

Evaluating Business Development Incentives

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Executive Summary

The use of economic development incentives by states and localities to attract and retain businesses has become increasingly controversial. A few “mega projects,” each involving a relatively large package of incentives distributed over a number of years, have received a great deal of publicity during the past decade. Yet, most state and local incentives are distributed through hundreds of small-scale programs and thousands of projects. As public sector budgets tighten and expectations rise among stakeholders, economic development policy makers and practitioners are seeking better tools to assess the impacts of these public investments.

This report is designed to provide economic developers with a basic framework for (1) analyzing an individual project, (2) evaluating a single program, or (3) reviewing all programs and deals in an agency’s portfolio. The National Association of State Development Agencies, the W.E. Upjohn Institute, and Cleveland State University’s Urban Center worked collaboratively to gather information from the academic literature, conduct focus groups of practitioners, hold one-on-one interviews with policy makers and practitioners, and survey of more than 500 state incentive program managers. The most fundamental lesson learned from the study is that the level of effort invested by economic development agencies in monitoring and evaluation varies widely, but is seldom sufficient to respond to policy makers who desire more credible performance information and rigorous analysis.

This report will guide the practitioner through the major conceptual issues that he or she must consider in systematic monitoring and evaluation. When finished with this review, the practitioner will be able to better frame key policy questions and develop a more sound approach to designing monitoring and evaluation efforts. The practitioner will also understand the variety of ways that questions about economic development performance may be answered. And, the practitioner will be better able to judge whether (and possibly which) models are appropriate for a state’s or community’s needs.

A Context for Performance-based Incentives

A 1998 survey of 940 state-funded programs revealed that about 40 percent of the existing incentive programs marketed by states are related directly to tax credits, exemptions, abatements, or deferrals. The 50 states allocated approximately \$4.6 billion in foregone state tax revenues for these standing tax incentive programs. An additional \$6.3 billion in state funding was allocated in

1998 to non-tax incentives including loans, grants, and guarantees provided directly to businesses or indirectly to communities.¹ These two categories do not include the one-time allocations for individual “mega-projects” that require legislative approval.

The survey revealed a regional dimension to the incentives issue. On average, states in the South and Midwest allocated more resources and invested in a greater number of projects than states in the rest of the country. States in the West provided only limited non-tax incentives, but they are apt to use the tax code for certain purposes. States in the Northeast were, by far, the least aggressive in offering incentives of any kind. It is not surprising, then, that the debate over the use of incentives is most heated in the southern and midwestern states. The economic development agency directors from the western and northeastern states generally did not consider the incentives debate to be significant in their states.

The study also revealed that management discretion in deciding whether to invest in an incentive can influence the implementation of performance monitoring and evaluation systems. Economic development agencies with management responsibilities and discretion to make decisions about the allocation of public resources were more likely to implement a monitoring and evaluation system. Where there is no discretion in allocating resources, as with statutory tax incentives for instance, there was less priority placed on reporting program impacts.

A Basic Framework for Monitoring and Evaluation

To implement an effective monitoring and evaluation system, the incentive program manager should answer six basic questions:

1. What is the basic policy problem that the incentive is trying to address, particularly given the political context in which the problem has been identified?
2. What are the best approaches for measuring the incentive program’s progress in addressing the policy problem?
3. What is the best strategy for assessing the program’s progress, given budgetary and other constraints?

¹This estimate is based on an extrapolation from the survey responses received. The survey achieved a 60 percent response rate, but programs with no data on the total public investment were not included in determining the average incentive program size.

4. What is the best approach to collecting the information needed in a form that is most useful?
5. What is the best way to analyze that information?
6. How can the evaluation process be managed?

Developing a performance monitoring and evaluation system requires a process in which program managers, policy makers, and other stakeholders agree on the best answers to these six questions. In many cases, the answers will lead to identifying a specific set of economic and fiscal performance indicators, such as job creation or retention, public or private investment leveraged, or tax revenues generated. If these are among the most relevant measures of success, then the performance may be assessed based on an analysis of the value of the economic or fiscal impacts relative to the public investment.

Typical Quantitative Methods for Analyzing Impacts

Economic and fiscal impact analysis represent a quantitative approach to assessing the relative value of public investments. In and of themselves, these projected economic or fiscal impact analyses provide useful information for the policy-making process. But, what does it really mean that a project created a job for every \$3,000 of public investment or that the project resulted in a 6 to 1 return on the public investment? Impact analysis is most powerful when the resulting analyses can be compared against some preestablished benchmark. In our analysis, the study found only limited evidence that such benchmarks were being used in any rigorous way. Furthermore, current data collection practices are not always sufficient to produce credible impact analyses.

Economic development practitioners are usually not experts in evaluation techniques and should not be expected to become advanced researchers. Practitioners may be excellent at managing and implementing programs, but they often need more technical expertise in designing practical and useful monitoring and evaluation systems. Some states have provided that capacity for their practitioners. Maryland and New York, for instance, have invested in developing unique technical skills in economic evaluation and developing systematic approaches to monitoring and evaluating their economic development programs. They have invested substantial resources in designing economic and fiscal impact models that are used in making allocation decisions about incentives. Other states either rely on estimates of impacts derived from client companies or do not collect data at all. For these agencies, the relative

costs of acquiring or using an economic or fiscal impact model are deemed to be too high relative to the benefits expected from information generated.

Conversely, researchers in regional economic analysis have developed a wide array of software tools to help practitioners estimate the economic impacts of business investments. Some of these packages are quite complex while others are very simple. All should be used with great caution because they are tools for making estimations (or projections) about future economic or fiscal conditions. In operating these models, a user who is unfamiliar with their workings can unwittingly make substantial errors in estimating output or impacts. These errors, in time, could mislead a policy maker who is using the information to decide on a proposed public investment.

Economic impact models estimate the effect of a development activity on an area's employment, income or output levels. Most economic models are based on the theory that economic activity (jobs, productivity, or sales revenues) exists in two forms: basic and non-basic. Basic economic activity produces goods or services sold to or purchased by customers outside the area. Manufacturing is typically considered a basic economic activity while services that sell within their area are often considered non-basic. In practice, of course, it is hard to distinguish companies in such a simple way because individual companies may serve both basic and non-basic needs.

Input-output analysis is an approach to addressing this problem by tracing the buyers and suppliers for every industry sector. Input-output analysis is the methodological backbone for many of the most common economic impact models. Input-output models are useful in estimating interindustry linkages between affected sectors. For example, if a new plastics firm is attracted into an area, an input-output model can estimate (1) the **direct impact** on all of the area's industries that could become part of the new firm's supplier base; (2) the **indirect effects** of the new income generated by the new firm's workers on the area's retailers and consumer services; and (3) the **induced effects** (or the second, third, and subsequent rounds of impact) caused by increased purchases by the plant's suppliers and their workers, as well as additional spending by area retail workers.

The indirect and induced effects are estimated based on multipliers. Multipliers vary across industries and regions because of differences in production technologies, wage levels, transportation costs, and a variety of other economic inputs. **Only with an economic impact model that is specifically designed to measure the particular regional linkages of the**

area's key industries can an analyst properly estimate the economic impact of a development project. As a general rule of thumb for most regions, a reported employment multiplier greater than 2.5 (in which 1.5 indirect jobs are created for each of the project's new hires) should be regarded cautiously. Multipliers are commonly misunderstood or overstated by not recognizing displacement effects caused by development activity or the relative merits of jobs being taken by low-income or underemployed residents.

Fiscal impact models differ from economic impact models by estimating the *net public cost* of development activity. Fiscal impact analysis involves ascertaining the costs of direct public services demanded by a new or expanding business, any associated population growth, and the increased infrastructure capacity required to handle the new business and population. Estimating additional service needs resulting from a project can be especially difficult. Often estimations involve one of three methods: (1) identifying total expected public costs and "assigning" a share of those costs to the project; (2) estimating the average costs of providing a unit of new public service (accounting for fixed costs associated with the service); or (3) estimating the marginal cost of adding new services (not accounting for existing fixed costs but including new fixed costs). The choice between these methods can have substantial impacts on the outcome of a fiscal impact analysis, and each method has its advantages and disadvantages.

In the end, a sound analysis will likely integrate elements of economic and fiscal impact analysis. A sound fiscal impact model is typically built on a strong economic impact model. For instance, the Maryland Resource Allocation Model is driven by the commercially available IMPLAN input-output model. New York's Empire State Development Cost-Benefit Evaluation Model incorporates the Regional Economic Models, Inc. (REMI) model. Arthur Andersen's Insight Model provides relative costs and benefits based on RIMS-II multipliers, and the Utah fiscal impact model includes a specially constructed input-output model for the state.

In undertaking either an economic or fiscal impact analysis, researchers must make presumptions about the role the incentive played in attracting the company to the area. Several states have established criteria for determining the need for incentives. For example, before offering an incentive package, New York assesses whether the firm has been offered an incentive package by a competing state, can demonstrate how it would be operating at a severe disadvantage without the incentive, or has not been able to attract private investment to a viable business plan. These criteria are formally integrated into

the economic and fiscal impact analysis. Economic Development policy makers should consider establishing their own set of policies that will serve as criteria in determining whether an incentive offer is absolutely necessary. Establishing such guidelines before a company requests assistance ensures that the decision about investment is made based on a strategic policy framework.

Organizing to Manage the Process

A well-constructed incentive evaluation system should be integrated into the planning, operation, monitoring, and improvement of a program. Typically, the monitoring and evaluation component are incorporated into an incentive program's design as an afterthought. However, economic development agencies should develop an operational plan that defines how the incentive program will be organized, staffed, and conducted on a daily operational basis. That plan should incorporate a well-defined scheme for monitoring and evaluation as a key component of the program's ongoing activities. The monitoring and evaluation component of the operating plan should

1. Identify programs or activities to be evaluated;
2. Articulate reasons for conducting the evaluation;
3. Develop goals to be achieved by the evaluation;
4. Identify actors and their respective roles in the evaluation;
5. Identify planned uses of the evaluation results;
6. Establish decision rules for judging program performance;
7. Describe resource constraints;
8. Identify data needs and sources;
9. Determine analytic tools to be used; and
10. Designate the performance time period to be assessed.

Challenges to and Recommendations for Monitoring and Evaluating Incentives

Economic development has traditionally been a skilled art form in which decisions have been based largely on experience and intuition. The development of more sophisticated techniques for estimating impacts and increased political and budgetary demands are creating a greater emphasis on developing better evidence that economic development programs are achieving their intended consequences. This creates simultaneous and possibly conflicting challenges for economic developers: (1) to become more skilled in efforts to measure performance and (2) to recognize that greater expectations

may have been created for economic development programs than are warranted.

Measuring performance is not so easy because researchers and practitioners agree that making the link between the use of incentives and direct economic impacts is difficult at best. Estimations of impact are often made based on an assumption of a causal link. As estimating techniques become increasingly sophisticated and as policy makers begin to implement systematic policies on what will trigger the consideration of an incentive investment, economic developers will become more comfortable that they are standing on firmer ground in claiming credit for economic and fiscal impacts.

A fundamental challenge facing the practice of economic development may well be controlling expectations about the impacts of incentive investments. In many places, political pressures and haphazard measurement approaches have resulted in elected officials and the public having very high expectations for the impacts of their projects. In fact, rigorous research on incentive impacts has found positive, but limited, impacts from many incentive investments. As more sophisticated monitoring and evaluation tools are implemented, economic developers will play an important role in managing expectations among stakeholders. In addition, economic developers will need to become increasingly proficient in understanding the need for collecting outcome data that are directly related to the policy goals that programs aim to achieve. This may mean developing data collection and analysis techniques that look beyond job creation to the wages of jobs, the impacts of development on quality of life, and the availability of jobs to unemployed or underemployed individuals in different ethnic groups or geographic areas.

To address these barriers, economic developers need to work closely with their stakeholders to do the following:

1. Define clearly the basic purpose and policy goals of incentives.
2. Develop better recognition for the role that program planning and design play in implementing effective performance monitoring and evaluation.
3. Set realistic expectations and benchmarks against which program outcomes may be measured.
4. Ensure that sufficient management attention and resources are allocated to monitoring and evaluation responsibilities.

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5. Design monitoring systems to allow for simultaneous assessments of individual project impacts, program evaluations, and portfolio (or agency-wide) reviews.
 6. Invest in training for economic development practitioners to enhance their skills in the design of performance monitoring and evaluation.

Conclusion

Monitoring and evaluation are not just for policy or research analysts. They are important to economic development practitioners who are working hard to develop the most effective mix of incentives and services to help businesses create jobs. While no one expects economic development practitioners to become professional evaluation analysts, they need to understand the fundamental principles of performance monitoring and evaluation. They must also understand the important role they can play in supporting efforts to gather information about performance and in using the analysis developed from that information. Practitioners must become better informed about tools and techniques for monitoring and evaluation so that they can become better communicators with their stakeholders and better consumers of information about impacts. Political imperatives require state and local officials to aggressively pursue and retain businesses and jobs, but policy makers and practitioners alike are becoming more mindful of the dangers of overbidding. Assessments of past efforts can be useful in avoiding the pitfalls associated with blindly offering incentives, while providing valuable insights in how to efficiently use public resources to encourage business investment decisions that effect the creation of jobs and the generation of new tax revenues.

Introduction and Overview

States and localities use economic development incentives to influence the location of business investments. Direct distribution of public funds, either through reduced taxes or financial assistance, are the two most obvious ways for a state or local government to encourage economic development. As long as state and local tax structures and economic growth policies differ, these incentives will continue to be part of the economic development landscape. Governors, mayors, legislators, and council members justify these public investments on the grounds that private-sector decisions to invest in a community result in jobs, income, and tax revenues that are essential to the economic and social well-being of a community or state.

Without these public investments, policy makers fear that they will not realize the level of private investment that the community or state might otherwise achieve. This will make the jurisdiction less competitive for current investments and begin a potential cycle of disinvestment as existing firms begin to find the community or state less viable economically. Many jurisdictions justify direct business assistance programs as strategies to overcome structural deficiencies in their state and local economic climates. These incentives may also serve to upgrade human and physical capital in a community or region.

For years policy makers continued to support economic development programs, but recently the call for better analysis of the impacts of these incentives has increased for several reasons:

1. Increased use of economic development incentives has attracted the attention of legislatures, administrative agencies, and other groups to the ***cumulative costs*** of these programs.
2. ***Competition for public revenues*** within government, and among different governmental levels, has sparked interest in understanding the more precise costs and benefits of these programs.
3. The offering of incentives to large corporations, which are perceived as not really needing these benefits, has engendered an ***increasingly negative public view of these programs***.
4. Poorly designed studies have ***inadequately defined the comprehensive fiscal and economic impacts*** of these programs on states and communities.

Motivated by heightened media attention and academic research questioning the value of these programs, state and local policy makers have accelerated their search for ways to more carefully examine incentive investments. Many public officials would prefer to reduce their dependence on these programs, yet most are unwilling to unilaterally set them aside, fearing a major loss of their competitive economic position relative to other states or communities.

economic development professionals and policy makers require access to better tools for assessing the costs and benefits of these economic development incentives.

Given these political realities, economic development professionals and policy makers require access to better tools for assessing the costs and benefits of these economic development

incentives. In selecting an appropriate evaluation methodology, however, practitioners must wrestle with the need to assess the incentive awards as a way to achieve sometimes conflicting objectives: (1) satisfying myriad policy maker demands and (2) guiding managers in the effective allocation of resources. It is further complicated by evaluations, often conducted after the fact, that may have a different view of a program's objectives than did the policy makers when they designed the program. Furthermore, existing evaluation activities do not always account for key contextual issues such as policy maker needs, differing objectives (and thus measures of success) among various incentive program resources, economic development strategy variables, and inconclusive evidence of causal linkages between incentives and firm behavior.

several factors complicate the implementation of sound monitoring and evaluation principles.

More and more, economic developers are recognizing the importance of using credible, objective methodologies for

analyzing their investments in businesses. But several factors complicate the implementation of sound monitoring and evaluation principles. First, few economic developers have any formal training or extensive experience in the use of these analytical techniques in their decision making process. As a result, many economic developers who ask for advice on which model to choose and which multiplier is best for monitoring or evaluating an incentive may not fully understand the many issues involved in selecting an appropriate methodology. Furthermore, they may not understand that the selection of a model is only a small step in a much larger monitoring and evaluation design process.

Second, many economic development strategies, including financing programs, are experimental in nature. In most cases, the actual impact of these programs has not been determined. Third, evaluation techniques and data have limited utility in answering the most difficult cause and effect questions being asked about these programs because our knowledge of how regional economies grow is limited. Fourth, many practitioners fear that implementation of evaluation systems can be used to cut their budgets or even terminate their programs. Finally, evaluation practices have not been standardized across states, limiting the ability to compare programs and make systematic observations about the impact and value of state and local economic development policies.

Project Background

In this context, the U.S. Economic Development Administration (EDA) sponsored a National Academy of Public Administration (NAPA) study examining economic development at the federal level.¹ During the study, the proliferation of state and local business incentives and concerns about an incentives “arms race” were raised as an important policy challenge facing economic development across the United States. While stopping short of calling for federal action to stem the use of incentives, NAPA recommended that EDA study the issue to determine ways to improve the accountability and transparency of incentive programs. This EDA-funded report responds to the NAPA study. EDA hopes to foster tools to help policy makers and practitioners make more informed decisions about the use of incentives.

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At the same time, the National Association of State Development Agencies (NASDA), a membership organization of state development officials, was facilitating ongoing discussions on the issue of incentives among its members. Many states were being criticized for their incentive policies and very little seemed to be known about practical approaches to addressing a variety of relevant issues. Consequently, many state development officials felt increased pressure to devise more effective evaluation methodologies and sought guidance from NASDA as a source of advice.

With technical and financial assistance from EDA, NASDA teamed with the Urban Center at Cleveland State University and the W. E. Upjohn Institute for Employment Research to develop this report. *The purpose of this report is*

to describe the evaluation process in a way that makes it practical to implement for economic developers and to share information about what is already being used in practice.

Practitioners Need to be Informed About Methodologies

Performance-based incentives more present two basic problems. First, the available information about how best to evaluate incentives is inadequate. The academic literature describes numerous methodologies for assessing costs and benefits, evaluating return on public investment, and analyzing economic and fiscal impacts. This guide synthesizes this information in a way that is useful for economic development practitioners. Currently, development agencies trying to set up an evaluation system often “reinvent the wheel.” Too few agencies are learning from one another about what works and what does not work. This leads to the second problem: few economic development practitioners have formal training in evaluation methods so they are uncertain about which methodologies are appropriate for their needs.

This report provides economic developers with background on evaluation methodologies that can be applied to their own needs. The tools already exist that will allow practitioners to conduct a credible analysis of economic development incentive programs during the decision-making process. Unfortunately, these methodologies are often too cumbersome for decision making. Either the information does not yet exist about an incentive’s impact

or the analysis involves so much data or so many analytical steps that traditional evaluation methodologies are not useful.

With some basic understanding of research design techniques and some preparation in advance of specific economic development opportunities that

may arise, economic development professionals at the state and local level can adapt existing analytic methods to provide valuable insights about the estimated impacts and consequences of business incentive programs. In this guide, the research design process is reviewed and the most common methodologies being used in economic development settings are identified. In particular, the guide examines how modeling tools that are currently available to state and local development agencies are related to evaluation methods and how they can be used to support monitoring and evaluation activities.

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Project Methodology

Specifically, this report is designed to address three important policy questions:

- 1. What methods are available for monitoring and evaluating economic development incentives?**
- 2. What measures and methods are being used most widely?**
- 3. What do economic developers need to know in order to effectively implement these methods?**

To address these questions, the guide describes and adapts existing information about research methods into a ***framework*** for economic development practitioners. Management needs and policy priorities vary widely based on regional goals, from the creation of new business activities to the retention of existing economic activity. These needs influence the performance monitoring and design process because they reflect the “value” of benefits and costs within the state or community. The methodologies identified must be applicable for these varied circumstances. No single methodology or model will work for every incentive being offered or for every community offering incentives. Consequently, policy makers and practitioners need guidance on the design of a *system* for monitoring and evaluating incentives that involves the key actors making decisions about how to move forward through a predetermined process.

To identify what methods are currently being employed, the study team reviewed the academic literature, conducted focus groups of practitioners, interviewed policy makers and practitioners, and surveyed more than 500 state-funded incentive program managers. In that effort, the advantages and disadvantages of a number of methodological approaches were examined, particularly common quantitative approaches currently being used by practitioners.

The team’s study, conducted between October 1997 and November 1998, was composed of the following tasks:

1. Worked with EDA to clarify the scope of our study, including establishing definitions for the purposes of our study;
2. Reviewed the evaluation and incentives literature to identify key issues raised by academics and policy makers;
3. Identified incentives for study, developing a database of more than 900 state-mandated incentive programs;

4. Conducted focus group discussions with economic development practitioners on key issues related to incentives;
5. Surveyed more than 500 program managers to gain insights on the state-of-the-practice in data collection and evaluation efforts;
6. Conducted in-depth interviews of 25 economic development practitioners and a dozen state legislators or their staff to supplement the survey and provide more in-depth analysis of the “state-of-the-practice” in monitoring performance; and
7. Reviewed a select group of monitoring and evaluation research methods or tools to determine their usefulness to practitioners and effectiveness in answering key questions about the impacts of incentives.

Key Limitations of This Project

To examine the questions identified within the timeframe and budget allowed, the project team had to limit the scope of the project in two ways: first, to focus much of the data collection efforts on state-sponsored incentives; second, to define the term “incentive” in a way that excluded certain types of programs from our analysis.

Working with EDA, the team chose to focus on state-sponsored incentives, leaving federal and local investments in economic development outside the scope of this work. In large part, this limitation followed the recommendation of the NAPA report and critics who often cite examples of state incentive practices as most problematic.² While incentives provided at the local level (particularly property tax abatements and some direct grants to firms) may often be significant elements in an incentive package, many of the recent examples of large incentive projects seemed to involve substantial investments of state-sponsored incentives. Quite often, large incentive packages involve a combination of existing economic development programs. In particular, state investments in job training, infrastructure development, capital programs, and tax-based incentives are highly visible, and the critics of incentive programs often focus on the level of investments offered through these state-mandated programs. Furthermore, a review of tax and non-tax programs offering incentives turned up hundreds of different programs in the 50 states. Consequently, the task of reviewing and cataloguing incentives at the state level was itself fairly substantial.

While localities often market federal programs as if they are unique to their particular community, most federal programs have “non-piracy” provisions so any study of incentives that includes federal programs must take into account

their use in relocating firms from one community or state to another. EDA is sponsoring other research to assess the impacts of the agency's investments in economic development while other federal agencies are conducting similar evaluation studies.

In addition, the team limited the term "incentives" to include only those programs that involved direct financial assistance to companies and indirect assistance through public investments that benefit a limited number of companies. In-kind assistance, or counseling services, raises many complex questions about assigning a "value" to the assistance being offered. The study team felt that these issues could not be addressed adequately within the scope of this project.

The goal of this report is to serve as a guidebook that helps practitioners and policy makers in shaping their performance monitoring and evaluation efforts for economic development incentives to growing or relocating companies. Rather than debating whether or not incentives are in the public interest, practitioners can focus on the value of programs to the taxpayer and provide better information to help elected officials make equitable policy about the investment of taxpayer dollars.

