^t/E^{t-1})$

Local Factors: $LF_1 = e_i^{t-1}((e_i^t/ e_i^{t-1}) - (E_i^t/E_i^{t-1}))$

Where:

e_i and E_i are local and national employment, respectively, in industry i.
e and E are local and national employment for all industries
t-1 and t are the beginning and end of the time period, respec tively.

The following is a hypothetical example of how shift-share might be applied. (Refer to Table 1).

Table 1
Industry Growth in Philadelphia MSA[2]

Industry	Local Emp. 1988	Local Emp 1993	Total Growth	% Change	US Emp. 1988	US Emp. 1993	Total Growth	% Change
Hospitals	120,000	148,000	28,000	23%	4,025,000	5,092,000	1,067,000	27%
Life Insurance	20,000	30,000	10,000	50%	585,000	600,000	15,000	3%
Furniture	17,000	16,000	1,000	-14%	532,000	576,000	44,000	8%
Total Emp.	2,250,000	2,280,000	30,000	1%	88,880,000	94,700,000	5,900,000	1%

From Table 1 we can see both the absolute growth and percentage growth of three industries in Philadelphia. We immediately know that the national share component of growth will be the same for all three industries: 7%. In other words, all things being equal, employment in hospitals, life insurance and household furniture should have grown by 7%.

To find the industry mix share, simply subtract the total national growth from the national growth of the particular industry. In the example above, the various industry mix effect is:

Hospitals:	27%	-	7%	=	20%
Life insurance:	3%	-	7%	=	-4%
Household furniture	8%	-	7%	=	1%

For the local factors, subtract the growth rate of a particular industry nationally from its growth rate locally. In the example above, the growth attributable to local factors is as follows:

Hospitals:	23%	-	27%	=	-4%
Life insurance:	50%	-	3%	=	47%
Household furniture:	-14%	-	8%	=	-22%

If we break down the analysis for each industry, we find that:

Employment in Hospitals, which grew 23% locally, owes its growth primarily to the growth of the hospital industry nationally and to overall national employment growth. Local factors in the Philadelphia MSA had relatively little to do with the sector's growth, and, in fact, employment in hospitals in the Philadelphia MSA fell in relation to the national employment growth in the sector.

Appendix Three

Shift-Share Analysis (continued)

For Life Insurance, local factors were almost completely responsible for the growth of industry employment, which increased by 50% in Philadelphia. Since the industry grew by only 3% nationally, we can assume that something was going on the Philadelphia economy which positively contributed to the impressive growth in that particular sector.

For Household Furniture, local factors combined with a relatively small nationwide growth in that sector contributed to a 14% drop in local employment. Thus, the only thing keeping the bottom from completely dropping out in that sector was the relatively robust growth of the national economy as a whole.

[1] Mary McLean and Kenneth P. Voytek. *Understanding Your Economy: Using Analysis to Guide Local Strategic Planning*. American Planning Association. (Chicago, 1992).

[2] These are not actual employment figures.

Appendix Four
Sample Survey Forms

June 14, 1996

Mr. Mark Sosa
President
Sandberg Industries, Inc.
1984 Banks Blvd.
Denver, CO 80202

Dear Mr. Sosa:

Thank you for allowing us to visit Sandberg Industries, Inc. and the opportunity to discuss the company's human resource needs and how our jobs program and Sandberg Industries might work together to find employment for community residents. As we discussed, I and possibly another project team member will arrive at your office at 8:00 a.m. on June 25.

A copy of the interview protocol is enclosed. It is not necessary for you to fill out the form before the interview. It is enclosed for your information only. An information sheet describing our jobs program in more detail is also included.

We are coming to Sandberg Industries, Inc. to **listen**. We want the major portion of the discussion to focus on hearing your needs, suggestions and insights, and to answer any questions that you may have.

I expect that discussion will take approximately 40 minutes. If convenient, we would like to have a quick plant tour after the interview. If you have any questions prior to our visit, please call me at 620-1420.

Sincerely,

Ernie Broglio
Program Manager

Enclosures

Appendix Four

Stage One Sample Survey Forms

Company Interview Form

All individual company information collected for this project will be held as CONFIDENTIAL, only aggregated information will be released outside of our project team.