The following chapters of the report provide a "road map" for designing a monitoring and evaluation system based on the fundamental principles of social science research design. Chapter 1 provides an overview of state incentive programs and the "state of the practice," thus providing a context for defining the research question. Chapter 2 goes through the research design process, beginning with an overview of the process which serves as the technical framework for the design process. Chapters 3 and 4 discuss how to articulate the policy question and how to operationalize the key economic development questions facing practitioners in the context of criticisms from legislators and academics. Chapter 5 discusses alternative research strategies and in what contexts they are most useful. Chapter 6 discusses issues related to data collection and management. Chapter 7 examines alternatives for analyzing the data, focusing on approaches to economic and fiscal impact analyses. Chapter 8 is a discussion of how to manage a program design process in which a system for implementing monitoring and evaluation are fully integrated. Following the discussion of the system, the guide concludes with recommendations for policy makers and practitioners.

This report is intended to give the reader a greater understanding of several specific tools and models employed to estimate impacts. The examples of



analytic tools provided are not designed to be a comprehensive listing of available models and methods. These tools and models were identified during the course of our project by practitioners as being useful, exemplary, or under consideration for use. The inclusion of a model does not connote an endorsement for a vendor's product or services by any federal agency or other organization.



Chapter 1.

A Context for Performance-based Incentives

To respond more precisely to the needs of businesses, states and localities have become increasingly sophisticated in the variety of “incentive products” they offer. Most states have developed detailed eligibility and targeting criteria which guide the deployment of incentives. Yet much of the attention and criticism of incentive packages has been directed at “mega-projects,” or those very large projects that require a packaging of incentives that must be approved by the state legislature. Examples include recent airline maintenance facilities in Minnesota and Indiana and auto makers in South Carolina and Alabama.

Methodologies developed to analyze the impacts of mega-projects are certainly important given that each project can represent a substantial public investment. But states and localities also need tools to analyze the hundreds of smaller investments made from billions in annual state economic development expenditures and untold hundreds of millions in local expenditures. These smaller employment generating projects represent the stock-in-trade of the economic development business.

Defining Incentives

During the course of this study, economic developers referred to incentives in a variety of forms. For some, incentives included only the largest mega-projects while others included assistance offered through technical and management assistance programs. This inconsistency in definition, in turn, led to confusion in discussions about appropriate program monitoring and evaluation approaches. Clearly, to design suitable performance monitoring and evaluation systems requires some basic agreements about what the term “incentives” means.

For this study, **incentives are those programs with budgeted and allocated public dollars that are directly or indirectly invested in activities of businesses.** These programs can be either discretionary or nondiscretionary in nature. Discretionary incentives are those in which the executive branch has the ability to make an

Discretionary incentives are those in which the executive branch has the ability to make an important policy decision about the investment.

- ! Funding is based on a priority-setting process.
- ! Funding may be subject to negotiation

important policy decision about the investment – whether to make it and how much. In these cases, funding for a project is often based on a priority-setting process developed by the agency managing the program. In some cases, the value of the incentive to be offered may be subject to negotiation between the company and the policy maker. Policy goals often serve as a guide to developing and using these programs.

Non-discretionary incentives are those provided based on statutory requirements developed by a state legislature. These statutory incentives are available through programs for which there is an identified and specific legislative authorization. These are generally available to all qualifying businesses in the state and the actual or in-kind value of the incentive is often fixed within the statute, providing limited or no discretion for the local executive branch as to whether it should provide the incentive to a company.

Non-discretionary incentives are those provided based on statutory requirements developed by the legislature.

- ! Identified and specific legislative authorization.
- ! Available to all qualifying businesses.
- ! Little or no discretion for executive branch in offering the incentive.

Using a broader definition, incentives also may be defined as economic development programs that assist businesses without providing direct financial assistance. For instance, tax policies of states, property valuation, accelerated depreciation, and interest rate subsidies are among these types of programs. Other forms of incentive assistance for businesses in this category include technical assistance, modernization services, access to research capacity and technology transfer assistance, subsidized higher education, and public infrastructure. These types of inducements may legitimately be viewed as incentives but they have been excluded from the working definition of incentives used in this study.

A Typology of Economic Development Incentive Programs

Almost every incentive is geared toward one or more aspects of a company's cost of doing business. Subsidies are provided through direct cash payments, assistance with relocation or expansion costs, income tax credits, or credits to the firm's payroll tax. Many incentives are designed to reduce specific business costs – taxes, cost of capital, land, facility financing, training, and up-front operating costs.

Typically, researchers have examined incentives by focusing on either tax incentives or “non-tax” incentives. The study team felt that “non-tax”

incentives should be described even further for certain types of analyses. For the past 15 years, NASDA has developed and maintained a national database that provides background information on the wide variety of incentive programs offered by states to support business investment and development.³ Using the data on programs included in the 1998 NASDA *Directory of Incentives*, three major categories of incentives were identified. These are:

- ! direct financial incentives;
- ! indirect financial assistance; and
- ! tax-based incentives or rewards.

Direct Financial Incentives. Direct financial incentives are programs that provide direct monetary assistance to a business from the state or through a state-funded organization. The assistance is provided through grants, loans, equity investments, loan insurance and guarantees. These programs generally address business financing needs but also may be invested in workforce training, market development, modernization, and technology commercialization activities. Cash grants provide the greatest flexibility and immediate benefit to the company by reducing capital outlays. However, loans, bonds, and equity financing are commonly used to make resources available with an expectation that the dollars will be returned for future investments. Another important category of direct financial incentives is in the area of training subsidies. Other forms of direct financial incentive include revolving loan funds, product development corporations, seed capital funds, and venture funds. These programs directly supplement market resources through public lending authorities and banks.

Indirect Incentives. Indirect incentives include grants and loans to local governments and community organizations to support business investment or development. The recipients include communities, financial institutions, universities, community colleges, training providers, venture capital investors, and childcare providers. In many cases, the funds are tied to one or more specific business location or expansion projects. Other programs are targeted toward addressing the general needs of the business community, including infrastructure, technical training, new and improved highway access, airport expansions and other facilities. Funds are provided to the intermediaries in the form of grants, loans, and loan guarantees. Indirect incentives may also be used to leverage private investment in economic development. For instance, linked deposit programs in which state funds are deposited in a financial institution in exchange for providing capital access or subsidized interest rates to qualified business borrowers.

Tax Incentives. Tax incentives are widely used as a strategy for leveraging business investments. Policy makers and practitioners alike view them as a means of reducing the cost of doing business and “leveling the playing field” in the competition with other states. Generally, tax incentives can be classified into five subcategories: (1) credits, (2) abatements/reductions, (3) exemptions, (4) refunds, and (5) other special tax treatment to encourage business investment in the state. States usually focus their incentives according to their tax codes, though many states stipulate local tax incentives that are designed to generate economic development. Tax credits provide a reduction in state income tax, franchise tax or other state taxes to reward businesses for a variety of behaviors such as creating jobs, investing capital in equipment or research and development, training workers, recycling, or providing child care. Abatements reduce or decrease the assessed valuation of *ad valorem* taxes, which include real property and personal property, to foster investment by certain industries, such as “clean” manufacturing, or in certain activities, such as holding business inventory. Tax exemptions provide freedom from payment of a variety of taxes, including corporate income, corporation franchise, state sales/use, or other taxes normally applied to certain business activities on which a tax might normally apply such as in purchasing air and water pollution control equipment or construction materials.

Enterprise zones often represent the special treatment of taxation policies in targeted neighborhoods or industrial areas. Found in more than 40 states, zone programs provide a mixture of these different tax credits, abatements, and other incentives targeted to distressed urban and rural areas. The most common provisions are capital investment incentives including property tax, income tax, and sales and use tax credits/refunds. These capital investment incentives make up about two-thirds of state enterprise zone incentives nationally. However, the level of these incentives varies from state to state. Some programs primarily rely on locally provided incentives in enterprise zone areas. In a few cases, zone programs are being used to target “non-tax” programs as well.

Trends in the Use of State Financial Incentives

Of the 940 incentives programs described in the *Directory of Incentives*, 60 percent offer direct and indirect non-tax financial assistance to businesses as the program's intended beneficiary and 40 percent are tax incentives. Based on a comparison of data from NASDA's 1994 and 1998 *Directory of Incentives*, tax incentives and Industrial Development Bonds continue to be the most widely offered and common way that individual incentives are offered



by states. Data from the *Directory* suggest that tax incentives are being used in an increasingly targeted fashion, often focusing specifically on employment growth or being directed to special circumstances, such as targeting distressed areas through enterprise zone programs. For instance, tax incentives are now commonly being offered to offset the costs of pollution prevention, job training, and hiring disadvantaged workers.

While the number of tax incentives has grown over the years, the non-tax incentives have grown even more. For the most part, states are trying to meet an ever broader array of business needs through these programs while minimizing the expenditures needed to do so. For instance, the number of direct financing programs is increasing as these programs encompass a wider range of increasingly specialized objectives. These non-tax incentives are designed to be more responsive to the common needs of industry, particularly the needs of small and medium-sized businesses for worker skills, infrastructure, and new technologies. In addition, creative initiatives such as linked-deposit programs, secondary market operations and revolving loan funds are expanding the options of companies to access financing with limited investment of public funds.

For most incentive programs, policy makers have established eligibility criteria to ensure sound investments in achieving predetermined public policy goals. Accountability measures and other protections such as clawback provisions are built into the programs. For example, Minnesota statute requires that any business obtaining state or local economic development assistance must create a net increase in jobs within two years of receiving the assistance. The statute also requires that the state development agency establish wage level and job creation goals to be met by the business receiving the assistance. A business that fails to meet the goals must repay the assistance to the agency. States and communities are beginning to add these clawback provisions as a standard element of their incentive offers to firms.

National Survey of Incentive Programs

A review of the academic and policy literature suggests that many states and communities are offering large incentive packages with limited impacts and poor fiscal returns on the investment.⁴ Yet, these analyses tend to depend on anecdotal evidence because very little national information exists about how much is being invested in incentive programs offered at the state or local level. Also, very little information exists about the analysis undertaken by state and

local policy makers and practitioners when deciding to make these investments.

In exploring these issues, a number of key questions about economic development incentive programs immediately arise:

- ! How significant are the incentive programs in terms of activity level and dollar volume of investments?
- ! What information exists about efforts to assess the performance of these programs?
- ! What lessons can we learn from these experiences and how can these lessons help us foster more systematic efforts to monitor and evaluate economic development incentives?

To answer these questions, the project team surveyed more than 900 state-mandated incentive programs in the spring of 1998.

Methodology. With input from state economic development agency research directors, Cleveland State University Urban Center, and the Upjohn Institute for Employment Research, NASDA developed a six-page questionnaire to evaluate performance measurement efforts for state incentive programs related to (a) the program background, (b) data collection, (c) data analysis, and (d) the management of the analysis process. The survey instrument was provided to 540 program managers responsible for administering 940 incentive programs.

A mail questionnaire was distributed to each program manager. A follow-up questionnaire (with a self-addressed stamped envelope) was sent to nonrespondents to the initial mailing. For tax incentive administrators, the questionnaire was slightly modified from the instrument sent to non-tax program managers. The primary difference between the two questionnaires is the term used to indicate the public resources allocated to the program. In the survey of those who manage non-tax incentive programs, the term used for these resources is “public investments made.” In the survey of managers of tax incentive programs, the term for the resources is “revenues foregone.” A copy of a survey instrument for non-tax incentives is attached in the Appendix.

**Table 1.
The Response Rate for Survey of
State Incentive Programs**

Incentive Category	No. of Respondents	Universe of Programs Surveyed	Response Rate
Non-tax	341	560	61%
Tax	213	380	56%

As seen in Table 1, NASDA received responses related to 554 programs (a response rate of 59 percent).

Detailed responses related to 501 programs (a response rate of 53 percent).⁵

In addition to the information about program performance measurement and monitoring collected from the survey, NASDA also incorporated data from the *1998 Directory of*

Incentives on several variables, including the type of financial assistance and incentives offered, to provide a more in-depth analysis of current activities undertaken for measuring performance of state economic development programs.

The Size of State Incentive Programs

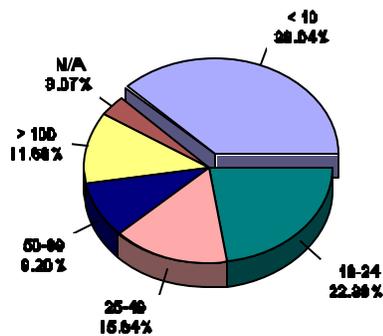
To begin the analysis, it was important to know the size and scale of investments in economic development incentives among

**Table 2: Size of State Incentive Programs
by Number of Projects Assisted**

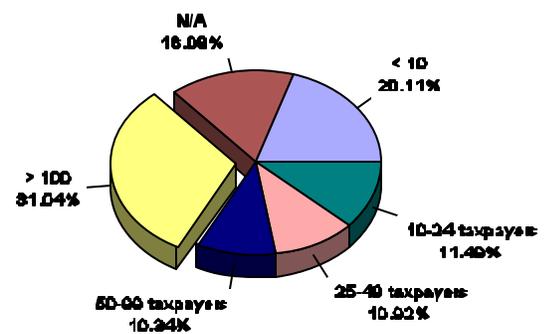
Program Type	Size Range	Average # projects/year	Number of projects/year		
			< 25	25 - 100	> 100
Non-tax (Direct and indirect)	up to 2,500 projects	54	60%	25%	12%

Figure 1. The Size of Non-Tax and Tax Programs

**Number of Projects Per Program
for Non-Tax Programs**



**Number of Taxpayers Per Program
for Tax Programs**



the 50 states. In determining program size, both the *number of projects assisted* and *the dollar value of investments made* during the past year were examined. The survey results show that the size of state incentive programs – in terms of the number of projects assisted – tends to be relatively small for non-tax (direct/indirect) financial assistance programs and larger for tax incentives (Figure 1). The average non-tax state program invested in 54 projects (Table 2).⁶ The largest non-tax program assisted 2,500 companies while the average tax incentive aided 3,000 firms. The average size of tax incentive programs was larger because a few programs were very broad-based, aiding hundreds of thousands of tax filers.⁷

Investment in State Incentives Programs

Based on the data from the survey, it is estimated that state governments in 1997 spent approximately \$10 to \$11 billion in various incentive efforts in economic development. The average investment in each non-tax program is \$11.3 million while the average foregone revenue for each tax program is \$12.6 million (Table 3).⁸

Table 3: Investment in State Incentive Programs, 1997

	Average	Adjusted Average	Estimated U.S. Total
Non-tax	\$11.3 m	\$11.1 m	\$6.2 - 6.3 billion

Most non-tax programs are designed to serve a relatively small group of firms while investing more resources in each company (Figure 2).⁹ Nearly half of the programs invested in less than 25 projects while one-fifth offered assistance to more than

100 projects. Of the programs with less than \$500,000 in funding, most tended to fund fewer projects. For instance, the programs with limited resources were more likely to fund fewer than 25 projects per program.

! Most non-tax programs are designed to serve a relatively small group of businesses while investing more resources in each firm

! individual tax programs tend to serve a much larger group of businesses

Table 4: Distribution of Programs by Size and Type

	Program Size		
	< \$500,000	\$500,000 - \$1 million	> \$1 million
Non-Tax	34%	8 %	56%
Tax	27%	9%	45%

In contrast, individual tax programs tend to serve a much larger group of businesses or tax filers (Figure 2). Since the average funding of tax programs is only slightly larger than non-tax programs, the large size of tax programs results in each business receiving much less dollar benefit, on average.¹⁰

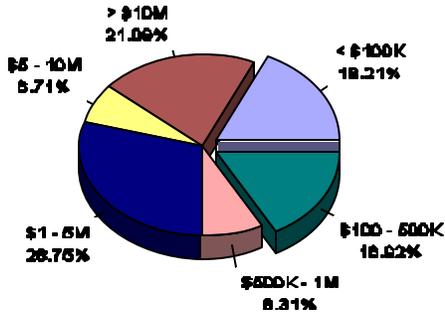
Distribution of Programs by Type

Loans to businesses are the most widely offered type of non-tax incentive program. As Figure 3

Figure 2. The Value of Investment for Tax and Non-Tax Programs

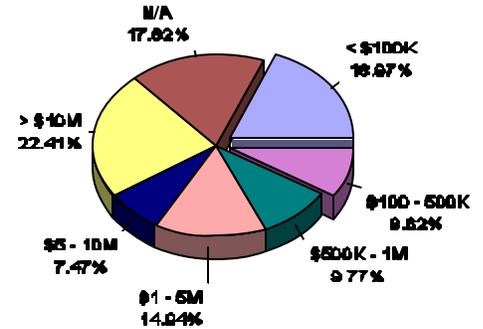
Non-Tax Programs

by Size of Budget



Tax Programs

by Amount of Revenue Foregone

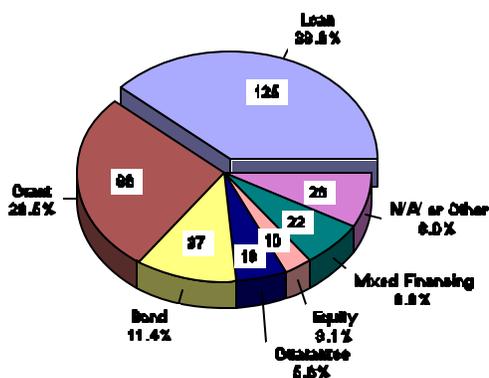


illustrates, nearly two out of three programs represented by responses to the NASDA survey (65 percent) involve some form of payback, including loans, bonds, mixed financing, guarantees, and equity investments. Of 175 tax incentive programs represented in the survey, tax credits are offered by more than half (54 percent) to encourage business investment. The remaining tax incentives include exemptions, abatements, refunds, and a combination of tax incentives (Figure 3).

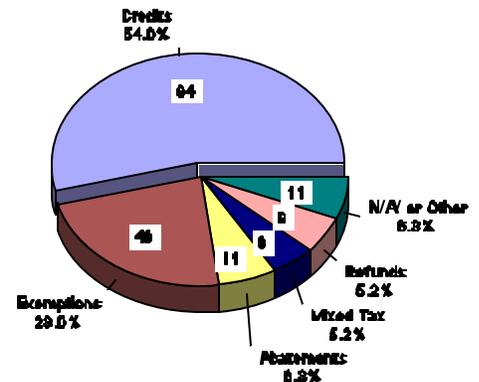
About one in four programs (26 percent) offer grants to companies. This corresponds closely to the breakdown of all programs found in NASDA's *1998 Directory of Incentives* suggesting that the survey results represent good estimates of all state incentive programs.

Figure 3. Tax and Non-Tax Programs by Type

Non-Tax Programs



Tax Programs



**Table 5.
Non-Tax Incentive Programs by
Type and Number of Firms Assisted**

No. of Firms assisted	Loans	Grants/ Hybrids
<25	69.3%	43.4%
25 to 49	11.2%	22.6%
50 or more	15.4%	33.1%
Other/NA	4.1%	0.9%

The large majority of economic development lending programs, more than 69 percent, were designed to assist fewer than 25 companies (See Table 5). Grant programs, on the other hand, offered assistance to more firms, with one-third of the programs assisting 50 or more companies each. Only 15 percent of the lending programs assisted more than 50 companies annually.

While most non-tax incentives require companies to pay back the investment, most tax incentives are provided only after the company documents that has achieved or made significant progress toward achieving the intended public benefit – whether creating jobs or making certain types of investments. Nearly three of every four tax incentives (73 percent) are provided to

firms as a reward for achieving a specific performance requirement (Table 6).

Many of these programs, however, are limited in their scope. Nearly half of all tax incentive programs were used by less than 100 tax filers while an additional 16 percent provided no data on size (Table 7).

In 1997, the average tax incentive program allocated \$9.6 million in revenues foregone. In terms of public resources allocated to tax incentive programs, administrators indicated that 21 percent of the programs had resulted in the state foregoing revenues of \$10 million or more during the past year.

However, the majority (52 percent) of the tax incentive programs were relatively small, foregoing less than \$5 million each during the past year. Of programs offering tax exemptions (40 programs reported), 25 percent

provided more than \$10 million in revenues foregone to businesses. This finding suggests that some of the largest programs (as defined in terms of

**Table 6: The Number of Tax Incentives Available:
A Summary of Performance Requirements by Incentive Type**

No. of Programs by Category	Reward for Action Taken	Benefit for Promise Made	Other (not specified)	Total	
Credit	77	17	3	97	56.1%
Exemption	25	5	7	37	21.4%
Abatement/ Refund	17	1	2	20	11.6%
Other/NA	8	4	7	19	11.0%

**Table 7:
Tax Incentive Programs
by Program Size and Revenue Foregone**

No. of Projects Assisted	No. of Programs	Percent
<25	47	28.3%
25-99	34	20.5%
>100	49	29.5%
Other/NA	26	15.7%
Total	166	100.0%
Value of Revenues Foregone		
<\$500K	45	27.1%
\$500K-\$5M	42	25.3%
> \$5M	48	28.9%
Other/NA	31	18.7%
Total	166	100.0%

revenues foregone) are tax exemptions that some would consider part of a state's tax structure or code.

Comparing the Use of Tax and Non-Tax Incentives

As part of the survey, the study also examined how tax and non-tax incentives compared in terms of the business needs and challenges they attempt to address, the regional variations in programs across the country, and the administrator's discretion in applying an incentive to specific firms.

Incentives and Firm Needs. State incentives are offered to meet various business needs as a strategy for generating positive impacts for economic development. The decision to address each of those needs reflects different policy priorities and suggests different measures for quantifying success. Tax and non-tax incentives are offered because a combination of both programs can respond more readily to different kinds of business needs. For instance, the most common rationale for offering non-tax programs is to meet the capital needs of businesses. In contrast, tax incentive programs tend to be more widely focused on helping firms address challenges related to the costs of purchasing or selling products and workforce development.

Most of the public dollars allocated to non-tax incentive programs are invested in loans to businesses. Of the 326 programs represented among respondents, 140 programs (or 43 percent) are designed to address some finance need, either access to capital or cost of capital. Workforce development was listed as the second most frequently identified need to be supported through non-tax programs, followed by infrastructure, technology development, market development, site/location, modernization, regulatory improvement, and system management (Table 8).

Table 8: Business Needs Served by Tax and Non-Tax Programs

Incentive Program Category	Non-Tax		Tax	
	No. of Programs	%	No. of Programs	%
Business Need Being Addressed				
Finance	140	42.9%	20	11.5%
Infrastructure	39	12.0%	0	0.0%
Market Development	19	5.8%	36	20.7%
Modernization	13	4.0%	16	9.2%
Multiple Reasons	22	6.8%	21	12.0%
Regulatory	5	1.5%	4	2.3%
System Management	1	0.3%	5	2.9%
Site/Location	15	4.6%	23	13.2%
Technology	22	6.8%	12	6.9%
Workforce Development	49	15.0%	33	19.0%
N/A or Other	1	0.3%	2	1.1%

The list of business needs addressed through tax incentive programs looks somewhat different than that of the non-tax incentive programs. The survey identified market development

and workforce development as the two most commonly identified business needs. Of the 175 responding tax programs, more than half (53 percent) are designed to address market development, workforce development, and site location needs (Table 8).

Regional differences. Offering incentives to businesses has become a common practice of economic development in every state, but generally states in the South seem to allocate more financial resources and invest in a greater number of business projects than the other three regions – the Northeast, Midwest, and the West.¹¹ The NASDA survey indicates that the states in the South have the largest budget allocation per program, reaching an average of \$18.8 million (see Table 9), substantially exceeding the national average of \$11.3 million as well as the investment made in the West (\$16.1 million), Northeast (\$8.9 million), and Midwest (\$8.6 million).

Several other regional differences became apparent from the survey results. First, the states of the South appear to use tax incentives as a program option more frequently than any other region, and these states target those incentives to a relatively smaller group of companies for each program. Midwestern states overall use tax incentives on a much larger and broader scale than any other region. One conclusion from this finding is that states in the Midwest

have turned to tax incentives as a way to restructure their business taxing system. It also appears that any efforts by the West to compete with other regions, in terms of offering incentives, is being done through tax incentives.

At the same time, the South, on average, seems to have established larger non-tax incentive programs. Non-tax programs created in the West also tend to be large, on average, but there are fewer than in the South. The Midwest and Northeast offer a number of non-tax programs, but the average size is much smaller. Not

**Table 9:
Distribution of Tax and Non-Tax Programs by Region**

Program	Northeast	Midwest	South	West	Nation
Non- Tax					
No. of respondents	66	102	9.1	67	326
Avg. # of projects	85	50	67	29	54
Avg. investment (millions)	\$8.9	\$8.6	\$18.8	\$16.1	\$11.3
Tax					
No. of respondents	13	63	73	25	174
Avg. # of projects	124	10,831	325	3,272	3,003
Avg. \$ foregone (millions)	\$8.0	\$26.4	\$7.9	\$15.6	\$12.8

surprisingly then, the South appears to be much more aggressive in offering non-tax incentives while the Midwest and West tend to use their taxing structure to offer incentives on a broad scale to limited classes of companies. Southern states tend to use tax incentives with a more limited scope and target them to a limited classes of companies. The Northeast appears to be, by far, the least aggressive region in terms of offering tax or non-tax incentives.

What do these regional differences really mean? These differences influence the perceptions of agency directors and program managers about the importance of the incentive issue. The survey found that much of the most heated discussion about incentives seems to come from representatives of Southern and Midwestern states, perhaps because these are the regions most greatly affected by the issue.

Western states do not view the issue as very important, in part because they tend to offer few incentives that are not already available in other states. Furthermore, the incentives they provide are through the tax code and are integrated into the basic business-taxing structure on a non-discretionary basis. The western states also have a tradition of less government involvement in economic development or other business matters. Consequently, western economic development managers appear to be less concerned about measuring the performance of their incentives and more concerned about assessing the impacts of their investments in economic development overall.

Likewise, northeastern states also seem to be less directly involved in the incentives issue because they tend to invest less in incentives relative to other regions. Northeastern policy makers are also quite familiar with the life cycle of industries, having a history steeped in the ongoing birth and maturation process in our nation's industrial economy.

Agency's Discretion. Overall, agencies that manage state incentive programs do not have a great deal of influence over whether an applicant receives financial assistance or not. For non-tax programs, more than 60 percent of all respondents indicated that their programs are designed to serve all eligible applicants and are offered to beneficiaries on a first-come, first-served basis. Additionally, 20 percent of respondents reported that they offer assistance to applicants through a competitive funding process. Only 14 percent responded that their program funds are offered on a discretionary basis to the eligible companies. For tax programs, the level of agency's influence is even less, with 76 percent of respondents indicating that funding assistance is provided to all eligible applicants (Table 10).

Table 10: Agency's Discretion in Making Investment Decisions by Application Process, Eligibility Criteria, and the Level of Assistance

Agency's Role	<u>Non-Tax Incentives</u> No. of Program/ (Percentage)	<u>Tax Incentives</u> No. of Program/ (Percentage)
<i>Application Process</i>		
To all eligible applicants	97 / (29.8%)	132 / (75.9%)
First-come, first-serve basis	108 / (33.1%)	6 / (3.4%)
Proposals under a competition	67 / (20.6%)	3 / (1.7%)
Agency's discretion	46 / (14.1%)	6 / (3.4%)
No influence	14 / (4.3%)	17 / (9.7%)
<i>Eligibility Criteria</i>		
Little/No	79 / (24.2%)	125 / (71.8%)
Some	158 / (48.5%)	34 / (19.5%)
Broad	85 / (26.1%)	5 / (2.9%)
<i>The Level of Assistance</i>		
Based on an agency's general policy	87 / (26.7%)	9 / (5.2%)
Based on a case-by-case analysis	91 / (27.9%)	8 / (4.6%)

This phenomenon echoes the responses offered to the question about whether the agency has a role in defining the program's eligibility criteria. Most incentive programs, particularly tax programs, are created and mandated by state legislatures so the agency has very little latitude in determining what kind of businesses or taxpayers will be qualified for receiving state funding or tax benefits. Nearly 72 percent of respondents from tax programs indicate that their agencies have little or no latitude in defining which businesses are eligible for a particular incentive. Only 20 percent indicate the agency has some latitude and 3 percent have broad discretion.

However, agencies that manage non-tax programs seem to have more discretion than managers of tax programs in determining eligibility criteria and the level of assistance to be offered to companies. Nearly 50 percent of respondents indicate their agencies have some latitude and 26

percent of respondents have broad discretion in defining the program's eligibility criteria, but only 24 percent indicate that their agency has little or no latitude in this issue (Table 10).

Agencies that manage non-tax programs have more discretion than managers of tax programs in determining eligibility criteria and the level of assistance to be offered to companies.

Similarly, in terms of determining the level of assistance (e.g., the value of assistance) that will be offered to the applicant, agencies that manage non-tax programs are provided greater discretion than agencies that manage

tax programs. The majority of respondents from non-tax programs indicate that the level of assistance is defined by the agency, either based on a case-by-case analysis of each applicant's needs or based on a general policy established for the program. For tax programs, the result is completely

reversed. More than 80 percent of respondents indicate that the level of assistance is determined by the program's statute, while only a small portion of respondents (less than 10 percent) claim their agencies have discretion in determining the level of assistance offered to applicants (Table 10).

Implications for Evaluating Economic Development

To date, there has been a dearth of data available about incentives. Consequently, critics and proponents alike commonly depend on anecdotal information. These anecdotes tend to describe large business investments that leverage substantial amounts of economic development resources. One anecdote may include certain types of public investment as an “incentive” while another views the investment as an element of the tax structure.

The survey sought to learn more about the economic development programs that states *market* as incentives. The responses confirmed that states are investing substantial resources in both non-tax and tax incentives. Certain regions, namely the South and Midwest, are leading the way in investing in economic development programs. These incentive programs, however, take numerous forms – ranging from loan guarantees to grants – and address a variety of business challenges – ranging from capital access or site preparation to infrastructure improvements or workforce training. The survey found that numerous modest programs provide very targeted inducements to firms.

However, neither the survey, the subsequent telephone interviews, nor the focus groups produced a consensus on how exactly to define economic development incentives, some confusion about the term may persist among readers. The terms economic development programs and incentives are often used interchangeably in this report. This is an issue that should be resolved to build a common foundation for future research on incentives.

Chapter 2.

Framework for Monitoring and Evaluation

With substantial resources being invested in economic development, policy makers and practitioners understand the need for better information about the benefits resulting from those investments. This chapter is an overview of basic evaluation design issues and provides an introduction to the process for the economic development program manager or evaluator.

The Basic Framework: Outlining the Process

Practitioner Note:

- A sound monitoring and evaluation system must address each of these six questions.

The process of designing or selecting an appropriate approach for analyzing economic development incentives or programs addresses six key questions.¹²

1. What are the most important policy problems facing key stakeholders to be addressed by the incentive?
2. What is the best way to convert those problems from a broad goal into something practical that can be measured and analyzed?
3. What strategies and techniques are available that might help assess the influence of the incentive on addressing the policy problem?
4. How can the information needed to assess the incentive's impact be collected?
5. Which analytic approaches are most appropriate in estimating the question about the incentive's impact?
6. How can this effort be managed so the monitoring and evaluation efforts are most effective?

To some, answering these questions may seem somewhat of an academic exercise, but the value to policy makers and practitioners of the results from any monitoring or evaluation effort depends entirely on how well each of these questions is answered.

- ! What is the purpose of the research question?
 - to establish causal relationships?
 - to describe a situation?
 - to gather appropriate information that others might use for analysis?
- ! What are the personal biases and assumptions of key stakeholders?
- ! Does the question articulated really identify the true purpose of the policy research?

Articulating the Question

Determining the nature of the policy problem to be addressed is probably the single most important challenge for designing an evaluation system. The exact nature of the problem to be addressed sets the stage for determining what analytic approach might be used. Unfortunately, the policy problem is seldom clearly developed before trying to evaluate many programs. Different stakeholders may have their own expectations about the objectives of the incentive as well as the goals of the program.¹³

Operationalizing the Question

In identifying a policy question, the goal of the monitoring or evaluation effort – to address a broad, often abstract policy issue – is being defined. An abstract policy question, such as whether economic development incentives have an impact on the economy and provide a net benefit for taxpayers, is difficult to answer objectively. Which incentives are most relevant for examination? How is the impact described? What constitutes net benefits? To answer these general policy questions, key concepts and abstract ideas must be transformed into concrete definitions.¹⁴ This is done by identifying variables that represent the policy goals and specifying how they will be measured. For instance, the concept of “promoting economic growth” may be converted to increasing employment or corporate sales, but the goal could be measured in a number of other ways as well. Likewise, the concept of “providing public benefits” may be turned into the value of taxes generated or increases in wages paid by existing companies. These measurable variables can be studied over time or compared across jurisdictions.

Practitioner Note:

- Transform economic development goals into measurable objectives.

Selecting a Strategy for Assessing Progress toward Achieving the Policy Goal

There are various strategies for evaluating programs or progress that might be employed to determine whether an incentive is having the intended impacts. The array of strategies can be classified into four basic categories: (1) experiments, (2) structured surveys, (3) case histories, and (4) “archival” studies. Quite often, economists depend on either archival studies or structured survey approaches, so they are also commonly used in evaluating the impacts of economic development incentives. Yet, any of these strategies might be appropriate, depending on the exact nature of the policy problem and the questions being raised by stakeholders. It is useful to review each

Practitioner Note:

- We commonly choose to use economic models to assess impacts, but other strategies

of these approaches briefly to place them into context for analyzing economic development programs.

Experiments represent a way to study an economic event or intervention by controlling for all variables except the one being studied. An economic development experiment might involve making an incentive available to certain companies but not making the incentive available to similar companies to assess whether there are any differences in firm behavior.

Structured Surveys involve asking and analyzing questions about a subject to identify trends or relationships between different observations. Most economic development surveys are cross-sectional, meaning they are conducted once and the data are used to compare the subjects of the survey to one another at one point in time.

Case Histories involve the collection and analysis of a few case examples or histories. For instance, a company selecting a site for a new production line might be studied as a case because the decision making process is quite complex and there is only one relevant observation (or case).

Archival Studies often involve the use of secondary data (such as employment or tax revenues) and the analysis of that data through a variety of qualitative and quantitative techniques. Frequently, data gathered about a project are analyzed as inputs to an economic or fiscal impact model. These models are created to estimate variables (as in econometric models) or compare the relative value of variables (as in cost-benefit models).

Each of these strategies is particularly useful for addressing certain types of policy questions. For example, experiments or case studies may be appropriate in addressing questions that challenge the notion that a program intervention results in a certain benefit. Questions that merely ask about the impacts of a program often use survey and archival evaluation strategies.

Practitioner Note:

- We often combine primary and secondary data to ensure available credible data for program monitoring.

Collecting Data

Overall, a monitoring and evaluation strategy has two basic components: the data collection and analysis. Economic developers typically gather data from both primary and secondary sources, including the businesses being assisted or other government agencies. The data collection strategy is influenced by the availability of data, the credibility of those data, and the resources available for new data collection.

Analyzing Data

The selection of an analytic approach for monitoring or evaluation depends heavily on the purpose of the analysis as well as the research design elements described above. Economic and fiscal impact studies are often used to examine public policy issues related to the economy (i.e., economic development). However, these analytic approaches are limited in what they can describe. In particular, they are valuable to describing impacts, but do not help to determine causal relationships between an incentive and the ultimate anticipated outcome – jobs created or revenues generated. Other analytic approaches, such as case studies or field experiments, should be used to gain insights on these issues.

Practitioner Note:

- The collection of quantitative data implies the use of quantitative methods for analyzing economic and fiscal impacts.

Analytic methods taught in the economics and public policy disciplines are often relied upon in evaluating economic development. In particular, economic impact and fiscal impact analyses are used frequently to judge what the collected data means. Most economic development evaluations depend heavily on quantitative methods even though qualitative methods such as case studies may be more appropriate. Even so, most of the later discussion of analytic approaches is focused on the quantitative methods that are commonly used in assessing economic development program impacts.

Managing the Process

It is important to recognize these steps as the technical aspects of designing and implementing a performance monitoring and evaluation system. The evaluation design process – policy problem definition, selection of the performance metrics, evaluation strategy selection, data collection, and data analysis – represent the “science” of research design. The task also involves recognizing the role of stakeholders and integrating the process into program design as early as possible. Understanding this context is the “art” of evaluation.

It is vital that the monitoring and evaluation design be integrated into the program design process. The steps to designing the management system will be described in a later chapter. These include:

1. Identifying the programs or activities to be evaluated;
2. Identifying actors and their respective roles in the evaluation process;

Practitioner Note:

- Five steps for managing programs in support of monitoring and evaluation.

3. Identifying planned uses of the evaluation results;
4. Establishing decision rules for judging program performance; and
5. Determining the performance time period to be assessed.

The resource constraints and the stakeholder demands associated with designing and implementing these efforts must be taken into account. The major resource needs include (a) time from the key stakeholders during the design process, (b) staff and related tools to support the data collection process, and (c) skilled investigators and related tools to undertake the analysis.

Chapter 3.

Articulating the Policy Problems

The first step in selecting an appropriate methodology for monitoring and evaluating economic development is to understand the policy issues and questions of concern. The dilemma is that policy makers, practitioners, and academics are interested in different aspects of program performance and evaluation. Policy makers tend to be interested in resource allocation issues; practitioners focus on economic impacts and related management issues; and academics tend to be interested in testing and defining causal relationships among policy options. Consequently, the question must be articulated and the strategy defined in a way that recognizes the individual needs (and biases) of the stakeholders and focuses on the most relevant issues that require performance monitoring and measurement.

From a practitioner's perspective, the most important questions that must be addressed by the monitoring and evaluation research include the following:

1. How much of an economic impact will a particular economic development incentive have on the state, region, or community?
2. How much is the net public benefit generated from the public dollars to be invested in a specific project?
3. How effectively are the resources being used to generate as much economic impact and net public benefit as possible?

The relative importance of those questions will change depending on the situation of individual practitioners. At the same time, questions should be developed that build on the foundations of what others have already learned. The challenge is how best to tie the methodology for monitoring and evaluation to the policy problem being addressed.

To address it adequately, each question may require a completely different methodology, involving distinct evaluation strategies, data elements, information collection approaches, and modes of analysis.

Each question may require a completely different methodology, involving distinct research strategies, data elements, information collection approaches, and modes of analysis.

Policy makers and practitioners do not always clearly identify the policy challenges and questions before trying to evaluate programs. The program's goals may be unclear or have changed over time. Different stakeholders may

have conflicting perspectives on the policy goals. For instance, job creation is important to community residents; tax generation is important to budgeters; and investment is important to business leaders.

This section reviewed some of the key policy issues often raised for economic developers in program design, implementation, and evaluation. Having done this, the guide now turns to the body of knowledge that has been created in trying to address these issues.

Recognizing Different Kinds of Questions

Not only are there differences in goals related to each economic development program, but there may also be fundamental differences in why the monitoring and evaluation should be done in the first place. Each stakeholder may have a different expectation about the objectives of the program monitoring and evaluation activities.¹⁵ For instance, some may believe the monitoring and evaluation activities are being done merely to provide information about impacts while others may want to use the data to establish whether an

**Table 11:
Defining The Types of Research Questions for Economic Development**

type of question	purpose	results	economic development use
exploratory	to seek basic information about the economy (e.g., employment, unemployment, income levels)	reports summarizing data collected	community profiles, marketing materials, industry information
descriptive	to observe relationships (company investment, job creation) related to policy intervention	states a relationship between two activities but does not necessarily imply a causal relationship	measures of impacts generated by client data; impact studies

incentive actually causes a business to invest in the state or community. It may be helpful to think about this issue by recognizing three basic types of evaluation questions: exploratory, descriptive, and explanatory (Table 11).¹⁶

Most economic development program monitoring or evaluation efforts are limited to addressing descriptive questions because they generate measures of impacts based on client estimates or actual data.

Most economic development program monitoring or evaluation efforts are limited to addressing descriptive questions because they focus on measures of impacts generated by client data. NASDA's survey of economic

development programs found hundreds of programs generating data that can be used for descriptive research. In some cases, sophisticated tools and techniques, such as cost-benefit analysis and econometric models, were used to estimate (or describe) economic and fiscal impacts. Even when these sophisticated tools were used, the results were generated primarily to describe changes in the economic or fiscal conditions of the state or community.

In our monitoring and evaluation work, it is often presumed that Event A (granting an incentive or providing assistance) causes Event B (a firm making an investment). Yet, many of the critiques of economic development programs from academic and policy circles challenge the causal relationship between the use of incentives and anticipated business behaviors. Consequently, impact studies that appear to address the basic questions of program effectiveness may not be able to respond to these criticisms.

Formulating the Evaluation Questions: A View from the Capitol

State legislators are critical stakeholders in economic development and their support is vital to state and local economic developers because they authorize economic development programs and provide funding for them. These lawmakers have become increasingly concerned about the use of incentives, particularly about whether state investments are creating a net benefit for the taxpayer. The National Conference of State Legislatures (NCSL) issued a task force report in 1998 that sought to refocus legislative energies on more effective public investment strategies and improved performance monitoring.¹⁷ Through NCSL, legislators questioned the value of incentives to the national economy and to individual states. The legislators also raised issues about the net effects on the state tax bases and whether incentives are in the states' best interest as public policy.

In mid-1998, NASDA and Cleveland State University conducted a follow-up to the NCSL report by interviewing a dozen legislators or their chief staff persons about these issues. These interviewees were identified from referrals made by NCSL. A significant number of them had participated in the NCSL Task Force on Economic Incentives. The interviews were designed to learn their opinions about economic development incentives and to identify ways that economic developers could be more responsive to their concerns.¹⁸ From those surveys, the legislators and staff indicated three primary concerns related to the use of economic development incentives: (1) their impacts, (2) the use of monitoring/evaluation, and (3) strategic program design.

Program Impacts. First, the interviews confirmed the NCSL study’s findings that legislators are concerned about the overall impact of providing incentives and whether the public investments are generating sufficient results to justify their costs. More specifically, this concern seems to be focused on concerns about the net impacts that programs have on public revenues. Legislators are undecided about the impact of certain incentives, especially tax abatements, on foregone revenues. They maintain that they do not receive adequate or satisfactory data about the “revenues lost” (or foregone revenues) from investments in economic development assistance, especially tax incentives.

Even legislators who are strong supporters of incentives as an attraction tool recognize the need for caution. In some cases, this concern is generated primarily by “mega-projects.” Because of public and media scrutiny of these projects, legislators question whether these deals are really beneficial to the state and local economy or require the level of incentive provided. They appear to be dissatisfied with the information provided for making broader policy decisions as well as the lack of strategic orientation that dominates discussion about these specific economic development incentive projects.

Monitoring and Evaluation. The second concern that legislators raised relates to monitoring and evaluation issues. There was wide variation among legislators in the degree of satisfaction with the information being reported and the quality of the analysis provided by economic development agencies. Several

There was wide variation among legislators in the degree of satisfaction with the information being reported and the quality of the analysis provided by economic development agencies.

legislators complained of not knowing what the economic development agency is doing, though others expressed complete satisfaction with the work of their agency. One point that seemed to resonate is that **legislators felt they received little follow up information about major incentive projects after the projects have received assistance.** In addition to information from the agency, legislators rely on information from local organizations and public hearings. Often, however, **legislators depend most heavily on the executive branch for oversight of economic development programs.**

The question of defining specific performance metrics seemed less critical to legislators and their staff. However, the legislators seemed to recognize that metrics need to be developed at the front end of the program so that everyone knows what performance data are expected. The most important metrics to the legislators and legislative staff were new jobs, overall state and local

employment, gross tax receipts, and dollars invested. They also noted that the quality of the jobs being created is an important factor that should be measured. The interviewees also **acknowledged the difficulty in linking many of these outcomes to the specific services provided through economic development incentive programs**. Also, legislators felt that the metrics should be dependent on the objectives of the program.

Program Design. An overriding concern for legislators is the need to develop coordinated plans for economic development that have clearly defined objectives. Legislators noted much duplication of effort among state and local programs and even within state programs. They expressed a desire for legislative and executive branches to work together to develop a strategic approach to economic development. Legislators stated a need for agencies to articulate their objectives clearly, define their performance standards up-front, and describe how their activities will meet the objectives. Many economic development programs have well-defined objectives and criteria, but the legislators maintained that many larger *ad hoc* deals do not seem to have a strategic foundation. In other words, **legislators tended to question the large *ad hoc* deals most because they do not receive adequate information about (1) how the investment relates to a strategic vision or (2) which, if any, of the company's promises are fulfilled.**

An overriding concern is the need to develop coordinated plans for economic development that have clearly defined objectives up front.

Formulating the Evaluation Questions: Practical Management Needs

Economic developers are faced with three sets of challenges in keeping state and local political processes and the private marketplace in step with one another. It is important to understand these processes because they influence the program goals of economic development incentives. Previously well-defined goals can become murky as this economic change impacts specific firms and communities. Each of these three new program challenges poses important practical questions for economic developers.

First, are current economic development programs helping states and communities take full advantage of new economic opportunities? The opportunities to increase business investment, jobs, and wealth have changed during the past decade. For most geographic areas, current and future economic growth are following different and diverse industry paths. Once focused primarily on industrial recruitment, local and state economic

development organizations have broadened their interest to include many new targets of opportunity.¹⁹ Manufacturing is still paramount to many successful economic development efforts but increasingly attention is being focused on existing businesses, tourism and entertainment-related activities, supply chains within emerging industry clusters, and information-based value-added services. Practical issues arise about how best to measure economic performance and change as well as understanding the role that incentives play in helping a regional economy adapt to these changes.

How well are economic development programs helping a community compete economically?

Second, how well are economic development programs helping a community compete economically? The factors that influence state and local competitiveness for economic development have changed. In the past, states and communities focused on the capital needs or infrastructure demands of firms. Areas are increasingly attending to “product improvements” designed to enhance their competitiveness by investing in their work forces, real estate resources, public infrastructure systems, land use and zoning policies, and a myriad of other resources to meet the complex and changing requirements of industry and commerce. In preparation for new opportunities for job and wealth creation, many areas also have given considerable attention to recrafting the business tax and regulatory policies that contribute to the overall environment in which growth and development take place. These factors focus on the state’s business climate, the readiness of its workforce to take advantage of development activities, recognition of regional differences in competitiveness factors, increased attention to the sustainability of economic growth, the role of technology in the marketplace, and the importance of economic fairness in addressing those regions in distress.

How are states and communities paying for economic growth and development?

Often, economic development incentives are offered as part of a “defensive strategy” aimed at protecting a community from losing businesses that threaten to leave or to aid a community in attracting a company seeking to locate in a community. This strategy is an attempt by a state or community to remain competitive for an existing company. The question is whether the community can continue to offer a competitive advantage for the firm (without subsidies) or whether an offer of an incentive to the firm would only prolong an inevitable decision to move or close.

Third, who is actually paying for an investment: the firm moving in (through taxes paid by its employees or its vendors or suppliers, for instance) or the community at large? The question of who pays for and

who benefits from economic growth is an increasingly controversial issue in many states. It forces communities to ask whether the return is worth the investment. This issue lies at the heart of the current debate about state and local economic development incentives. There are no simple answers since the fiscal and economic impacts of various local and state economic development policies often transcend their intended boundaries. This is especially true within substate regions where local communities often compete for the same investment project.