Interview Date _____

Interviewer(s) _____

Company Contact _____

Company information from existing database (please correct or verify):

Company Name _____

Principal (CEO, owner, etc.)_____

Address _____

Telephone _____ Fax _____ E-mail _____

Products _____

Ownership: Private___Public___Female___ Minority ___

Parent Company (if any)_____

1. Are you satisfied that the education, job training and labor market system in the region works well for your firm and will continue to meet your needs over time?_____
_____
_____

2. What share of your employment needs are met through temporary help agencies? How much in terms of full-time equivalencies? Will this increase or decrease?_____
_____
_____

Appendix Four

Stage One Sample Survey Forms (continued)

3. What are the occupations for which you hire entry-level workers?
_____
_____

4. Where do your new hires come from?_____
_____
_____

5. What wages do you pay for entry-level positions in those occupations?_____
_____

6. What non-wage benefits are provided to new hires and when are they provided?_____
_____

7. What wage increments are generally available at various intervals of job tenure?_____
_____

8. What percentage of entry-level employees can be expected to progress through these various levels? _____
_____

9. What is the highest level of job classification and wages that might be reasonably expected in this occupational path?
_____
_____
_____

10. What educational level do you generally expect for these entry-level positions? _____
_____

11. What special training is required for these positions?_____
_____
_____

12. How many employees from our jobs program's service area have you hired in past years?_____
_____

Stage One Sample Survey Forms (continued)

13. Do you see any special barriers to hiring good candidates from this community? _____
_____
_____

14. What are your suggestions for improving the job readiness of candidates from this community?_____
_____
_____

15. What kind of on-the-job support would be important to you in considering the employment of individuals with poor work history and poorly developed skills? _____
_____
_____

16. Would you be willing to help our jobs program design better ways to accelerate the job readiness of community residents?
_____
_____
_____

Appendix Four

Third Phase Company Interview Form

All individual company information collected for this project will be held as CONFIDENTIAL; only aggregated information will be released outside the jobs project team.

Interview Date _____

Interviewer(s)_____

Company Contact _____

Company information from existing database. Please correct or verify:

Company Name _____

Principal (CEO, owner, etc.)_____

Address _____

Telephone _____ Fax _____ E-mail _____

Products _____

Ownership: Private ___ Public ___Woman ___Minority ___

Parent Company (if any):_____

1. Who are the customers for your product(s)? Where are they located? Inside or outside of the metropolitan area? _____
_____
_____

2. Do you export any of your products? Do you receive any outside assistance in exporting? _____
_____
_____

3. Who are your suppliers? Where are they located? _____
_____
_____

Appendix Four

Third Phase Company Interview Form (continued)

4. How would you characterize your relationship with your suppliers? Do you work closely with them? _____

_____

_____

5. Who are your competitors? Where are they located? _____

_____

_____

6. Do you have any business or social interactions with your competitors?_____

_____

7. Who are your business partners? Where are they located? _____

_____

8. Describe the forms of cooperation that take place between you and your business partners._____

_____

9. From whom do you get new technologies?_____

_____

10. From whom do you get your investment capital? _____

_____

_____

11. Do local banks understand your needs? The needs of your industrial cluster? _____

_____

12. Where do you learn about new technologies?_____

_____

_____

13. Where do you learn about new market opportunities?_____

_____

_____

14. Where do you learn about new methods of doing business or producing products? _____

_____

Appendix Four

Third Phase Company Interview Form (continued)

15. Who among your competitors do you view as the benchmark or leading firms? _____

_____

16. Where do you go (outside your own firm) for help with your problems? _____

_____

17. Are you a member of any trade associations? Which ones? Where are they located? Do you regularly attend meetings?_____

_____

_____

18. Do you socialize much with people in your craft? If so, where?

_____

_____

19. Are there particular firms that you work with regularly? If so, why these particular firms?_____

_____

_____

20. Are you are a part of any formal alliances or working groups?

_____

_____

21. Do you do long term or strategic planning? For what period of time? _____

_____

_____

22. How do you think you rate compared to other firms in your cluster? (on a scale 1-10) _____

_____

23. Would you like to grow larger? Vertically (increasing sales)? Horizontally (adding functions)?

_____

_____

_____

Appendix Four

Third Phase Company Interview Form (continued)

24. Do you anticipate any major changes in the next two years in the methods of production? In products or in markets?_____

_____

_____

25. What are the major barriers to your growth? (labor costs, labor skills, capital needs, etc.)_____

_____

_____

_____

26. What are your major needs? (higher skills, capital, etc.)

_____

_____