Formulating the Evaluation Questions: A View from Academia

Academic researchers have invested substantial time and effort in addressing some of the policy issues most frequently raised. They play a substantial role in influencing the policy discussion about incentive programs among legislators and within the media because they are generally perceived as independent and more rigorous in their examination of economic development programs. A review of the literature found that four questions have received the greatest attention in academic research on economic development incentives.²⁰

1. Do incentives stimulate economic growth or impact?
2. Would economic growth have occurred anyway without incentives?
3. Do incentives exacerbate the economic war among states and communities?
4. Assuming a causal relationship between incentives and impacts, how well do incentives work in influencing business behavior?

The vast majority of the academic research literature has focused on trying to address the cause-effect relationship between economic development investments and economic growth. Many of these studies have had mixed results, with a number finding little significant relationship between incentive investments and economic growth. It is important to note, however, that research on these programs is very difficult in light of data and other technical problems. Furthermore, investments in certain types of programs, such as training and infrastructure, generally seem to result in more favorable performance reports than other types of incentive investments.

Do Incentives Stimulate Economic Growth or Impact? The fundamental argument supporting the use of incentives is that they matter to business. Supporters maintain that incentives influence the decisions of most businesses as to where to make investments that create economic and fiscal impacts on the state or community.²¹ In general, the academic literature is divided

between studies finding major effects associated with growth and those finding negative or inconclusive results. Thus far, negative and inconclusive study findings are more numerous than those finding positive correlations. Findings showing an association between taxes and economic growth tend to be disparate and, in general, give little guidance to policy makers. Many studies of the very same programs come to opposite conclusions about economic and fiscal impacts. Some find associations between taxes and economic growth to be questionable because of the data sources, time period selection, variable selection, and research methods. Methodological flaws limit the ability to draw heavily from earlier studies as a foundation; consequently, this study continues to ask the question about specific types of economic development programs.

Would Economic Growth Have Occurred Anyway Without Incentives?

The literature, once again, is divided on the issue of whether investment would have occurred in the absence of the incentive. Many studies suggest that the incentives produce little employment that would not have otherwise occurred. Self-reporting data problems are believed to account for many of the research problems seen in earlier studies of this question. Surveys collecting data from incentive program managers, firms using incentives, and other parties have not proven to be highly reliable indicators of impacts when used as the sole source of data and analysis.

Do Incentives Fuel Interjurisdictional Tax Competition? Although not the primary intent of economic development incentive programs, many states and localities at times offer incentives to relocating firms or to existing firms that threaten to relocate. Most of the documented competition among areas appears to be of an intraregional nature, suggesting that these incentives encourage firms to move from one community to another within the region. This coincides with the finding in several research studies that taxes matter most in a business location decision when the locational choices have been narrowed down to the substate regional level. The research also indicates that economically disadvantaged communities tend to offer more generous incentives than more prosperous communities. It is not clear, however, that distressed communities offering the biggest incentives receive the greatest economic boost in return. Yet it appears that incentives are particularly valuable for distressed areas facing challenges related to high unemployment.²²

How Well Do Incentives Work? Three sets of findings are common in the literature to date: (1) targeted populations, namely minorities and disadvantaged individuals, do not benefit significantly from some types of incentives; (2) some types of incentives are seen as ineffective because they

are available to so many areas that they do not provide one state or locality a competitive advantage over another; and (3) incentives have contradictory impacts on geographic areas, especially when it is expected that a firm receiving an incentive will contribute directly to reducing poverty and unemployment. The existing research suggests that many of these programs have not produced substantial benefits to communities, as judged by traditional economic development measures such as new job creation. Many of these studies, however, have been very narrowly focused so it is not clear how conclusive the results may be.

Existing research suggests that future economic development incentive research should (1) carefully select appropriate control groups for future studies (i.e., use an experimental evaluation research design); (2) use several economic performance measures and examine trends over the long term (i.e., use time series methods); (3) use net change indicators to judge impact; (4) implement basic cost-benefit analyses as the first step, but incorporate opportunity cost analysis in defining the cost factors; (5) attempt to research externalities and spillover effects resulting from changes or interventions in the economy; (6) examine incentive impacts on business profitability levels; and (7) examine program impacts on particular industry sectors.

Are the Incentives Offered Used in a Cost Effective Manner? Following up on the issue of a need for opportunity cost analysis, an important question not readily examined in much detail in the literature is whether incentive investments are being used in a cost-effective manner. Econometric models have seldom tried to examine the influence of individual incentive types on different program objectives, especially economic impacts. Studies using cost-benefit models tend to examine individual programs in isolation, but do not provide comparative analyses of the relative costs and benefits of different types of programs. There is a great need for research in this area, including modeling the relative net impacts and benefits of different types of incentives. This is a particularly important question to policy makers trying to make decisions about how resources ought to be allocated among a variety of economic development incentive programs with very different objectives.

*Formulating the Evaluation Questions:
Integrating the Views*

- ! Policy makers are interested in resource allocation issues
- ! practitioners focus on economic impacts and related management issues
- ! academics are interested in testing and defining causal relationships among policy options.

In many ways, policy makers, practitioners, and academics are all interested in different aspects of program performance and evaluation. Policy makers tend to be interested in resource allocation issues, practitioners focus on economic impacts and related management issues, and academics in testing and defining causal relationships among policy options. Thus, research by

academics may not be deemed as “relevant” by policy makers or practitioners especially when they test the premise for implementing a program unless the study finds that an incentive does not perform as expected.

Policy makers, interested primarily in receiving periodic performance reports, may not be satisfied with simple presentations of unanalyzed impact data, yet they may not be prepared to receive overly complex descriptive analyses either. Practitioners, involved in managing a program or activity assigned to them, may not be interested in collecting or analyzing data except as a way to demonstrate that their efforts are having a difference. Thus, to them, presentations of data suggest that programs have an impact, even when they are not benchmarked against past performance or comparable programs.

we must articulate the question and define a strategy in a way that recognizes the individual needs of the stakeholders and focuses on the most relevant questions to those demanding performance monitoring and measurement.

Consequently, the policy problem must be articulated and a strategy defined in a way that recognizes the individual needs and biases of the stakeholders and focuses on the questions that are most relevant to those demanding

performance monitoring and measurement. Those policy problems may be as fundamental as to whether a program works (if we are not fully convinced that it does). But most often, questions about program performance from policy makers and practitioners will presume a causal relationship and focus on describing the anticipated economic and fiscal impacts.

Fundamentally, the questions the monitoring and evaluation research must ask can vary widely from incentive program to incentive program, but the core monitoring and evaluation activity must determine the net economic and fiscal

impacts from the incentive as well as whether the incentive resources have been allocated as efficiently as possible.



Chapter 4.

Operationalizing the Evaluation Questions

Although broad policy questions are addressed first, the interest of the economic development analyst is typically more specific. For example, do finance programs influence business behaviors? Did an investment tax credit result in positive economic impacts? Is an export financing program a more effective use of resources than investing in a technology matching grant program?

Each of these questions provide guidance in developing a monitoring and evaluation system, but they often raise many other issues as well. How does one define “finance programs”? What exactly is the incentive under examination? What “business behaviors” are relevant to economic development? How should “economic impacts” be defined? What is an “effective use of resources”? How are “resources” defined? Answering these questions involves the conversion of abstract ideas into something that can be measured. The answers to these and related questions are critical to the design of the monitoring and evaluation methodology because the program manager, the Governor’s or mayor’s office, the legislator, the media, and the public probably have their own preconceptions about the answers to these questions.

Practitioner Note:

- Program goals should be turned into measurable objectives.

Interpreting Abstract Policy Questions

To answer an evaluation research question requires agreement on what the question really means. In other words, it requires “operationalizing” key concepts by converting the abstract ideas within the question into more concrete definitions.²³ Operationalizing a question involves two dimensions: (1) specifying which variables will be used to depict the abstract concepts in the question and (2) indicating how those variables will be measured.²⁴ Variables are often presented as one of three different types: a characteristic, an attitude (or orientation), or a behavior.

Understanding which of these types of variables are important to the key stakeholders (especially the customer for the evaluation) is valuable because it can help to turn an abstract concept, such as “economic development,” into a more useful idea for assessing performance, such as “jobs created.”

Three types of Variables

1. *Characteristics*
2. *Orientations/Attitudes*
3. *Actions/Behaviors*

The variables of an evaluation project are described by structuring and organizing them in some way. For instance, the behavior of the economy is described as a consequence of our incentive by discussing economic impact as a variable. Economic impact can be measured in any of a number of ways, including using statistics, adjectives, and even ratings. The evaluation's designers will also want to agree on the best approach to measuring the variables being studied. These measurements can dictate how the evaluation research is undertaken by influencing the type of data to be collected as well as the most appropriate analytic technique to be used. Sometimes measures, such as the number of jobs created, are used when less precise measures might be more appropriate.

From Abstract Policy Goals to Operational Objectives

Program goals are often stated in broad terms, such as a desire to enhance economic conditions or improve local competitiveness. On the other hand, practitioners need to operationalize the goals in ways that can be tracked and analyzed. The articulation of clear program objectives allows policy makers and practitioners to set policy guidelines and develop performance standards that are useful in measuring the effectiveness of the program. These guidelines, in turn, provide direction in defining performance measures, yet each must be described precisely to be valuable.

The dilemma for many practitioners is that they often select measurable objectives without consulting policy makers or other stakeholders to ensure that the performance metrics actually reflect the policy goals. Programs may be criticized for not contributing to a state or local improvement or not providing adequate information on results primarily because managers have collected and reported the wrong data. Several states and communities, however, have spent a great deal of effort in developing well-defined goals for their programs. These targets serve as criteria for determining when it is appropriate to offer incentives to businesses. For example, the State of Utah established the following guidelines in providing tax incentives to businesses:

1. The business must make a substantial capital investment in the state, signaling that it will be a long-term member of the community.
2. The business must bring new dollars into the state thus adding to the economic base.

3. The business must pay higher-than-average wages in the area where it will be located thus contributing to raising the state's living standard.
4. Incentives offered to outside businesses must also be available to existing in-state businesses, ensuring fairness in the availability of incentives.
5. The incentives must clearly produce a positive return on investment as determined by state economic modeling formulas, reflecting the value placed on the net public benefit from the project in fiscal as well as economic terms.²⁵

These guidelines provide direction for defining performance measures in very specific ways. Program managers should define goals and objectives in ways that provide structure in evaluating performance. Yet, these goals should also remain general enough to provide strategic policy guidance on what the incentive program is trying to achieve. If the measurable objectives do not map to the stated policy goals, then the performance information reported will not provide relevant information for determining a program's effectiveness. Meanwhile, objectives provide the measurable benchmarks against which project outcomes can be compared. It is also important to note that the measures selected imply a causal relationship between the incentive program and the outcome identified. If managers are not confident about that relationship, the measure may not be appropriate for the program.

Chapter 5.

Selecting a Research Strategy

The next step in designing a monitoring and evaluation system for economic development incentives is to develop a strategy for collecting and analyzing the appropriate data. Because there are many ways to combine collection and analytic methods, very little agreement exists among researchers about how to best categorize the multitude of research strategies.²⁶

Four Methodological Approaches

Recognizing the kinds of questions asked by economic development policy makers and practitioners, four basic strategies for evaluators were identified that are most relevant to incentive monitoring and evaluation: (1) experiments, (2) structured surveys, (3) case studies and histories, and (4) archival studies.

Practitioner Note:

- Experiments require identifying a comparable group to study that will not receive the incentive.

Experiments are a comparative evaluation approach that involves controlling for all variables except the one that is the subject of the study. Since it is virtually impossible to take people completely out of their environment, researchers have adapted this approach for the social sciences using “social” or “field” experiments. Field experiments represent an attempt to replicate a laboratory environment as nearly as possible in a social setting.

Proponents of experiments as a method for evaluating certain types of incentives argue that this approach can produce excellent information about the causal relationship between an intervention (the offering of the incentive) and an action (a firm’s decision to create jobs).²⁷ But experiments can be time consuming and expensive.²⁸ As a result, this approach has only been used to assess economic development impacts in limited circumstances, such as the implementation of pilot programs. The major disadvantage with this approach is that, once a pilot study begins, it is often difficult to keep experimental controls in place. Those not receiving an experimental incentive want access to it so that it is seldom possible to compare the pilot’s beneficiaries with a true control group.

Practitioner Note:

- Surveys can involve qualitative and quantitative analysis, using survey data collection tools.

Structured Surveys represent an evaluation strategy that can involve one or more of several different data collection tools and analytic techniques. Many of these tools involve using a questionnaire (of some form) to generate primary information from a study subject. They might be utilized through

self-administered written form or through interviewer techniques (including phone or in-person interviews). The analytic tools used to assess the results of surveys can be quite varied. Often, they involve quantitative analysis but the data might also be analyzed using non-quantitative techniques such as assessing the content of comments or exploring the meaning of nonverbal cues.

There are several types of survey designs.²⁹ The two most common types are cross-sectional and longitudinal surveys. Evaluations of economic development programs often use **cross-sectional surveys** which involve gathering and analyzing data from a sample selected at a specific point in time. Any number of comparisons can be made among respondents within the survey. For instance, the recipients of an incentive in one year might be surveyed to compare behaviors and attitudes among incentive recipients. Another approach, a **longitudinal survey**, involves examining variables over time, allowing the analyst to integrate a chronology of events in observations of different variables. In this case, incentive recipients might be surveyed over time to determine their investment behaviors after receiving economic development assistance. These types of surveys are difficult because they involve asking the same questions of the recipient at different intervals over a period of time.

Case Histories include two related evaluation strategies: case studies and histories. Both strategies involve studying a policy or program in which the boundaries between the policy or program and the context of the situation are not easily distinguishable.³⁰ For instance, a case may involve a company's selection of a site within a community. Case studies utilize multiple sources of evidence and also employ a variety of data collection approaches such as interviews, participant observation, secondary data sources, and field research to develop a story around each subject of study.

Histories also use similar collection techniques. One of the fundamental distinctions between history analysis and case study analysis is that histories are events that happened in the past while case studies examine current issues.³¹ Case studies can be constructed from data related to one case or focused on a comparative analysis of multiple cases. Single case designs, like single experiments, are useful to develop causal linkages. Case designs are also useful in assessing the unique factors influencing extreme or unique examples.³² A well-constructed and analyzed anecdote can provide a powerful description of a situation. Economic developers might use this

Practitioner Note:

- Case studies provide in-depth information about a single firm that might be generalized to other observations.

method if they are trying to reconstruct past events, such as the history of a past incentive and its impacts, as a way to understand how incentives influence business behavior.

Archival Studies involve the use of existing data sources to evaluate the impacts of a program or policy. Evaluation projects commonly involve the use of managed, organized data and the analysis of those data through a variety of qualitative and quantitative techniques. Traditionally, such studies involve identifying quantitative data from government or other secondary sources that can be used to test hypotheses through empirical statistical techniques. In quantitative analyses, these hypotheses are typically presented in a mathematical form that estimates how an intervention might impact upon certain variables. These mathematical “models” are very familiar to economists and are increasingly familiar to economic development analysts.³³ But these studies need not always involve quantitative analyses. On some occasions, these studies may use qualitative data sources to support an empirical analysis.

Practitioner Note:

- Economic models are generally a form of “archival” study using secondary data combined with primary data from company interviews.

Testing an Expected Relationship. Whichever research strategy is used, an evaluation study poses an hypothesis about how two or more variables will interrelate in order to construct a model. A model merely specifies the relative nature of the relationship between all of the independent “causal” variables and the dependent variable subject to prediction. Past research and knowledge helps the analyst to formulate the model and predict the causal relationships. The model simply reflects what logically might be the causal relationship. A model may be formulated that indicates causality, even where none exists. Thus, the model must be tested.

For economic developers, this is an important point. In reviewing different methods and models developed by academics or consultants, the economic developer should determine whether the predicted relationships make sense and whether these relationships have been confirmed in tests using real-life data. The economic developer should recognize that the application of a model to a specific program, project, or other data set is simply another test of the model’s predictive capabilities. It is also important that expected dependencies among variables are accounted for in some way. The economic developer should feel comfortable with the statements being made by the model or at least feel comfortable that the hypotheses being tested by the model are logical.

Quantitative models, particularly regression models, are the basis for most economic policy analysis.³⁴ An econometric model is simply a mathematical representation of the presumed relationships among multiple economic variables using statistical techniques. An econometric model typically includes a series of equations, each simultaneously estimating a particular aspect of the economy. This abstraction is designed to predict what might happen in the real-world economy. But it is by no means a precise representation of the economy because all models are imperfect. Each model varies in what it can explain as well as how well it explains what is happening. Yet, econometric models are depended upon heavily to estimate and/or predict impacts. Later in this report, the advantages, disadvantages, and uses of econometric models will be explored in greater depth.

A second type of model often used in analyzing public policy benefits is the cost-benefit model. Cost-benefit models, which are used extensively in every public policy arena, represent another quantitative modeling approach that compares the total estimated costs of a policy with the anticipated benefits resulting from that same policy. Using this methodological approach, the benefits and costs are all converted into estimated dollar values. Cost-benefit and related cost-effectiveness models extend from public accounting or finance approaches to estimating the relative performance of a program. This methodology also requires estimation of the expected benefits. Consequently, some of the inputs into a cost-benefit model are commonly determined (in part) by an econometric model.

Selecting an Approach for Monitoring and Evaluating Incentives

Selecting the appropriate strategy to be used in monitoring and evaluating economic development incentives involves making a choice among these four different approaches: experiments, structured surveys, case histories and archival studies. There are several basic conditions that influence the selection of one of the four strategies for an evaluation effort:

1. The kind of question being asked (e.g., exploratory, descriptive, or explanatory);
2. The control that the analyst or program manager has over the situation (e.g., broad control or little control);
3. The time period in which the event is taking or took place (e.g., present versus past);
4. The biases of the audience toward or against a specific evaluation approach; and

5. The availability of data.

Economic development practitioners must focus on using an evaluation strategy that recognizes their limited control over events. For instance, experiments are not viewed as a viable evaluation strategy for a program in which there is no discretion over which potential clients can receive an incentive. Furthermore, historical analysis is not a useful tool for economic developers focused on contemporary questions about the impact of the programs they manage. This leaves surveys, archival analysis using contemporary data or techniques that project data into the present, as well as case studies. Many policy makers depend on anecdotes as “case studies.” These stories provide the policy maker with important clues but they are fraught with bias and often poorly constructed for a true examination of the variables influencing a situation.

The pressure to find the “right answer” to a question prompts the search for an evaluation method in which inputs may be “plugged in” and the “facts” confirmed. This compels economic developers to use evaluation approaches that convert qualitative information into a quantified form. Quantitative analytic strategies are often more well developed in academic research and more heavily emphasized in traditional graduate-level research methods training. Economists, who have dominated the field in developing analytic techniques for economic development purposes, tend to be more quantitative in their approach to research.

Consequently, methods that are quantitative in their approach are often selected for evaluating economic development incentives. While important judgments can be made about a program from qualitative analytic techniques, the remainder of this report focuses on the quantitative evaluation approaches that economic developers and academics commonly employ. While not trying to persuade policy makers or practitioners about the relative merits of quantitative and qualitative methods, the report seeks to ensure that qualitative methods are recognized as being potentially important tools for examining explanatory and descriptive questions.

In deciding what kind of quantitative methods an economic development organization needs, it is important to note that there are two basic quantitative methods employed to assess the relative merits of an economic development program or project. One, **economic impacts**, focuses on the economic performance while the other, **fiscal impacts**, focuses on the net revenue consequences for public agencies resulting from the activity. Hybrids of these

methods integrate efforts to assess both economic and fiscal impacts. Each provides policy makers with an important gauge of a program’s merits, but no one method can provide precise results about what will happen in the future. The data required for both methods involves a combination of secondary and primary data. How the data are obtained will be discussed in the next chapter.

Chapter 6. Implications for Data Collection and Management

An integral part of selecting an appropriate strategy for monitoring or evaluating economic development performance is determining which variables will be examined and how best to measure those variables. This step of the evaluation design process includes a determination of the need for data elements, an exploration of the advantages and disadvantages of different data sources and an examination of the feasibility of collecting data that may not be readily available.

In determining which data to use, the availability, credibility, and reliability of the data must be considered. Data availability influences the evaluation strategy because the analyst must be fully aware of what information exists and how to address the gaps in the information that is actually needed. Data credibility influences how well the analysis is received by stakeholders. Data reliability affects the usefulness and relevance of data available for analysis.

Sources of Data

Economic development data are derived from two basic sources: primary and secondary. Primary sources include observations from study subjects about their own attitudes, orientations, and behaviors while secondary sources provide third-party data for broad audiences. Primary data can be gathered in a number of ways as described in Table 12. Economic development agencies often generate primary data in their company interviews, obtaining insights on the number of jobs the firm intends to create

**Table 12:
Primary Data Sources and Examples**

Sources of Primary Data	Examples
Direct observation	Company visit
Logs and diaries	Industry rep. project report
Written questionnaires	Business survey; permit applications; tax return
Telephone and in-person interviews	In-person firm assessment
Personal narratives	Testimony
Focus groups	Advisory Commission meeting; Board retreat

or the amount of investment the firm intends to make. These data are important to the analysis, but the credibility may sometimes be questioned because of the difficulties in verifying the accuracy of primary data.

Table 13: Commonly Used Secondary Economic Development Data Sources*

Type of Data	Product	Indicator	Source	Web Address
Labor Market Information	Local Area Unemployment Statistics	civilian employment, total unemployment, unemployment rate	U.S. Bureau of Labor Statistics	www.bls.gov/lauhome.htm
	Current Employment Statistics	nonfarm wage and salary employment, average weekly hours, average hourly earnings, and average weekly earnings	U.S. Bureau of Labor Statistics	www.bls.gov/790home.htm
	Covered employment and wages (ES-202)	monthly employment and quarterly wage information by 4-digit industry SIC	U.S. Bureau of Labor Statistics/ Dept. Labor/State Employment Security	www.bls.gov/cewhome.htm
Economic Information	County business patterns	employment by industry sector—establishments, sales, payroll	U.S. Bureau of the Census – Economic Census	www.census.gov/epcd/cbp/
	regional economic output	Gross State Product	Bureau of Economic Analysis	www.bea.doc.gov/gsp/
	trade data	import and export statistics	Stat-USA- U.S. Dept. of Commerce	www.stat-usa.gov/stat-usa.html
Business Information	Statistics of U.S. businesses	firm and establishment startups, failures, expansions and contractions	U.S. Bureau of the Census	www.census.gov/epcd/www/sb001.html
	business reference	business information, market profiles	Dun & Bradstreet	www.dnb.com/mdd/brsmenu.htm
Demographic Information	Census of Population and Housing	Population, income	U.S. Bureau of the Census	www.census.gov/main/www/cen1990.html

* For a comprehensive listing of economic development data sources compiled for EDA, see www.econdata.net

Like primary data, secondary data can be both qualitative and quantitative in form. One common type of secondary data used for evaluation reports is government-generated data. Such data are collected by an organization other than the entity being evaluated (or the evaluating entity). These data are typically collected for some other purpose entirely. In certain instances, it may be directly applicable to the needs of an incentive evaluation effort. In practice, secondary data tends to be quantitative in nature and is typically collected under scientifically rigorous conditions for general socioeconomic analysis purposes. Private vendors may be a source for secondary data as

well as government agencies. The U.S. Bureau of the Census or state employment commissions are examples of government data collectors. Many other secondary data sources could be used as well. Surveys or business-customer transaction reports exemplify the broad array of potential secondary data sources other than government. Table 13 provides a list of commonly used secondary data sources.

State of the Practice in Data Use

For economic development, secondary data are often used for performance evaluation, but the availability of those data can often be sporadic or too general.³⁵ Consequently, many development agencies turn to primary data collection strategies when seeking to gather information on program performance.

When developing performance standards for incentives, the most commonly identified standard is the number of jobs created. Notwithstanding questions about the causal relationship between economic development programs and firm behavior in creating jobs, this data element is considered a vital measure of the performance of a program. Increasingly, however, policy makers and practitioners alike agree that job creation may not always be the best indicator of success. To determine just how important job creation and other variables are to gauging performance, program managers were asked about the quantified measures they use. In particular, the study sought to learn whether data were being collected, and if so, what measures were viewed as most important.

Measurements Used and Data Collected

To analyze data, they must exist. As part of the national survey of program managers, a series of questions were asked on issues related to the availability of performance data. The first of these questions focused on whether the program managers or administrators collected performance data. As Table 14 demonstrates, the program managers were gathering some type of data for two of every three programs (or 332 of 501 programs).

But a more careful examination of the survey responses found some substantial differences in the proportion of programs for which performance data are being collected. For instance, while 79 percent of the non-tax incentive programs gather performance data, only 43 percent of the tax programs could report the availability of performance information.

Table 14: Timing of Data Collection Process by Tax and Non-tax Programs

Programs Collecting Data	Non-Tax (# of Programs/ %)	Tax (# of Programs / %)	All Programs (# of Programs/ %)
Collected Data	256 (78.6%)	76 (43.1%)	332 (66.3%)
During client contact	117 45.7% <i>(of data collectors)</i>	19 25.0% <i>(of data collectors)</i>	136 41.0% <i>(of data collectors)</i>
Periodically	115 44.9%	22 28.9%	137 41.3%
Annually	99 38.7%	48 63.2%	147 44.3%
After project completion	63 24.6%	13 17.1%	76 22.9%
Didn't Collect Data	70 (21.4%)	99 (56.9%)	169 (33.7%)

The timing of the data collection process can influence the quality of the data collected. Data that are collected during key points of the process – such as when the incentive is being offered as well as when the company creates the jobs or other intended benefits – tend to be more accurate than information collected after the fact. Program managers were asked when the data are collected and reported. The study found that data for a significant portion of non-tax programs are collected during the course of contact with a client (46 percent) or periodically within the first year (45 percent). At the same time, most tax data are collected on an annual basis (63 percent).

Types of Measures: Activity Versus Output/Outcome Measures

In the survey, program managers were also asked about the availability of different types of measures and how they related to performance monitoring and evaluation activities. Both monitoring and evaluation contribute important information to the policy maker and practitioner. Monitoring is particularly important for the day-to-day management of activities, ensuring that resources are being used effectively. At the same time, evaluation can contribute important information to the broader policy-making process, particularly in helping to determine how resources ought to be allocated for programs and to assess the likely cost-effectiveness of a program.

Performance monitoring and evaluation may involve examining both activity and output/outcome measures. To understand what information economic

Practitioner Note:

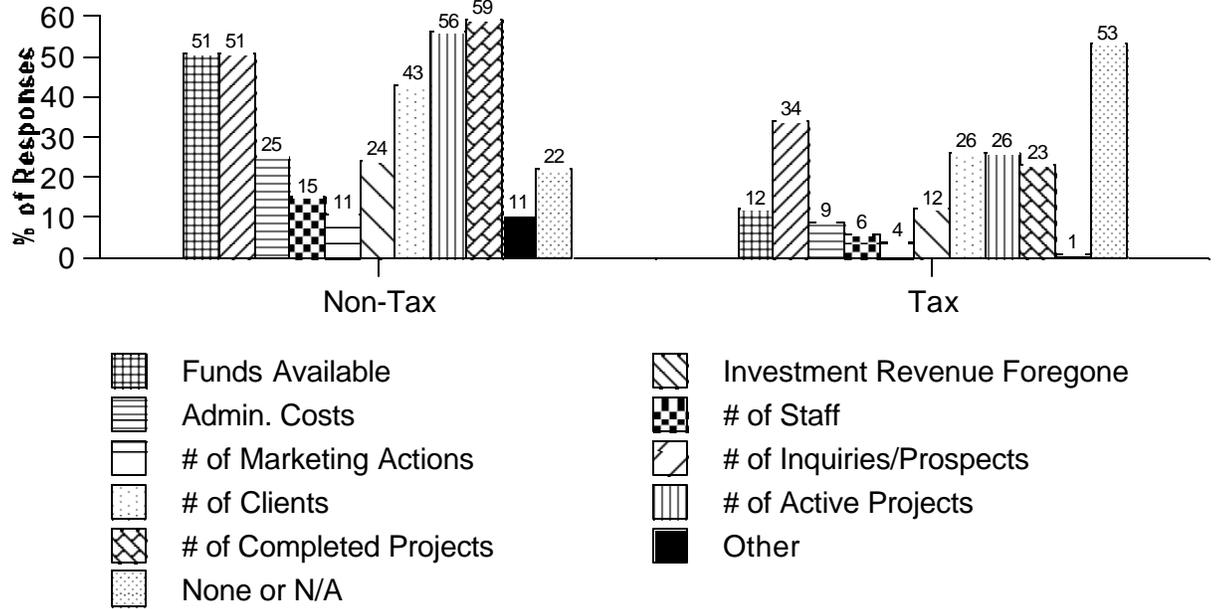
- The measures discussed here might be useful in developing new process or outcome measures for your incentive program.

developers are currently collecting, program managers were asked about the types of data they gather from their clients. One question asked about a series of activity measures and a second question that combined output and outcome measures. Activity measures are useful for management purposes in assessing program effectiveness and efficiency. Output/outcome measures help to ascertain the program's contributions toward overall policy goals and objectives.

Activity Measures

In measuring a program's activity, the number of completed projects is the most frequently collected data by non-tax program managers, followed by the number of active projects, the amount of public investment made, total dollars available for the program, and number of clients. For tax programs, the value of revenue foregone is the most frequently collected information, followed by the number of clients (or taxpayers), the number of active projects, and the number of completed projects (See Figure 4). Collectively, both non-tax and tax programs tend to utilize similar activity data but with different priorities. In addition to the above listed program activities, other measures mentioned by program managers include administrative costs of the program, the number of inquiries and/or prospects assisted, the number of staff required and marketing actions conducted for the program.

Figure 4. Activity Measures Used by Tax and Non-Tax Programs



Output/Outcome Measures

As expected, program managers or administrators identified the number of jobs created as the most frequently collected data element. This was true for tax program administrators as well as non-tax program managers. Non-tax program managers also identified the number of jobs retained, the amount of public investment made and private investment leveraged as other commonly collected data elements. For tax programs, the value of private investment leveraged, the number of jobs retained, and the value of firm payroll and/or average salary paid are other frequently collected data identified by respondents (Figure 5).

The Importance of A Variety of Measures

The data from the NASDA survey confirm that most economic development organizations currently abide by what one respondent called the “Jobs Mantra,” meaning that job creation is the chief justification for these programs. This focus on jobs as a measure of success has persisted regardless of the intent of the program (e.g., to reduce economic distress in specific geographic areas [mainly central cities] in the late 1980s and the 1990s).

Figure 5. Output/Outcome Measures Used by Tax and Non-Tax Programs

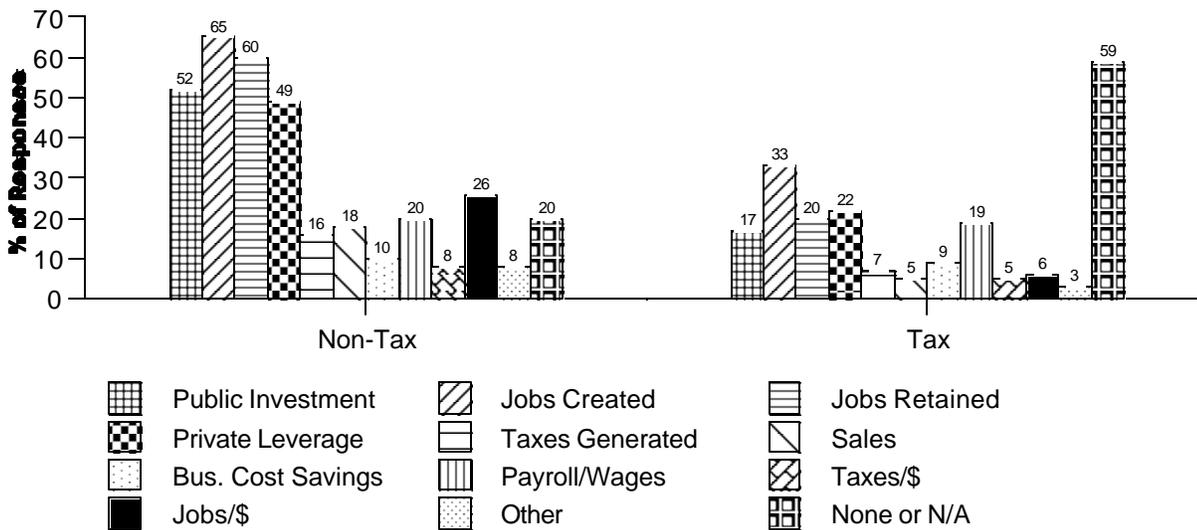


Table 15
Emerging Economic Development
Performance Measures

The follow-up interviews with policy makers and practitioners highlighted the issues in using jobs as a measure of program performance. We learned that most viewed jobs alone as insufficient in accounting for the contributions and costs of economic development programs. Many of those interviewed recognized that job creation will remain a widely used standard to measure performance, but a host of other indicators of economic health and vitality are likely to grow in importance. These measures tend to be more well developed in states and localities seeking to understand the myriad impacts of incentive programs (Table 15).

No single incentive program can meet all of the performance expectations held by all of a state or locality's stakeholders. The general purpose of an "incentive" is to motivate and reward behavior that is deemed desirable and appropriate in achieving an identified economic development policy goal. The key question is: what economic behavior should the program encourage in the future? This, of course, depends on the goals as defined by various stakeholders. Unfortunately, many program managers do not ask stakeholders to provide input on the measures needed to evaluate whether their goals are achieved.

The Role of Agency Discretion in Measuring Performance

The study team sought to understand why certain programs are not monitored or their impacts measured. Discussions with policy makers and practitioners suggested that agency discretion partially explains this phenomenon. Statutes governing incentives provide a varying degree of guidance on which companies are eligible for assistance and how an incentive might be applied. Guidebooks on how to design incentives suggest that one way to de-escalate the availability of customized incentives that contribute to "bidding wars" is to establish incentives within statutes.³⁶ Proponents of limiting executive branch authority to negotiate the amount and availability of incentives argue that "by-right" incentives – those prescribed by state law and available to all eligible companies – are inherently fairer and reduce the likelihood of perceived favoritism resulting from discretionary incentives. This raised the question of whether statutory flexibility or the lack thereof correlated in any way to an agency's interest in collecting data on the impacts of its incentive programs.

A review of the survey results suggests that the more flexibility an agency has in making decisions about the use of an economic development program, the more likely the agency is to collect data on the program's performance. The spring 1998 survey examined three dimensions on which any agency may or may not have management discretion: (1) the determination of an applicant's eligibility for an incentive, (2) the determination of whether an applicant will actually receive some form of assistance through the program, and (3) the determination of the amount of assistance to be provided. Some programs provide little or no flexibility in making these determinations because the guidelines are provided within the program's statutory mandate. Others offer managers some flexibility within a range identified in the statute. Still others allow broad discretion.

Program managers were surveyed about the level of discretion they have.³⁷ Only one in five respondents – managers of both tax and non-tax programs – indicate that their agency has broad discretion in determining which business or taxpayer is qualified to receive state funding or tax benefits. At the same time, nearly half (45 percent) indicated that they had little or no management flexibility. This was particularly true for tax incentives, for which 81 percent of the program administrators indicated that the eligibility and assistance guidelines were prescribed in statute (See Table 16).

**Table 16:
The Linkage Between Program's Discretion and Collected Performance Data
by Tax and Non-Tax Programs (No. of Programs/%)**

Collect Data? Management Flexibility	<u>Tax</u>				<u>Non-Tax</u>			
	Yes	No	N/A	Total	Yes	No	N/A	Total
Little or No	54/ (40.6%)	76/ (57.1%)	3/ (2.2%)	133/ 100%	58/ (66.6%)	28/ (32.3%)	1/ (1.2%)	87/ 100%
Some	18/ (66.7%)	9/ (33.3%)	0/ (0%)	27/ 100%	118/ (81.9%)	25/ (17.4%)	1/ (0.7%)	144/ 100%
Broad	4/ (100%)	0/ (0%)	0/ (0%)	4/ 100%	84/ (85.7%)	12/ (12.2%)	2/ (2.0%)	98/ 100%

In general, managers of non-tax programs have broader latitude in determining the applicant's eligibility and the level of financial assistance than tax program

managers. This latitude is particularly evident in determining the level of assistance that should be offered to applicants. More than 80 percent of respondents from tax programs (or 143 programs) indicate that the decision is limited by statute, and the administrators have little input as to how much a specific company would receive. However, nearly 55 percent of non-tax program managers (representing respondents managing 178 programs) claim that the agency staff plays a substantial role in making decisions about how incentives are invested. That role often includes the creation of general policy guidance established by the agency in determining which companies will receive assistance or a case-by-case analysis of each applicant's needs.

Since the executive branch has little or no discretion in making decisions about most tax-based incentives, then it should not be surprising that little staff time is allocated to assessing the impact of these incentives on a state's economy or monitoring the impacts of specific tax incentive proffers. Furthermore, disclosure laws in many states limit the information available to economic development agencies about a company's tax liabilities and payments. Consequently, many of the state tax incentives are actually monitored by state departments of revenue or taxation – agencies with no responsibility for the state's economic performance. These agencies are also hampered in their ability to share the data they gather from tax returns.

Some of the greatest data gaps found in the survey were attributed to lack of information about tax-based incentives. In short, legislatures passed tax-based incentives as a way to foster economic development, limit administrative bureaucracy, and minimize possible favoritism in the provision of incentives to firms. At the same time, the legislatures allocated few, if any, resources or mandated little responsibility to track the impact of these incentives. Consequently, with little bureaucratic involvement, neither the economic development nor taxing agency has an incentive to monitor performance or to report the impacts of the tax policy on the state's economic performance.

On the non-tax incentive side, the data available are slightly better, but questions of data credibility arise. Economic development agencies have often resisted requesting attitudinal or behavioral data from their clients. The agencies viewed such requests as intrusions into client privacy or are concerned that clients might consider such questions burdensome. Furthermore, the data often requested – about job creation or tax revenue generation – may not be directly tied to the provision of an incentive.

Increasingly, policy makers are asking for better information, and economic developers are seeking more reliable data collection methods to respond. As they become more educated about these issues, legislators and economic developers are demanding access to more credible and reliable data. State employment commissions and revenue departments are a valuable source that have long been off-limits to economic developers. However, economic developers are beginning to find ways to gain access to these data without compromising the confidentiality of firms reporting the information.

Chapter 7.

Conducting the Analysis

In examining the use of incentives, economic development policy makers and practitioners often question economic impact, net financial gain to the public, and the effective use of resources. The questions often lend themselves to quantitative analysis in which economic impacts or fiscal benefits are estimated from information collected from client firms. While case studies, experiments, and survey analysis can be useful in evaluating and monitoring economic development, two of the most frequently used analytic approaches are economic and fiscal impact analyses. These two methodological approaches can help policy makers and practitioners answer basic management and policy questions about an incentive's impacts on employment, economic activity, and public revenues. This chapter focuses on how to design monitoring and evaluation projects using economic and fiscal impact analysis.

Defining Economic and Fiscal Impact Analysis

Economic impact analysis is used to estimate changes in economic output as a result of an economic intervention while fiscal impact analysis is used to estimate net changes in public expenditures and revenues as a result of a public investment. In an economic development context, an incentive might represent the intervention to be studied by an economic impact analysis, or the incentive might represent the investment to be examined by a fiscal impact analysis. In both cases, the analyst's primary focus is on the changes that occur (in economic or fiscal terms) as a result of the incentive.

methods used to assess the relative merits of an economic development program or project:

1. economic impact methods examines effect of incentive on economic measures
2. fiscal impacts focus on the net revenue consequences for public agencies resulting from the incentive
3. hybrid methods assess both economic and fiscal impacts

Economic Impact Analysis. For decades, researchers have studied how different aspects of the economy interact and developed models of that interaction using a variety of mathematical estimation techniques. Researchers use these estimations to describe how they believe economic variables interact and achieve economic impacts. If you change one variable in the system, such as the amount of business investment or job creation that occurs, estimates in the equation change. As a result, the model estimates a different level of economic output. The change from the initial output to the new output (after

the variable has changed) represents the economic impact. Economic impact analysis, quite simply, can be used to examine the changes that occur as a result of economic development investments. These changes can be measured in different units, such as new employment or new gross regional product.

Fiscal Impact Analysis involves examining the costs of public policies and assessing their relative value to the taxpayer. Two basic strategies can be employed in conducting a fiscal impact analysis: a cost-effectiveness analysis and a cost-benefit analysis. Cost-effectiveness analysis examines the relative costs of providing a specific number of “units” of a public service. Those units are often measured in terms of outcomes. For instance, what are the number of jobs created per dollar of public funds invested? The major drawback to using cost-effectiveness is determining the “value” of an outcome to the public. How much is the public willing to invest to create a job? This is particularly pertinent when comparing two different outcomes, such as a job created and a new company created. Furthermore, the “value” of a new job can be quite different to taxpayers in a poor, distressed community than it is to a more affluent one.

Cost-benefit analysis addresses this issue to some extent by establishing a value for the benefits, then comparing the value of those benefits to the program’s total costs. The analyst defines the costs of a program, including direct costs associated with the incentive as well as indirect public costs that might not be captured by the incentive (such as new infrastructure investments or schools). Cost-benefit analysis also incorporates the time value of money, recognizing that a dollar today is worth more than a dollar next year. It also examines the impact on different levels of government, including the net revenue streams of school districts and city, county, and state governments. Fiscal impacts are useful in helping economic developers measure return on investment or to estimate the dollar value of an area’s total fiscal benefit from a project for each dollar of public investment.

As economic and fiscal impact analysis techniques have become more sophisticated, analysts have developed useful approaches that combine economic impact and fiscal impact analysis to create a comprehensive examination of a development project and the cost of an incentive.

Analyzing Impacts: The State of the Practice

The study team wanted to learn more about the types of quantitative analysis actually being performed on state economic development incentive programs.

In NASDA’s national survey, state agencies were asked several questions about their collection of incentive performance data. The survey revealed that the majority analyze the impacts of their programs in economic or fiscal terms. Specifically, these approaches include measuring economic impacts that emphasize the evaluation of total benefits in terms of income and employment, studying net fiscal impacts that concentrate more on the program’s relative costs and benefits. These approaches also evaluate the ratio of public benefits resulting from each dollar of public funds invested or the ratio of repaid funds for every dollar of public investment made. Of 326 non-tax incentive programs responding to this survey question, the majority of program managers analyze data by using one or more analytic methods and only 35 (or 11 percent) indicate that they collect data but do not conduct any further analysis (Table 17).

Economic impact analysis is used more frequently than any other analytic method for tax and non-tax incentive programs. However, the data illustrates that tax program administrators are much less likely to perform any economic or fiscal impact analysis than are non-tax program managers.

Table 17: Analytic Methods Used by Tax and Non-tax Incentive Programs

Methods Used	Non-tax	Tax
Economic impacts	160/ 49.1%	33/ 18.9%
Net fiscal impacts	22/ 6.7%	24/ 13.7%
Ratio of public benefits	52/ 16.0%	8/ 4.6%
Return on investment	49/ 15.0%	4/ 2.3%
Collected data but no analysis	35/ 10.7%	26/ 14.9%
N/A (includes no data collected)	67/ 20.6%	97/ 55.4%

****Note: respondents could choose multiple**

The study team also wanted to explore whether agency discretion in determining program eligibility or level of assistance influenced the type of analysis used. Most program managers who were allowed discretion in determining the eligibility of firms applying for assistance focused their analytic efforts on economic impact analysis. One major exception was among loan program managers who favored analyses that described the return on public investment (Table 18). For tax program administrators, fiscal impact analysis techniques were favored among those managing tax exemption and tax refund programs. Tax credit and mixed tax program administrators were more likely to use economic impact analytic techniques. For tax abatement programs, there is very little impact analyses, either fiscal or economic.

In analyzing the performance results, non-tax program managers often examined the results at a project (or individual deal) level while tax program

Table 18: Number of Programs with Agency Discretion Using Different Analytic Methods

Analytic Method	Economic Impacts	Fiscal Impacts	Other	None	Total
Non-Tax	26	1	19	4	50
Bond	3	0	0	0	3
Bus. Asst.	1	0	0	0	1
Equity	1	0	2	0	3
Grants	4	0	2	1	7
Guarantee	1	0	1	0	2
Loans	11	1	13	1	26
Mixed Financing	1	0	0	2	3
Other/NA	4	0	1	0	5
Tax	20	10	9	7	46
Mixed Tax	4	1	0	0	5
Credits	12	7	6	6	31

administrators were more inclined to examine results at an aggregated program level. This result echos the finding concerning the relationship between project size and the performance of data analysis. In addition, analyses of non-tax programs tended to define only direct public investments as a program cost while analyses of most tax programs recognized opportunity cost (i.e., foregone tax revenues) as an important part of defining total costs.

Organizational Management Issues

Program managers were asked to provide information about the tools they use. The majority of incentive programs do not utilize a formal computer model to conduct economic or fiscal impact analyses. Twenty-seven percent of respondents (representing 87 non-tax programs) indicate they use a computer model in undertaking program performance and impact analyses. The proportion of tax program administrators was even smaller, with only 9 percent (or 16 incentive programs) reporting they use a computer model to analyze program impacts (Table 19).

For the 87 non-tax program managers that use a computer model to undertake impact analyses, program staff members frequently ran the model themselves (as represented by 55 programs). In other cases, the economic development agency assigned this task to special research analysts within the agency who ran the model (in 22 cases). In some cases, the program manager ran a model, but it may not have been formally recognized by the agency. Only in three cases was an economic or fiscal impact analysis conducted by an outside consultant.

In the cases in which tax programs used a computerized model, the model is most commonly run by special analysts within the agency (in six cases). Program administrators were assigned the task of running the model in four other cases. Tax administrators hired outside consultants to operate their model in four more cases.

The Process of Estimating Economic and Fiscal Impacts

Economic and fiscal impact analyses are based most often on mathematical models that express a theorized relationship among variables. The values of key known variables, such as area employment, population, and income, are used as inputs into these models. In some cases, the inputs are estimated, while in others they are observed values taken from primary or secondary data sources.

These models are often developed as a series of equations that are packaged into a computer program. Several different modeling software programs are currently available for sale or lease from private vendors. In addition, several university or state government economists have opted to develop their own models. The most commonly used private models, REMI and IMPLAN, can be customized to individual states or regions.

Many users also opt to adapt a national model, RIMS II, developed by the Bureau of Economic Analysis, for their purposes. Modeling software, particularly prepackaged estimations, can be valuable tools but they are not precise. They typically provide approximate predictions of outcomes that are

**Table 19:
Use of Formal Model by Tax and Non-Tax Programs**

Use of A Computer Model	Non-tax		Tax	
Yes				
Operated by staff	55	(16.9%)	4	(2.3%)
Operated by special analyst	22	(6.7%)	6	(3.4%)
Operated by consultants	3	(0.9%)	4	(2.3%)
model Not formally adopted	7	(2.1%)	2	(1.1%)
No				
Don't Use a Model	121	(37.1%)	33	(19.0%)
Developing A Model	17	(5.2%)	7	(4.0%)
Based on Individual Needs	13	(4.0%)	3	(1.7%)
Hire Consultants	5	(1.5%)	1	(0.6%)
NA				
(Includes no data collected and no answers)	85	(26.1%)	11	(66.1%)
			5	

Practitioner Note:

A number of impact models already exist. The key is to

- Determine which, if any, makes sense for your needs and
- Determine what primary and secondary data, unique to your region, the selected model requires.

dependent on the accuracy of the data and the equations being used to estimate what will happen in “real life.”

Example 1: Impact Model

Local One-Step Economic Impact Analysis Tool Oklahoma Department of Commerce

The Oklahoma Department of Commerce developed a “One-Step Impact Analysis Tool designed to give local economic developers a simple way to assess the local tax impacts of projects. The Department’s Research Division reports that the program automated the Division’s activities and helps to educate local developers. According to the Department, the model provides a “quick estimate of impact” and “only seeks to give a rough picture.” For greater detail, a deeper review of project parameters is recommended.

An Excel 95 Workbook, the model provides defaults and simple assumptions enabling the user to input project specifications and quickly ascertain the sales and property tax gains that the locality or region would realize from a given project. A data entry spreadsheet provides the definitions and assumptions. After entering a few readily available data points, the results are seen on the output spreadsheet. The workbook also provides historical data, including *ad valorem* and sales tax rates for all cities and towns with sales taxes; a three-year history of tax rates and collections; an estimate of the amount of revenue generated by a one-cent and one-quarter-cent sales tax; and information from the 1992 Census of Retail Trade on the number of retail establishments, amount of retail sales, retail sales per capita, and dollars of income of Oklahoma counties and cities.

The Department’s Research Division distributed the software to 12 regional field representatives and trained them to use it. The program was also given to 20 public and private development professionals across the state. The Research Division also uses it in response to calls from local economic developers, about 3-4 times per month.

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Thus, these models can be extremely valuable tools, but they are subject to errors and should be used with caution. The software packages have been developed to reflect the most important factors that economists believe an economic development incentive will influence. Some of these packages are more complex than others. The very simple ones are designed for easy use by incorporating a limited number of these dependent factors. These simple models, such as Georgia Institute of Technology’s LOCI and Arthur Andersen’s Insight, can be very simple to use but they may require extensive data inputs and may ultimately provide less credible results than more complex software packages. Oklahoma has tried to address this issue for its community partners with the Local One-Step Impact Analysis Tool (Example

1). Likewise, West Virginia has developed a relatively simple model for analyzing project impacts (Example 2).

Example 2: Impact Model

**Project Impact Model
West Virginia Development Office**

The West Virginia Development Office (WVDO) has produced a fully automated project impact model developed with the assistance of Marshall University's Center for Business and Economic Research (CBER). The project began with an in-house model in Lotus format to estimate state and local public costs, public revenues, and net public revenues attributable to projects. CBER supplied inputs on a project-by-project basis using the state's IMPLAN model. The resulting model is in an Excel format that includes an electronic worksheet on which the user can enter inputs.

The model components include (1) a main worksheet for project inputs, tax information, public revenues and costs, operating assumptions, and cost and revenue summary, (2) a tax credit worksheet showing state tax credit calculations for the project, and (3) a database worksheet showing internal bases used in model operation.

The primary customers of the model are economic development representatives working at the local level and WVDO management staff who make project assistance decisions.

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The most complex packages can be very useful in predicting economic development impacts, but they can sometimes be so complex that they require highly trained professionals to operate and explain the model outputs. Regardless of model complexity, the economic developer should be an informed user who understands the model's capabilities and limitations. One of the most fundamental sources of problems with the use of models to predict impacts is user error. Often, users do not fully understand how to accurately interpret the results of an analysis.

Some states have opted to develop their own model because existing ones did not meet their needs. Utah, for instance, has developed a sophisticated economic and fiscal impact model. But most development agencies that have decided to build their own model have chosen to modify or add to a purchased model. Maryland and New York have each built models based on existing privately available ones.³⁸ This approach means developing a new model from the bottom up or adapting a model from existing privately available

software. It requires a highly technical staff and is often more expensive than initially anticipated. Unless an economic development organization has a research department with extensive staff skills in regional economic modeling, it may be too difficult to maintain and operate a customized model. Most economic development agencies seeking to conduct thorough economic impact analyses will likely opt to acquire economic modeling software. They will also need either to hire staff with capabilities in economic modeling or seek technical support from the model vendor, a university professor, or a private consultant.

The agency will need technical help because a good model can be quite complex. Even a simple model often requires a lot of data that are not readily available and must be estimated using other mathematical models. For example, several available fiscal impact models require the user to estimate the local supplier structure of the economy. Estimating the local provision of supplies and the percent of the retail sales made locally are two of the more difficult problems in developing a credible model, yet in these models users are expected to come up with the estimates on their own. As a consequence, an operator can unknowingly misuse the models or not understand the vulnerabilities of the resulting estimates.

By understanding the potential errors involved in estimating economic and fiscal outputs, economic developers can become smart consumers of the outputs of the model and will more fully appreciate the assumptions being made when the estimates are presented. Errors in the analysis often result because regional economists face many problems in constructing fiscal impact models and these problems do not have easy answers. Data limitations are the root of many of these problems. Efforts to collect primary data (by surveying firms, for example) are expensive and data used from existing sources can become outdated rapidly in a fast-changing economy. Also, the models may not always be user-friendly.

Even with these caveats, these models are valuable because (1) they provide a fairly educated estimate of impacts, (2) they offer a standardized way of achieving estimated impacts across projects or programs, and (3) they have a greater level of credibility with policy makers and practitioners than many other internally derived (or “back of the envelope”) impact estimates. In addition, a good model can help the economic developer think further about assumptions being made in using the model and examine different development scenarios. For example, a good fiscal model will allow the analyst to compare the

potential impact resulting from alternative funding options for an economic development project.

The following section describes the structure of economic impact models and then describes fiscal impact models. It identifies the drawbacks of specific modeling techniques and describes the models often used to support monitoring and evaluation activities.

Economic Impact Models

Economic impact models estimate the effect of an economic development policy, program, or project on an area's employment, income, or output levels. Their most common purpose is to generate estimates of the impacts resulting from specific projects such as attracting a new manufacturer, convention center, or tourist attraction. Most local economic impact models are "demand driven." In other words, they only estimate the impact on the area's economy of an increase in the volume of sales made to customers located outside the region. This typically occurs when a company expands its production capacity to serve new external markets. More sophisticated models may incorporate the supply-side component that can measure the impact of improved productivity due to training programs, better management practices, or changes in an area's relative production costs. It is important to realize that these models still require users to determine in advance how their projects will be funded (e.g., via tax increases or reductions in other services) since this will affect estimated impacts.

Demand-side Models

In the simplest sense, demand-side economic impact models estimate the impact of a new plant on an area's residents and other business sectors. The new plant has several connections to the local community:

1. The impact on the local supplier base as well as on other subsequent local suppliers
2. The increase in the personal consumption expenditures of the new plant's workers
3. The second, third, and later rounds of activities generated in the local area as new workers employed in the new plant's local supply chain and in the area's consumer sectors spend their earnings
4. The positive and negative impacts such as an increase in wage rates due to the new firm's impact on the area's labor market

Practitioner Note:

Economic base theory:
○ Distinguishes which industries contribute most to economic growth.
○ Serves as the fundamental principle underlying most economic impact models.

Most demand-side economic impact models are based in some form on economic base theory which defines jobs or other economic activity (such as sales revenues) in two forms: basic and non-basic. Since employment data are readily available at detailed geographic levels, most analysts use jobs as a surrogate for economic activity in conducting economic base analysis. In short, basic jobs produce goods or services sold or purchased by customers living outside the area of study. An office furniture manufacturer, an oil refinery, an auto plant, a convention center, a check-processing center, a telecommunications center, or a large amusement park are all typical examples of basic economic activities. Non-basic jobs provide goods and services to the immediate population and support the area's base sector; possible examples include retailers, personal services, small entertainment centers (e.g., movies and bowling), some business services, local parts suppliers and health providers.³⁹

Basic economic activities contribute to the growth of the regional economy because they are financed by revenues generated from sales outside the region. A portion of this new money is spent again and again within the region,

creating economic transactions that might not have occurred otherwise. The total economic impact of this flow of money as it circulates through the local economy is often estimated through the use of a "multiplier." As this money recycles through the local

economy, it generates a "multiplier effect" before it finally "leaks out" of the economy in the form of purchases made outside the local economy in payments to non-local resources.

This flow of new money through the economy contributes most to the "multiplier effect."

The lines defining basic versus non-basic jobs can become blurred very quickly. Making this distinction is not as simple as defining manufacturing jobs as basic and non-manufacturing jobs as non-basic. For instance, print shops that specialize in quick, customer self-service copies and small bakeries are examples of manufacturing sector activities that are not basic activities for large-to-medium-size communities. An auto-parts supplier can sell to both a local assembly plant and to others sited elsewhere. On the other hand, in rural counties or small metropolitan areas, a large retailer (e.g., a Walmart), a large retail cluster such as a regional mall, or a regional hospital can account for a significant part of the economic base.

Indeed, the definition of what should be included in the basic and the non-basic segments of the local economy depends upon both the size of the

community as well as the size of the industry sector under study. Many hospitals, bakeries, and banks produce for both the local and non-local markets. Many companies provide services or goods to both the local marketplace as well as to customers located outside the region. It is not accurate to say that every job created in these companies is a basic job; nor is it accurate to say that every job in these companies is a non-basic job. This problem is not so important in analyzing a very simple rural economy, but it can make analysis of the complex economies of states and metropolitan regions very difficult.

The task of identifying basic economic activity is important, but it is difficult to estimate what exactly should be included in the economic base. A model that identifies a region's economic base can help a practitioner or policy maker understand how important certain industries are to the city or region's economic growth by determining whether these industries represent core economic activities that are fundamental to the community or region's long-term viability.

How do you identify more precisely which jobs or sales revenues are new to a regional economy and which jobs or dollars are related to the "economic recycling" process? Numerous mathematical techniques have been derived to estimate the portion of basic and non-basic activities by industry; all with their problems and limitations. In fact, the dependency of demand-side models on input-output analysis is, in part, due to researcher efforts to better define the difference between basic and non-basic activities.

Input-Output Analysis

Input-output analysis can be considered as a sophisticated extension of the simple economic base analysis model described previously. It is highly useful in estimating whether the jobs or other economic measures of a specific industry sector (or even a company) should be considered basic or non-basic. Input-output analysis describes the transactions in terms of inputs to, and outputs from, firms in the economy.⁴⁰

Input-output analysis is the methodological backbone of most economic impact models. Many models commonly used by economic development practitioners, such as the Bureau of Economic Analysis Regional Industrial Multiplier System (RIMS-II), the Minnesota IMPLAN Group's Impact

Input-output analysis is the methodological backbone for most economic impact models.

Example 3: Regionalized Multipliers Based on National I/O Table

Regional Industrial Multiplier System (RIMS II) U.S. Department of Commerce

RIMS II provides employment, output, and income multipliers for either 38 major industry groups or 471 industry groups for single counties, clusters of counties, economic regions, individual states, and groups of states.

RIMS II uses location quotients (LQ) to regionalize its model. In particular, it uses earnings-based LQs for the agriculture, mining, and manufacturing industries, while for the all of the remaining industries it uses the personal income LQ. RIMS II is aware of the problems of using these regionalized LQs. For instance, the national input-output table provides technical coefficients for nearly 500 national industries, but data limitations constrict the construction of regional LQs to the two-digit industry level (which mixes computers and lawn mowers in the highly aggregated industrial machinery sector). The wage and salary component of BEA county-earning data has been expanded to the 4-digit SIC level, but confidentiality commitments prevent such highly detailed data from being released to the general public. Yet, the data are used in developing RIMS-II multipliers that are then aggregated to less detailed industry levels as appropriate.

The use of earnings data does not address all of the problems in creating a regional LQ. Earnings are only one component of an area's total income, which also includes transfer payments, dividends, interest, and rents, less social insurance contributions. By incorporating personal income into the denominators of the standard LQ calculations, the LQ accounts for the region's differences in non-earning buying power. Hence, the regional purchase coefficients are reduced where regional non-earned income is higher than average.

The cost of RIMS II multiplier outputs (at about \$600 per region for one or more counties) is relatively low compared with other models. (Rates subject to change.)

Analysis for Planning (IMPLAN) system, the Chicago Region Econometric Input-Output model (CREIM), and the Utah fiscal impact model, are all based on an input-output approach to describing economic activity. The Georgia Institute of Technology's LOCI-2 and the Arthur Anderson Insight models also incorporate an input-output component. In the broadest sense, the Regional Economic Models Inc. (REMI) Economic Impact Model could also be grouped in the input-output modeling camp. However, because the REMI model is so complex in its design, the model really belongs in its own category.

Example 4: Commercially Available Economic Impact Model

IMPLAN System USDA Forest Service/MIG Inc.

IMPLAN (Impact Analysis for PLANning) was developed by the USDA Forest Service to assist in its land and resource management activities. In 1993, Minnesota IMPLAN Group Inc. (MIG) opened to provide database and analytical tools, including the IMPLAN model. MIG is capable of providing estimates of final demand, payments, output, and employment for 528 sectors in every county in the United States (Lindall and Olson, no date).

IMPLAN is a standard input-output model based on the National Bureau of Economic Analysis 1987 Benchmark Input-Output Model. It is a static model that is not readily designed for forecasting purposes and is based on the standard input-output assumptions. Its regional purchasing coefficients (RPCs) are partially estimated from the 1977 multiregional input-output accounts (MRIO) developed by the U.S. Department of Health and Human Services. Supply-demand ratios are also calculated to serve as upper bounds for all RPCs to avoid the possible overestimation of the region's ability to be self-sufficient, which would in turn result in multiplier effects that are too high.

IMPLAN generates three types of multipliers for employment, output, personal income, and other measures: a traditional Type I multiplier, which measures the change in the region's economy due to inter-industry linkages alone, a Type II multiplier that incorporates the impact of household expenditures, and a Type III multiplier which includes the induced household expenditures effect. (IMPLAN's Type III multiplier is being phased out.)

The regional purchasing coefficients for the 24 manufacturing sectors were estimated using econometric regression models, while the services sectors (non-shippable commodities) are the observed MRIO values for the state. County-specific RPCs are estimated from the state MRIO equations.

IMPLAN provides a relatively low-cost input-output modeling system that has been heavily used by researchers nationwide. Except for the problem with the model's Type III multiplier identified by Charney and Leones (1997), the model has been well-regarded in the profession. IMPLAN can be built on the county-level, allowing the user to create a region to study. IMPLAN is not a forecasting model nor can it be adjusted to reflect the impact of changes in relative costs or new production efficiencies in the local area.

The cost is \$375 for the model software. State data to use the model varies from \$475 to \$1,900. (Rates subject to change.)

Example 5: Commercially Available Economic Impact Model

Regional Economic Models Inc. (REMI) Economic Impact Model

The REMI Economic and Demographic Forecasting and Simulation (EDFS-53) model is one of the most well-regarded and highly used economic impact models in the country. It is also one of the most expensive commercially available systems. The model's structure is complex but well-documented in academic journals. To a large extent, the REMI model is a modified input-output model; its uniqueness and strength is the sophistication of its modifications.

The user is not required to supply any data to "regionalize" the model. REMI is partially based on county-level data from *County Business Patterns* and the Bureau of Economic Analysis (BEA). It can forecast and simulate changes in demand and supply conditions for 53 industrial sectors, across 94 occupations, up to the year 2035. The user can enter other information on the regional structure of the local economy. Contained within its hundreds of equations are a relative-cost model, a labor demand and supply model, and a forecasting model. In brief, the REMI model can be broken down into five highly integrated components (Treyz et al. 1997):

Output component - This component incorporates an input-output model into a standard national income product account framework. The output of a regional industry is the addition of regional demand from area consumers, local government, business investments, and national and international demand for its exported goods and services.

Labor and capital demand component - The area's relative wage and capital costs to the nation are estimated and used to estimate the demand for labor and capital in the area through the use of a Cobb-Douglas production function. The higher the area's relative wage, the more capital intensive will be its industries.

Population and labor supply - Population change is estimated by a cohort-survival demographic model. The model has four components of net migrants of which economic migrants are the most important. Factors that affect economic migrants include economic and amenity factors. Economic factors include a probability function for an unemployed resident getting a job and changes in the region's real after-tax wages.

Wage, price and profit components - Production costs are estimated using a relative production cost equation, where the area's wage and capital costs are compared to national averages. Wage rates are a function of the demand for labor across 94 different occupations. Relatively high-wage areas (by industry) will lose business activities and achieve a below-average rate of growth.

Market share component - The market share component estimates both the regional purchase coefficients (RPC) for the region's industries and the region's export share (ES) of national and international sales. Both an industry's RPC and ES are based, in large part, on the relative competitiveness of the industry to its national counterparts. One of the more unique features of the model is that its RPC values are endogenously determined, being a function of the area's profits and industrial mix. Similarly the area's share of national and international output is a function of the area's firms' profits and industrial mix.

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REMI Economic Impact Model (continued)

One of the model's strengths is its flexibility: the user has over 2,500 policy variables that can be used to change population, production costs, employment, taxes, training, productivity, demand, and a host of other factors. The model also offers over 200 translator variables that allow the user to model changes in five different types of tourist activities and over 200 detailed industry demand shocks (Treyz 1997). It is also a forecasting model which allows the user to contrast alternative economic development scenarios.

From a more academic or technical view, the model is unique for its attempt to address many regional factors that other models ignore. For example, a standard input-output model is based on the assumption that an area's labor supply is completely elastic. If output is doubled, labor demand doubles without any impact on wages or any other costs. In the REMI model, an increase in employment in industry "A" will cause a wage increase in the occupations that industry "A" hires. The higher wage rate dampens profits for the industry and other industries that have similar occupational demands (Treyz 1993).

Finally, the model is easy to install and operate. REMI provides training assistance for model users. In fact, one of the unique features of REMI is that the model users have a major say in the research agenda for the REMI staff. Its annual users' meeting offers a forum for REMI staff and clients to share ideas on problems and new additions/modifications to the model.

Cost: One area, 53 industry sectors, purchase, \$46,000; 12-month lease, \$24,000; 3-month lease, \$18,250; individual study, \$5,600. (Rates subject to change.)

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The attractiveness of input-output models is that they generate estimates of local economic activity by providing estimates of local inter-industry linkages between the affected sectors. For example, if a new plastics firm is attracted into the area, an input-output model can estimate

1. The direct impact on all of the area's industries that could become part of the new firm's supplier base;
2. The impact on the area's retailers and consumer services by the new workers at the plant; and
3. The second, third and subsequent rounds of impact caused by workers employed by the plant's suppliers, as well as the area's affected retail and consumer services firms increasing their purchases.

An economic developer will not likely develop a model, but should be aware of the technical difficulties facing researchers in the construction of input-output models.⁴¹ First, it is extremely expensive to construct an input-output model of a region because it requires a detailed survey of business transactions with

other businesses. Moreover, extensive business surveys would be required on a regular basis to update the model's parameters. Instead, most regional input-output models are based on "regionalized" inter-industry linkages taken from a national input-output model developed by the U.S. Department of Commerce national input-output model. These estimates are useful, but it is important to note that this approach creates several problems in making an accurate regional estimate.

1. Users must typically assume that their regional industries' technology and cost structure are the same as the nation's average. This is problematic since the region's relative cost structure and technology determine the mix of inputs a firm uses in producing its goods or services.
2. Estimates of inter-industry linkages may be outdated. The U.S. Department of Commerce completed its most recent national input-output table in 1987. Since that time, changes in manufacturing processes (for example, the greater use of plastics and computer components) may have significantly altered the linkages between industries. Several technical and subjective approaches have attempted to update these inter-industry linkages. Although theoretical difficulties plague almost all of them, they do improve estimates significantly.⁴²
3. Estimates of regional purchasing coefficients must be calculated separately. The national input-output model provides estimates on the required inputs needed by area industries but, of course, does not provide any information on where they are produced domestically. The area's regional purchasing coefficients – the percentage of the area's input demand that is supplied by local producers – can be estimated using a variety of methods and numerous academic books and articles have been written assessing the competing techniques.⁴³
4. Input-output models do not recognize the benefits that companies gain from locating near one another. Input-output models are based on the assumption that all firms in an industry use the same mix of inputs. These models recognize neither economies of scale – per unit costs decline as output increases – nor cost savings associated with industrial clusters. Given the current interest in industrial clusters in many economic development efforts, it is important to note that modeling the impact of a more competitive and innovative industrial cluster would require the user to alter both the nature of industry linkages and the area's regional

purchasing coefficients (or the estimated proportion of each dollar transacted between firms in two industries).

5. Input-output models do not account for changes in wages and salaries or the cost of goods or services as a result of the new economic activity. A major expansion or new firm moving into a region can cause wages and other factory prices to increase, making the region less competitive than before the development. While the REMI model provides a means to estimate this dynamic effect, standard input-output models do not.
6. Input-output models work instantaneously so that all changes in the area economy happen simultaneously with the initial event. Obsolete or inefficient capacity, inefficiencies in area labor markets, and the necessary time required for businesses to respond to the increase in business activity will cause the impact to occur over a period of several years. This is not a problem if the user is seeking simply to estimate “before and after” conditions of the new development. However, if the model results are being used to drive a multi-year fiscal impact model, timing becomes a significant issue.

Despite these problems, input-output models provide the best means available to estimate the economic impact of changes in the local economy. Moreover, some inroads have been made to rectify many of their problems, but it is incumbent upon economic developers to be savvy about these models as estimating techniques.

Despite all of their problems, input-output models provide the best means available to estimate the economic impact of changes in the local economy.

Comparing Outputs from I/O Models: Understanding Multipliers

Input-Output models provide estimates of what is likely to happen. We also recognize estimates for what they are – predictions based on our best assessment of the known data. A lot of models in the private marketplace claim to provide sound estimates of the impacts of incentives. Which ones are most appropriate for our own state’s or community’s use? To answer this question requires an examination of the reasonableness of the output of an I/O model (the multiplier estimate) to make a judgment about the accuracy or credibility of different models.

First, what exactly is a multiplier? Economic developers are quite familiar with the concept of the multiplier. A new plant opens creating additional jobs and income within a region as a result of increased sales, more orders to suppliers

and added consumer spending. If a new plant employing 100 workers generates an additional 70 jobs in the area, then it is said to have an employment multiplier of 1.7. The multiplier is simply the ratio of the total regional impact that results from a new economic activity and the new activity's level of output.

Multipliers can be generated using different techniques and are different depending on the model being used.

Many economic developers do not recognize that each region and each industry has unique multipliers, and there are many different types of multipliers. Multipliers can be generated using different techniques and are different depending

on the model being used. An area's multipliers can vary across industries due to differences in industries' supplier-base, wage levels and, most importantly, productivity. To properly estimate a multiplier and the impacts resulting from new development activity, an analyst must use an economic impact model that reflects the particular regional linkages of a state's or region's key industries. Based on a variety of data, the model uses a series of economic equations to determine a multiplier that might be applied and can be used to predict the expected impact of the economic development project or program across the country.

In addition, there are different types of multipliers that estimate the resulting impact on the area's total employment, income, value added, and output. All share the same general formula in that the estimates are calculated by dividing the total impact by the initial change at the firm(s). Moreover, multipliers differ in the level of activity they estimate. Some only estimate the impact of the project on the "first tier" of suppliers. Some estimate the impact on all suppliers, and others estimate the impact of the new economic activities on households as well as businesses. To complicate the issue further, different economists have given different names to each of these multipliers, resulting in confusion for those using multipliers in estimating economic impacts. In short, there are four general "levels" of multipliers that are often used in presenting the estimated impact of a new economic activity in the area:

1. ***First-round effects multiplier.*** This multiplier estimates the impact of new activity on its first tier suppliers. For example, a new \$100 million order for a region's office furniture company may result in a new \$25 million order for an area's fabricated metals company and a \$10 million order for a local plastics firm. The summation of these first-round impacts divided by the initial new order generates the multiplier. Some economists label this multiplier as a "Type I" multiplier which,

unfortunately, is the same label other economists give to another type of multiplier, which is called the “indirect effect multiplier” in this report.

2. ***Indirect effect multiplier.*** This multiplier estimates the impact of the new activities on all suppliers no matter how removed from the initial order. For example, this multiplier estimates the impact on the printing company that generates the shipping labels for the boxes created to transport the plastic components ordered by the office furniture company. Not surprisingly, the *indirect effect multiplier* is always larger than the first-round effects multiplier. In addition, it is more difficult to calculate on a regional level because, while it is fairly easy to identify local first-round suppliers, it becomes very hard to track down the suppliers to the suppliers. Some textbooks and economists call this multiplier a “Type I” multiplier while others label it “Type II.” This multiplier provides information on the business supply chain, but it does not capture the economic impacts resulting from increased household expenditures “induced” by the new activity.
3. ***Induced and indirect effect multiplier.*** The *induced and indirect effect multiplier* adds the impact of increased household spending on top of the indirect effect of the new activity on the business supplier base. In addition, this multiplier captures the indirect effects on the suppliers of firms meeting the needs of households. This is the most comprehensive of all multipliers. Some texts and analysts label this multiplier as a Type II while others call it a Type III.
4. ***Modified induced and indirect multipliers.*** Some models provide a modified induced and indirect effect multiplier. Mathematically, a standard induced and indirect effect multiplier will tend to overestimate the impact of consumer spending on a local economy. The overestimation occurs because the basic technique for estimating the induced and indirect multiplier noted above does not incorporate practical limits on the anticipated effects of the new development activities on consumer spending. Because of this, several models generate a *modified induced and indirect multiplier*.

The IMPLAN model, for example, offered a modified induced and indirect multiplier that is labeled a “Type III multiplier.” IMPLAN’s Type III multiplier recognizes that the proportion of income dedicated to most consumer goods decreases as the individual’s income rises. However, this multiplier estimate is problematic because researchers have found that the IMPLAN Type III

multiplier does not respond well to changes in the wage structure of certain types of jobs, and it overstates some of the impacts resulting from relatively low-wage sectors while understating certain impacts in relatively high-wage sectors.⁴⁴

Multipliers generated in the REMI model are even more complex because REMI incorporates other elements in their multipliers, including endogenous investment, government, labor intensity, export, and import responses to a specific development activity. For example, a new plant opening in an area will push up labor costs causing the area's export share to decline and labor intensity to lessen as firms substitute capital for labor. At the same time, government and import expenditures would expand due to the increase in the area's income and population generated by the new plant.

The practical question is which of these multipliers should be used to determine impacts? It depends on the analysis. The most conservative approach is not to use a multiplier at all or use only the "first round effects," as they are easy to identify. A recent survey of state economic development research offices suggests that nearly half utilize this conservative approach while nearly one-third use indirect effect multipliers. Of course, the modified or unmodified "induced and effect" multipliers are more useful in describing the overall effects of a policy on a complex economy. Whichever one is used, it is less important to select the "right" multiplier than to be up-front with the lay consumer about which multiplier is being used and what it means to the analysis. Likewise, the consumer wants to know which multiplier is being used and the differences in estimated impacts using each type of multiplier.⁴⁵

Several studies have been completed comparing the multiplier estimates generated by the leading economic models, including IMPLAN, REMI, and RIMS II. In analyzing the three models, one study found that IMPLAN multipliers tend to be larger than REMI and RIMS II, while REMI multipliers tend to be smallest.⁴⁶ In fact, IMPLAN's employment multipliers were the largest in all sectors except for the real estate sector, where RIMS II proved to be the largest. The relative magnitudes of the output multipliers in all sectors, excepting one case (miscellaneous manufacturing) where REMI reports the largest multiplier. Overall, the REMI and RIMS II multipliers are statistically indistinguishable. However, when the researchers benchmarked the IMPLAN and REMI models to control for differences in the definitions of their multipliers, all three multipliers were statistically indistinguishable from each other. Other researchers have also found similar results in comparing the IMPLAN and REMI models.⁴⁷

But how accurately do these models actually estimate the real live multiplier effects? Only a few studies have been completed that examine this issue.⁴⁸ In general, these studies found that RIMS II, IMPLAN, and REMI generate similar results if used correctly and adjusted for structural differences in the economy under study.

Using a previously determined multiplier by an existing model (such as RIMS II) may be quite reasonable for estimating the economic impacts from small programs or projects. Yet, regional multipliers should be used with caution. Computer models have become a “black box” from which a program’s proponents or opponents can choose a “synthetically derived” regional multiplier. Novices using these multipliers may not understand that these figures are indeed estimates and subject to large errors in any individual circumstance.⁴⁹ Overstating economic impacts occurs frequently. Policy makers and practitioners who use multipliers have reasons to be suspicious of multipliers generated by formal economic impact models, but they should be even more cautious if the multipliers are generated without sufficient analytic foundation. For most single-county regions, practitioners should be suspicious of an estimated unemployment multiplier greater than 2.5 (1.5 indirect jobs are created by each of the project’s new hires).

Some critics even argue that it is prudent to exclude multiplier effects in state economic or fiscal impact analyses. While this would be a conservative approach to assessing impact, it may also result in serious measurement errors, particularly in understating the estimated impacts. First, sales and payroll tax revenues will be underestimated without including the project’s full economic impact on the area. Second, ignoring the secondary and induced impacts resulting from a project could cause the analyst to underestimate the resulting public costs such as traffic congestion, wastewater usage, and heightened education demands.

Supply-side Models

As discussed earlier, most economic impact models are demand-side models in that a change in the demand for a company’s goods or services generates the resulting change in the region’s activities. Another set of models attempts to estimate the impact of supply-side changes, such as a change in the area’s tax structure, package of economic development incentives or resource base. Indeed, most business incentives operate on the supply side by lowering costs. For example, a 10 percent reduction in state and local business taxes that is

not offset by a reduction in public services to businesses can lead to a long-run increase of 2.5 percent in state or metropolitan area business activity.⁵⁰

Supply-side models attempt to estimate the impact on a region's economy that results from reduced costs to businesses or investments that may not directly affect the firm's bottom line. For instance, supply-side models examine the economic impacts resulting from a reduction of the overall business tax burden, enhanced business infrastructure or new training opportunities designed to increase productivity. Overall, these models can be divided into two categories: (1) aggregate measurement models and (2) hypothetical firm models.

The *aggregate measurement models* include standard summary statistics regarding a region's business tax burden or generosity of its economic development package into a series of econometric equations to estimate the economic impact of changes in the area's business cost on business decisions. Typical summary statistics include economic development incentive expenditures per \$1,000 of business investment or per job created, average effective business tax rates, or per capita tax estimates. Program counting is another means to compare the relative economic development aggressiveness of one area to another. The advantage of this method is that most data are readily available and that these tax burdens or economic development expenditure estimates can be added to other business characteristics to estimate an overall business environment indicator for the region. Unfortunately, this methodology has a serious limitation in that average business tax rates can be dramatically different from the marginal tax rate facing a specific-size firm of a given industry looking to invest in the area.

The *hypothetical firm model* is a major improvement over the aggregate measurement model. In the hypothetical firm approach, specific business tax rates and standard economic development incentives are estimated by type of business (industry and size) for the given state and its major competitors. The Tax Incentive Model (TAIM) represents one of the most comprehensive hypothetical models developed to date.⁵¹ TAIM incorporates tax and economic development expenditure data for 112 cities in 24 states and estimates their impact on "large" and "small" firms in eight manufacturing industries. The hypothetical firm model can be highly disaggregated so that it can model marginal effects on firms for specific projects. The model is used to estimate the firm's actual taxes to better understand the actual value of incentives or other economic development programs on the firm.⁵²

This approach may model the impacts of economic development programs and incentives more closely than any other, but it can be very time-consuming and expensive because it demands elaborate data gathering. The effectiveness of a region's business incentives can be estimated only by comparing them to those of its competitors. Hence, the analyst must gather data on all perceived competitors. The model must constantly be updated to reflect the ever-changing packages of economic development incentives being offered by the competing areas. Another limitation of this approach is that it cannot accurately incorporate incentive packages offered for special projects since these are negotiated on a case-by-case basis and may be difficult to predict.

Supply-side models, such as the hypothetical firm model, are very useful in estimating the impact on a firm's "bottom line" of tax incentive and economic development expenditures. They have been found to be extremely useful in evaluating the impact of changes in specific business taxes to firms. However, cost reduction is only one factor that firms consider when searching for a site. The growing interest in industrial cluster analysis, for example, shows increased awareness that location decisions rest on other factors, including demanding customers, fierce competitors, a highly qualified supplier base, and excellent public services and amenities, in addition to low costs.⁵³ Finally, another problem facing researchers in developing models that estimate the impact of government funded supply-side measures is the difficulty in measuring the impact of foregone revenues allocated to economic development incentives on the reduction of public services to businesses.

In short, demand-side models based on input-output analyses are currently more widely used than these supply-side models. For many purposes, particularly for making decisions about the allocation of resources, the demand-side models in their current form may be more useful to economic developers. However, in studying the relevance of many tax incentive programs and in determining the bottom-line impacts on firms, the supply-side approach (particularly the hypothetical firm model) may prove to be a useful analytic approach if the data issues can be overcome.

Fiscal Impact Models

Fiscal models are designed to estimate the net public cost of development activity.

Unlike economic impact models, fiscal models are designed to estimate the net public costs or benefits associated with development activity. In the past, residential development has received the greatest focus in fiscal impact analysis because there is a clear relationship to school expenditures, public safety, and traffic congestion. Typically,

commercial or industrial expenditures have received less scrutiny, in part because they were often seen as having much less direct demand for public services. However, researchers now are probing the more difficult problems of measuring the fiscal impact of nonresidential development.

Many economic developers view fiscal impact analysis as a simple cost-benefit exercise. In this view, benefits are the value of the jobs created in terms of tax revenues gained, and the costs are limited to the value of the incentive being offered. This simple view often ignores the value of added public service costs, thus it is important to recognize that estimating costs and benefits in an accurate and credible way can be quite complex.

Estimating Costs for Fiscal Impact Analysis. In developing a fiscal impact model, there are four key cost factors that a fiscal impact model should estimate:⁵⁴

1. the cost of direct public service demands generated by new or expanding businesses;
2. the public service costs resulting from population growth;
3. the cost of expanded infrastructure capacity required to handle new business activity and population; and
4. the cost of non-tax incentives or tax rebates.

Attempts to track further secondary impacts can create more difficulties, particularly double counting both costs and benefits.⁵⁵ For example, attempts to measure the impact of a new development on the values of neighboring properties are problematic. A new shopping center may increase property values of surrounding parcels but at the same time decrease property values in older retail areas nearby. In general, analysts should avoid these complicating issues by disregarding attempts to measure impact of secondary development, such as the fiscal impact of increased retail development resulting from the population increases caused by the original industrial development under study.

The analyst can determine the cost of each new "unit" of public service to be purchased using one of two methods: *an average cost or marginal cost approach*....The analyst's responsibility is to determine which of these approaches is most reasonable, given the likely use of the cost-benefit analysis results.

Estimating the additional public service demands generated by a project can be particularly problematic. Quite simply, the exact amount of new public services cannot be determined,

but a cost can be estimated by assuming that the new development will "buy" a

certain number of “units” of the public services. First, the analyst must determine which units represent costs for the project. Then, the analyst can determine the cost of each new unit of public service (e.g., additional fire protection, police protection, water, sewer) to be purchased using one of two methods: *an average cost approach* or *a marginal cost approach*. Each of these approaches can be implemented in different ways. The analyst’s responsibility is to determine which of these approaches is most reasonable, given how the cost-benefit analysis results will likely be used.

In determining the average cost, the total cost of the public service (including fixed costs) is divided by the total number of units being offered, thus resulting in an average cost per unit. For instance, one might consider the cost per police officer or cost per gallon of water pumped. In determining the marginal cost, the analyst determines the cost of adding the last unit and estimates that the cost of adding the next unit will be approximately the same. Marginal costs often do not include fixed costs, like the expenses associated with adding a new fire station or a new road into an industrial park.

The average cost approach, by far the easiest method to estimate, is heavily used in fiscal impact modeling. However, it is vulnerable to large errors in that it does not take into account existing excess or inadequate capacity. While in the long run, cost estimates generated by the two methods may be similar, the cost projections for specific projects or programs can be strikingly different.

In areas experiencing rapid growth, the marginal public costs of new development will most likely be greater than the average costs. New development could strain already overused public resources such as streets, wastewater capacity, and public schools, forcing major capital infrastructure expenditures. On the other hand, an area that is experiencing slow growth or had a past period of economic decline may have very low marginal costs in adding new development particularly if there is plenty of capacity within the community’s existing infrastructure.

In short, for older central cities that have suffered economic and demographic stagnation or decline, estimations using marginal costs may be preferred because they more closely reflect the actual cost of providing additional services while marginal cost estimates tend to be lower in these regions than estimates using an average cost approach. For rapidly growing areas, such as urban edge cities, marginal cost estimates (including costs for any new fixed assets that may require investments) are more likely to be accurate, but they will yield cost estimates well above those derived using average costs. Not

surprisingly, it is in the moderately growing areas where average cost and marginal cost of new development are most similar.

Approaches to Estimating Average Costs. Because average cost estimates are often easier to derive, the techniques are typically used in fiscal impact analyses. There are a number of ways to estimate average costs. These include the per capita or household cost estimation, the service standard model, and the proportional valuation model.

Because many public services are available to everyone, some researchers deem it appropriate to divide the total cost of all services by the population and use “per capita” costs.⁵⁶ Because no two people feel the same about the value of the service, this per capita cost cannot provide a precise measure of the increased cost of providing services for a new development, but it provides a reasonable guideline of the additional public expenditures required for an economic development project. This **per capita or household cost estimation** is probably the most often used method in calculating the average cost of a project.⁵⁷ In this approach, the existing average costs of serving the area residents are simply applied to the change in population that is generated by the new development. This method rests on two key assumptions:⁵⁸

1. Today’s per capita operating costs are good estimates of future per capita operating costs and
2. Today’s public service levels are good estimates of future public service levels.

Approaches to Estimating Marginal Costs. While estimates using average costs may be easier to derive, marginal cost estimates are often more likely to be relevant. Yet estimating marginal costs can be quite difficult and cumbersome. They often take more resources, time, and money to prepare.

The most often used marginal cost approach is the **case study**, in which the analyst interviews public officials and gathers statistics to derive the estimated marginal cost per department. In estimating marginal costs, the whole cost of the needed expansion is charged to the new development. There may be no better way to generate the detailed information required for gaining information about the fiscal impacts of a project.⁵⁹ However, case studies can be expensive to prepare. In addition, the analyst may not find hard numbers on the potential cost of the development. In these cases, the researcher is forced to depend upon the subjective opinion of department heads who may provide average-cost-generated estimates.⁶⁰

Example 6: Commercially Available Fiscal Impact Model

Economic Impact Analysis II (INSIGHT MODEL) Arthur Andersen/American Economic Development Council

The Arthur Andersen Economic Impact Analysis II model (also known as the INSIGHT MODEL) provides a highly detailed and flexible fiscal impact model for local government. The model's purchase price includes an intensive two-day course based on a handbook that discusses the strengths and weaknesses of input-output modeling and average and marginal cost pricing. The course also offers suggestions on how to present the model's findings to policymakers.

The model relies on an average cost pricing approach. In particular, the model divides the resulting costs of economic development into those costs associated with residential development (per capita estimates) and nonresidential costs (per employee). The user must allocate public expenditures as commercial-related or residential-related across the major governmental departments. The user should meet with department heads to estimate the per capita and per employee costs for expenditure categories. In estimating the total costs and benefits associated with the project, RIMS II employment multipliers are used to estimate the indirect benefits to the community of the development in terms of new total earnings and employment. The model provides the user with only statewide RIMS II multipliers so the user should be careful because these multipliers may overestimate the indirect impacts. In addition, the model does not attempt to measure the costs or benefits associated with the workers moving into the community due to indirect economic impacts.

The manual estimates that it will take the user approximately 30 to 40 hours to collect the data necessary for constructing the model. An annual update of the model will take an estimated 20 hours. But, the model also leaves the user with many difficult questions to answer without the benefit of a suggested default value. While most users appreciate the opportunity to fine-tune and adjust purchased models to the unique structure of their community, they may not have the data on several of the input values required. The data required include the percentage of construction and other materials purchased locally, full-time equivalent construction workers and facility employees who reside in the subject county, total furniture and fixtures purchased within the subject county, and other newly purchased equipment from within the county. Analysts are also asked to estimate the number of full-time equivalent employees who will be hired from the county's current employment base, the number of new employees at the facility who will not be residents of the county, and the percentage of retail sales that will be spent within the county. Default values, or at least a suggested "back of the envelope" estimating procedure, would be helpful to most users.

The model's generated reports describe the assumptions used in the development of the fiscal impact analysis and a summary of project returns, including an estimate on the payback period for the initial public cost of the project, return on investment, net present value, and a modified internal rate of return. The cost is \$1,100 for members of the American Economic Development Council and \$1,200 for non-members. (Rates subject to change.)

Example 7: Commercially Available Fiscal Impact Model

LOCI-2 Fiscal Impact Model Georgia Institute of Technology

The Georgia Institute of Technology's LOCI-2 Fiscal Impact Model ventures well beyond other models in providing estimates for direct fiscal impacts of a new plant. It also attempts to measure the full indirect impact such as added property tax revenue generated by persons moving into a area because of a plant opening. However, this feature relies upon the user's perception and a simple input-output model.

The model offers three levels of analysis to measure the impact of a new business:

- ! **Level 1 is an estimate of the fiscal impact of the construction phase and the ongoing operation of the plant.** Fiscal revenues at this level include only (1) sales taxes generated by purchases of goods by the facility and its workers and (2) the facility's property taxes. Costs include only initial public development costs and public service costs generated by the plant's daily operations.
- ! **Level 2 adds the fiscal impact of the plant's employees to the Level 1 impact Revenue estimates are expanded to include increases in residential property taxes, user fees paid by new residents and public revenues from other indirect economic activities.** The public costs of providing services to the plant's employees are estimated. Added costs include services as public safety, recreation, and utilities. Costs are based on an average per household calculation.
- ! **Level 3 adds to the impacts of Levels 1 and 2 the full multiplier effect of the facility's purchasing of goods and services from local suppliers and the employees' purchases of goods and personal services from local retailers.** Revenues include local sales taxes and residential property taxes generated by new residents who do not work at the facility but moved to the area due to its increased growth. Also included are property tax revenues from new commercial and retail construction caused by the plant's opening. Costs estimates include the added cost of providing public services demanded from increased commercial, retail and residential development.

To use the model to its full extent (Level 3), users must enter estimates on several difficult-to-obtain variables. To estimate the indirect impact of a new plant, users have two options: (1) supply the model with both an average employment multiplier and an income multiplier for the area or (2) enter local data into a small input-output model component contained in the model. To use this component, the user must (a) provide estimates of the value added per dollar of revenue and revenues per establishment for the area's manufacturing, retail, service, and wholesale sectors and (b) estimate the amount of purchases that the new plant will make from local suppliers in addition to estimating the suppliers' value added to the supplier industry's overall revenues. There is a large probability of error in the Level 3 analysis and the data requirements are very demanding.

A fourth level estimates the fiscal impact of visitors and tourism on the community.

The economic impact component of the model is not of the same quality as using RIMS II or IMPLAN models, but the cost is modest (\$350.00 for a Single CPU model and \$50.00 for program files and technical documentation—subject to change). Purchase of the LOCI-2 model does not include a training session.

Revenue Estimates. Revenue estimation is more straightforward than cost estimation and subject to fewer problems. Property, sales, and income (payroll) rates are known. Given the (1) number of new jobs created and their expected wage rates (both should be available from the developer), (2) expected utility usage, and (3) area employment, income, and demographic multipliers, it is then easy to estimate potential revenues. For miscellaneous revenues such as parking fines or park fees, a per capita method is most often used. Most tax incentives can be considered a “negative” revenue. They reduce the amount of revenue to be generated through foregone taxes or fees.

Capital investments can be estimated from building permits data and property tax records, in most instances, as well as from the information provided by the firm itself. The business would know best what its intended market area is and what portion of its potential customers will be in-state and out-of-state. If the firm is unable to provide this information, techniques for estimating this information can be used. Economic impact models represent a useful way to estimate many benefits, including the portion of sales that result from the “average” firm in the industry that is generated by out-of-state customers. Finally, ES-202 employment data (collected by state employment security offices) can be used to verify the wage rates being paid by the firm.

Key Issues in Implementing Fiscal Impact Analysis

In general, fiscal impact models are based on a relatively simple concept— that benefits to taxpayers for economic development activities should be greater than costs. To be useful, a fiscal impact analysis must have good inputs describing economic activity. This often requires economic impact analysis, and commercially available fiscal impact models rarely contain good economic impact components. Even though users may not typically have the necessary data, many of these fiscal impact analyses call upon the user to provide the needed economic impact information, including an employment or output multiplier or an estimate of the percent of goods and services demanded by the area's businesses and households that is supplied locally.

Unlike economic impact models, fiscal impact models can readily be built to incorporate unique local conditions and data. Moreover, if a local area builds its own fiscal impact model then it can use a marginal cost approach and avoid relying on average cost measures. The user can estimate each department's costs to determine the expected increase in the marginal cost of serving the new economic development activity.

Example 8: State-Sponsored Integrated Economic and Fiscal Impact Model

Resource Allocation Model Maryland Department of Business and Economic Development

The Maryland Resource Allocation Model (RAM) includes both an economic impact and a fiscal impact component. The model includes five modules: economic impact, tax impact, public expenditure impact, economic development adjustment, and opportunity cost analysis. The state's Department of Business and Economic Development is also constructing RAMs for specific counties that incorporate a cost-benefit analysis similar to the one in the state model.

While the model assumes that the state subsidy is mandatory for business expansion, the company typically must meet one of the following criteria to be considered for an incentive: operations would be highly competitive, the company needs to become more competitive but is denied access to private financing, or an economic development subsidy has been offered by another state.

In addition to estimating fiscal and economic impact, the model offers several other unique estimates: (1) the probability of the company actually moving; (2) the break-even margin from which the maximum allowable state incentive is based (the maximum subsidy is equal to the net present value of both the state receipts from income, sales, and real property taxes generated by the project minus the additional state costs from the increase in demand for state services and the opportunity cost of the state subsidy); and (3) the displacement effect that the company's expansion or closure would have on other state firms in the same industry. If a large portion of the firm's customer base is located in the state, its potential departure would have less of an impact on the state as its in-state competitors would expand to reach the company's former customers.

The model is limited in that it only applies to grants and loans as economic development options. Estimates of technical assistance and job training programs are not included. However, to the extent that technical assistance or job training are offered through a block grant, the model can assess return on public expenditures.

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With thoughtful consideration, there are several common mistakes that analysts can avoid in presenting the results of a fiscal impact model:⁶¹

1. **Not providing adequate documentation.** Without the background data readily available in an appendix, for example, decision makers reading the report may become frustrated in being unable to understand how the results were derived.
2. **Offering an unbalanced presentation.** The cost side of the development is often understated or even ignored.

3. **Being unable to defend large numbers.** If the results of the fiscal impact model generate numbers that are "too good to be true" they probably are not true.

Finally, it is prudent for users to seriously consider tying their fiscal impact model to an economic impact model whenever possible. Since a fiscal impact analysis of a development project or program should incorporate the development's economic impact and demographic impacts, coupling a fiscal impact model to a good economic model is important. In fact, the better fiscal impact models are built on strong economic impact models. The Maryland Resource Allocation Model is driven by an IMPLAN input-output model; New York's Empire State Development Cost-Benefit Evaluation Model incorporates the REMI model; Arthur Andersen's Insight Model offers RIMS-II multipliers; and the Utah fiscal impact model contains a state-constructed input-output model. Less robust models use a simple overall employment and income multiplier that the user is required to estimate. Accurately estimating these multipliers can be quite difficult because the data and/or staff skills are not readily available to the state or local program manager.

Issues in Defining Fiscal Impacts

In discussing these analytic techniques with economic developers, several issues were identified that must be addressed in designing a fiscal impact analysis:

1. What constitutes an incentive-related cost?
2. How are displacement costs incorporated into the analysis?
3. What public policy concerns are involved?
4. How does the state tax code influence the incentives offered?
5. What is the comparative value of incentives?
6. Are the incentives discretionary or statutory?
7. What is the responsibility of program management?

Defining Costs of Incentives. The fundamental concern about the definition of an incentive cost is related to how different public policy choices, designed to achieve the same or similar objectives, are treated. Many "off-budget items," such as exemptions, are difficult to quantify and many economic developers question whether they should even be counted as "costs" to the public sector since no revenue stream was ever intended. Other complex tax programs, such as accelerated depreciation, represent accounting mechanisms

for determining a rate of taxation designed to encourage continued capital investment. Does the redesign of the business taxing structure constitute an incentive if its impact is on an entire class of businesses? Some analysts argue that these are incentives while others disagree.



Example 9: State-Sponsored Integrated Economic and Fiscal Impact Model

Cost-Benefit Evaluation Model Empire State Development

Projects of businesses requesting assistance in the State of New York must undergo a cost-benefit analysis for which the state economic development agency, Empire State Development, uses a special model developed by Policy Source, Inc. The model incorporates the output from a statewide, two-region REMI economic impact model, data from the Public Use Microdata Sample (PUMS) of the U.S. Census Bureau and other databases available in the state.

The model's key and unique features include:

- ! **A user friendly spreadsheet model.** The spreadsheet program runs in Microsoft Excel for Windows. It is a user-friendly format for data entry which is flexible for specifying regional and/or project variations.
- ! **Three criteria to determine if the project could not happen without state assistance.** To be eligible for state assistance, (1) the project must be economically viable and have been turned down by a private lender, (2) the firm must be offered attractive incentives from competing states, and (3) the firm must present strong factual evidence that the state costs are out of line with industry averages.
- ! **A method to estimate displacement impact of the project.** To estimate displacement of existing activities in the state, the model uses regional purchasing coefficients generated by the REMI model to determine the export share of the specific industry. Only that portion of the industry output estimate to be produced for sale outside of the state is used in the cost-benefit analysis. For example, if the project is in an industry that has a 45 percent export share, only 45 percent of the project is considered as new development. The remaining 55 percent is considered to be displacing existing activity.
- ! **Criteria to determine need of economic assistance to retain existing jobs.** The model establishes criteria for these factors in determining eligibility: (1) the mobility of the company and its potential for moving out-of-state without assistance, (2) space constraints facing the company and if they curtail the firm's performance and expansion potential, (3) neighborhood location costs (e.g. congestion, public safety costs), (4) purchase or merger of the ownership of the facility with another company, and (5) whether the plant is one of the company's more high cost locations.
- ! **Evaluator Input Data.** The spreadsheet format groups the evaluator's project information into basic input data, model pre-set parameters, model calculated parameters, and benefit-cost data. The evaluator provides basic information about the project and terms/conditions of proposed assistance, including "but for" criteria and the firm's current situation. Other firm-specific data used are industry SIC code to determine export and local shares of firm's output, occupational/residential structure of firm's employment, residential location of direct employees, and data on prime interest rate, prime rate discount for proposed financing, loan terms, and likelihood of default.

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Empire State Development Corporation (continued)

The model calculates the project's net addition to the state's total income and output and develops an estimate of the employees' opportunity cost of the project. Given that most of the project's potential job takers already have jobs, the marginal benefit of the new job for the average person is the difference between the new job and the job already held. The foregone benefits or wages that these workers would have earned in the absence of the project are included as an opportunity cost of the project. This cost is inversely correlated with the area's unemployment rate. In other words, the second best alternative of employment to a person residing in a high unemployment region is lower than that for a person living in a low-unemployment area. Thus, the opportunity cost for a project being located in a high-employment area is lower and more beneficial to area residents. The model estimates that the opportunity cost of a job created in an area with 10 percent unemployment to be 20 percent of its wages and earnings. Comparatively, the opportunity cost of a job in an area with 5 percent unemployment is approximately 40 percent.

The Empire State Development model calculates the net impact of development for (1) place-based benefits for all governmental units and separately for state government alone, and (2) employee-based benefits, including employee opportunity costs, for all governmental units and for the state alone.

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Displacement Effect. In tallying the net public revenues generated by new development, the analyst should factor in the negative impact on older areas or facilities. The loss of jobs and property value at the affected older location should be deducted from the employment and property value gains expected at the new facility. Moreover, it is likely that the cost of serving the older areas, especially retail, would not decline greatly. Public safety costs would still be required, for example. Studies have shown that many firms locating in new facilities, particularly offices, relocate from existing facilities that can remain vacant for a long period of time. If these relocations are in the same jurisdiction, it is possible that they could have only minor net impact on public revenues and costs.

Who Takes the New Jobs Matters. Analysts face difficulties in estimating the cost impact of new development, because the costs depend upon who gets the new jobs. If the new jobs are taken by in-migrants, the project will have much greater cost impacts on schools and other population-based services than if the new job-takers are existing residents. Since

Example 10: State-Sponsored Integrated Economic and Fiscal Impact Model

**Utah State and Local Government
Economic and Fiscal Impact Model (UMRIO-92)
Governor's Office of Planning and Budget**

The UMRIO-92 is a fully integrated input-output economic and fiscal impact model used by the State of Utah to estimate impacts of projects on the state and its nine economic subregions. The principal source of the data is the state Covered Wages and Employment (ES-202) data compiled by the Bureau of Labor Statistics and Utah Job Service. The model also incorporates the U.S. Bureau of Economic Analysis Regional Economic Information System (REIS) data. The REIS data are by two-digit SIC while the state's ES-202 data are broken down into 800 four-digit SIC codes. The two data series are combined by constructing two-digit SIC ES-202 wages and salary earnings according to the proportional distribution of ES-202 wage and salary estimates among the detail industries (Koga 1994a). The BEA data, which have at least a two-year lag, are updated by using the state's ES-202 data assuming that the ratio of earnings to ES-202 wage and salary holds steady.

To estimate regional value-added or gross state product, the Utah model uses the national value-added/earnings ratios from the most recent national input-output (I/O) model. However, the newest I/O model dates back to 1987 so its technical coefficients are over ten years old. Also, the differences between Utah's technical coefficients and those of the nation can be significant (Israilevich 1995).

The model is regionalized by using location quotients and a modified supply-demand pool technique. Since an underestimation of an area's exports will result in an overestimation of the area's multipliers, the model's tentative export estimates are based on the lower estimates calculated by area location quotients or supply-demand pool (Koga 1994a, 1994b). The location quotient is the ratio of an industry's share of total regional output to its share of the total U.S. output. If the resulting location quotient is greater than one, the industry is more concentrated in the region than nationwide, and thus is part of the export base. The supply-demand pool technique estimates the region's individual industry's export share by subtracting the region's demand for the industry output (assuming that the region's industries use the same technology as the nation) from the region's estimated output. The "tentative" estimates were reviewed and revised by a group of Utah economists (Koga 1994b).

As input-output model, the Utah model is subject to the limitations of I/O models discussed in this report. But its well-documented construction is an excellent blueprint for other states to use in building their own models.

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these individuals and families already live in the community, their employment would not strain existing capacity levels. On the revenue side, collections would increase from payroll taxes, sales taxes, and residential property taxes. Unfortunately, research shows that without an effective program to provide training for existing residents, job development assistance, and employment maintenance assistance, most new jobs are filled in the long run by in-migrants. Typically, this is not recognized in evaluating incentive packages.

Comparing Incentives Across Jurisdictions. Comparing state and local incentives is difficult, as well. For instance, tax increment financing programs to fund public infrastructure are often a local option, but many states offer tax abatements for manufacturers as part of the state’s tax code. Consequently, in one state a program is considered an incentive because a company must apply for benefits, while in another state the same kind of incentive is part of the tax structure. This can be the case even if the company receives essentially the same tax treatment in both states.

Valuing Incentive Packages. The valuation of incentives is problematic as well. Many incentives are a “package” of existing economic development programs that is customized to address the variety of issues raised by a specific client. There are no accepted standard definitions using acknowledged accounting principles to help evaluators analyze the costs and benefits from these packages or to use appropriate techniques for estimating public investments and impacts.

These incentives should be valued by adding tax revenues expected to be foregone in future years, given economic conditions and anticipated future investments. In defining the “cost” of an incentive, it is important to identify the level of public subsidy. Thus, a loan that requires repayment should be “valued” differently than a grant. The value of the package should also recognize whether direct expenditures, such as investments in training and infrastructure, would have been made even if the company did not receive the incentive. At the same time, the costs of expanding schools or water facilities should not be left out of the total cost of the package.

The Role of Discretion. As stated previously, in many cases incentives, particularly tax-related incentives, are created through the legislative process, leaving an economic development agency with very little control over whether a company receives assistance or the level of assistance to be given. For instance, Oklahoma’s Quality Jobs program is a statutory entitlement for business that allows no discretion for economic developers to decide whether the incentive is required by a firm, whereas similar programs in Indiana or Nebraska provide such discretion to economic developers.⁶² Anecdotal evidence suggests that many discretionary incentives may well be minuscule in scale when compared with statutorily provided incentives. In Oklahoma, the three most substantial economic development incentives – investment/jobs tax credits, 5-year property tax abatements, and the Quality Jobs program – account for \$50 million per year while the sales tax exemption for manufacturers amounts to nearly \$1 billion annually according to one estimate.

A recent study of North Carolina's incentives estimated tax incentives to total \$500 million a year.⁶³ In developing models, it may be more important for state or local agencies to invest resources in monitoring and evaluation systems that examine these statutory incentives, particularly given this study's finding that many of these programs are overlooked in collecting data and monitoring.

Words of Caution in Developing Impact Models

In general, economic and fiscal impact analyses attempt to quantify the impact of new economic development on an area. Most of the models approach the problem similarly. The direct and often the indirect economic impacts of a new plant or the increase in output at an existing plant are estimated using an economic impact model. After these jobs, earnings, and population changes are estimated, a fiscal impact model is used to estimate the resulting streams of public costs and revenues. Finally, the analyst compares the estimated, discounted streams of future costs and revenues with the initial cost of the economic incentive package offered to the business to determine the potential return-on-investment.

If market conditions, rather than the incentives offered, determine the site-location decision, the resulting benefits cannot offset the cost of the incentives. The criteria of New York's Empire State Development determines that an economic incentive is warranted⁶⁴

1. if a competing state has offered the firm an attractive economic incentive package,
2. if the firm can show that it would be operating at a severe competitive disadvantage without the incentive package,
3. if the firm has a viable business plan, but has not attracted private investors,

Having such policies in place can be quite useful in developing a rationale for a state or locality to make an investment. The impact analysis then becomes a tool for helping the state or locality to determine precisely how much the project or activity is worth to the taxpayers.

Summary: Key Tasks to Be Implemented in Undertaking an Impact Analysis

In undertaking an economic or fiscal impact analysis, the analyst should undertake the following tasks:

1. **Determine if the jobs being created do more than serve the needs of the local economy.** If economic incentives are provided to firms that sell primarily to the local market, they could provide these new businesses with an unfair advantage over similar firms in the area.⁶⁵ If, however, the new business offers a vastly improved service or product, serves an ignored or economically distressed population, revitalizes a decaying area, or provides employment to economically disadvantaged persons, the incentive creates a benefit.
2. **Estimate the long- and short-run population effects of development.** For every ten jobs created in a metropolitan area, the research suggests that eight will be taken by in-migrants within five years.⁶⁶ This increase in population will put additional demands on public services and reduce the likely employment benefits available to local residents. This also suggests that the analysis should not over estimate the long-term benefits from a project.
3. **Estimate the indirect economic impact of new economic development.** It is common for “back-of-the-envelope” estimates of the employment multipliers of new projects to be too high. Only in the most extreme cases, for example, where a firm provides high-paying wages to individuals living in the area and maintains a strong local supplier base will each new job at the firm generate more than 1.5 additional jobs in the area. In other words, multipliers typically will be less than 2.5.
4. **Measure the marginal impact of the new development on both costs and revenues of public services.** Measuring the fiscal impact of new economic development using average costs will be accurate in only a small subset of communities or states. In fast-growing areas, marginal costs associated with development are likely to be higher than average due to increased congestion and capacity cost. On the other hand, in areas that have experienced stagnant economic conditions, the marginal cost of new development may be well below the average cost or even near zero.

5. **Determine the labor market impacts of economic development.**

Research suggests that most new jobs are filled by either in-migrants⁶⁷ or residents entering the work force,⁶⁸ but not by the area's unemployed.

Ultimately, a sound monitoring and evaluation system will be invaluable to policy makers in making decisions about whether to invest incentives in specific projects to meet key policy goals. With a track record in monitoring and evaluation and tapping the experiences of surrounding states and communities, it may become possible to **develop policy decision rules to help provide transparency in deciding whether a project would receive an incentive.** These decision rules should be developed in the state or local policy-making context. For instance, there are a number of state and local political issues that must be addressed in determining the exact level of these decision rules, but local analysts in collaboration with key policy makers can begin to make some of these types of rules. One state indicated that by implementing a rigorous systematic analysis, they were able to develop a database of scores of projects that helped in setting basic standards. Using their methodology for determining economic and fiscal impacts, that state decided that they would look very closely at whether or not to make an investment in a project if it provided less than \$50 in economic impact for every \$1 of public incentive investment or a return of \$6 in tax revenues for every \$1 of public incentive investment. It is important to note that there is nothing universal about this state's standards. These benchmarks were set based on average returns on investment, and other states or communities should establish their own decision rules based on their own political context. The state indicated that its decision rules would change dramatically in a lower-growth economic climate.

The decision about which methodological approach to use in assessing program impacts should not be made by analysts in a vacuum. It must be part of an ongoing policy design, implementation, and continuous improvement process. The next chapter will discuss how the monitoring and evaluation system might best be managed to ensure that incentives are utilized as effectively as possible.

Chapter 8.

Organizing to Manage the Process

This report discusses various tools that economic developers can use in monitoring and assessing the costs, benefits, and impacts of tax and non-tax financial incentive programs. An important recommendation to economic development policy makers involves better integration of monitoring and evaluation into the program management process. This chapter provides an outline of how state and local policy makers can implement this recommendation. Organization and process are key to successful evaluation. In their absence, evaluation research results are not likely to be as useful to policy makers or practitioners. While some economic development organizations may not be ready to implement a full-blown incentive evaluation system, officials can identify and choose those parts of the process that are immediately relevant.

Economic development efforts are subject to three general levels of evaluation or assessment:

1. Analysis of individual projects or deals,
2. Evaluation of a program which includes all individual deals within a program, and
3. Review of an agency's impacts in terms of all programs and deals in its portfolio.

A comprehensive incentive monitoring and evaluation system incorporates an analysis at all three levels of assessment. The best analysis and evaluation results are achieved when the three levels of evaluation or assessment are linked in an organizational and management sense. As the survey revealed, most state development agencies analyze or evaluate their incentive programs, but the extent of the monitoring activities can vary widely. In many cases, the evaluation efforts are organized to respond to specific legislative requirements governing the programs rather than implementing an evaluation effort to promote continuous improvements. In other cases, the monitoring and evaluation activities are very informal and sporadic.

The Role of Monitoring and Evaluation in Management

To implement an effective monitoring and evaluation system involves a consideration of the how incentive programs are managed. Of course, to

produce results, incentive programs must be properly organized and managed. Economic development agencies operate in a complex, highly uncertain, and rapidly changing environment. Decision making in economic development agencies takes place in an environment shaped by strong political and marketplace pressures. Effective management policies and strategies are essential to making successful progress toward strategic goals. Monitoring and evaluating results can help determine how well the policy is achieving results, but they can only do so if the information generated from monitoring and evaluation is relevant to the decision-making process.

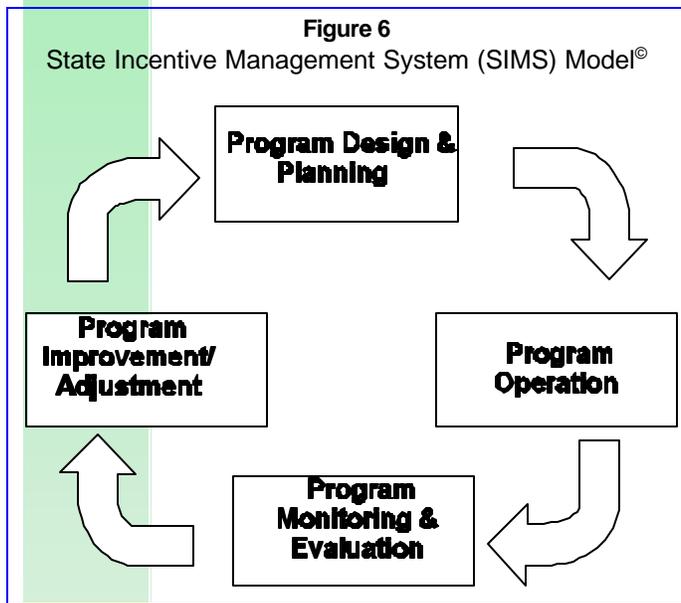
In its recent work for the State of Ohio, Cleveland State University (CSU) developed a four-part State Incentive Management System© (SIMS)

designed to improve how incentives are evaluated and how they are planned and managed on an ongoing basis (See Figure 6).⁶⁹ This SIMS model represents one approach for integrating monitoring and evaluation activities with a continuous process for improving overall program design and management.

Most development agencies perform similar functions, including program design, budgeting, planning, evaluation, and administration, in managing their incentive programs, but often these functions are not effectively related in an overall management policy and strategy sense. When used effectively, research

and evaluation support management decision making and implementation by providing inputs about the desired and unintended impacts of current programs. To work best, research and evaluation must be seen as integrated aspects of the economic development agency's management model. A state incentives management system model involves four interrelated components:

1. Program design, planning, and development;
2. Program operation or administration;
3. Program monitoring and evaluation; and
4. Program improvement.



It is important to understand each of these components and to understand how the program design, operation, and improvement elements influence monitoring and evaluation activities.

Program Design, Planning, and Development

Incentive programs must be properly designed and planned to produce worthwhile results. A flawed program design or a weak economic development plan can cause an incentive program to experience serious operational problems or fail completely. Incentives in their most basic sense are “inducements” designed to motivate certain behavior. In many cases, states and communities use incentives to encourage business investment or job creation in geographic areas in which it might not otherwise occur.

Economic development policy makers identify the need for new incentive programs from many different sources. Existing firms may point to state or local business climate problems as barriers to business investment. The development agency may decide to create a new incentive program to combat or offset the fiscal impact of this business climate disadvantage to firms and industries. For instance, many states began to use enterprise zones as an aggressive approach to overcoming business cost disadvantages for targeted communities.

The following guidelines can help economic development agencies improve how they design and plan incentives in the future:

Step 1. Identify the Central Problem/Opportunity. The policy maker should clearly define the underlying problem to be fixed or the opportunity to be developed. What are the policy goals? These should be defined in terms that describe the barriers to be overcome. What are the known or suspected sources or causes of this problem or opportunity? The policy maker should also define the known or estimated extent (size) of the problem or opportunity in his or her state or region. Having these goals in place makes determining the definition of appropriate measures and methodologies much easier.

Step 2. Identify Policy Actions. The economic development policy maker should identify what actions, including the use of incentives, are believed to have an effective impact on the problem or opportunity. The economic developer should define the extent to which the problem or opportunity can be addressed through public-sector action. What are

the types of businesses, industries, communities, and people to be served by the incentive and who will benefit from the program? Also, who will be expected to pay the costs of the program? These are the stakeholders who should be integrated into the designing the monitoring and evaluation process to ensure that the impact measures and design strategies selected are appropriate to the end users of the analysis.

Step 3. *Prepare Program Design.* The policy maker should define the incentive in terms of its intended impacts and possible unintended consequences. What can the incentive be expected to contribute to overcoming the barriers identified and how can that action be measured? An important element of this preparation process involves identifying known examples of similar incentives currently used in the state or community as well as in other states or communities. These experiences offer learning opportunities, particularly in developing appropriate performance measures, monitoring processes, and evaluation approaches.

Step 4. *Test Program Design.* The economic development policy makers should define how the incentive design can be tested to determine whether it has enough value and benefit to be implemented. Does the program design actually contribute to reducing the barriers in *a meaningful way*? To answer this question, it is important to test the validity of the incentive and gauge the scale at which the incentive program can (or should) be developed. How might the program be designed to optimize public investments in the program and minimize negative externalities? The policy maker should encourage comments from businesses, and other allies and stakeholders, including other parts of state or local government, especially on whether the identified outcome measures are useful indicators of the incentive's performance.

Step 5. *Prepare Program Plan.* If the incentive survives the testing process, the policy maker should proceed with the development of a plan defining how the incentive would be structured, funded, and implemented. Are there sufficient resources to manage the program, including the evaluation aspects, so that it will have an impact? Identifying revenue sources is a crucial issue that should be tested and retested to ensure that it is feasible to fund the new initiative. In particular, resources should be allocated to the monitoring and evaluation process. How will the incentive be housed and managed from an institutional standpoint? The policy maker should define

“budgeted” levels of expenditures for the incentive and set corresponding expectations about the future payback in terms of state or local revenues. At this point, the policy maker should also set specific goals and objectives to be accomplished by the incentive. What are the most appropriate performance measures to be used in monitoring program performance in the future and how will the program be monitored and evaluated?

Step 6. Review Program Plan. The policy maker should review the plan for implementing the incentive with internal and external stakeholders. Do they support the plan? This feedback will also provide an opportunity for policy makers to respond to any major concerns raised about the plan. Suggestions from stakeholders can be incorporated to strengthen the incentive’s future performance.

Step 7. Acquire Resources/Support. The policy maker should now proceed to the development stage where funding and legislative support are accomplished. The policy maker should stress short- and long-term needs and impacts. How will the anticipated impacts affect different stakeholder groups?

Program Operation and Administration

Once a successful program design and plan exists, it is possible to proceed to the program operations phase. Just as performance results can be reduced by a bad design or plan, it is also true that a good design or plan can be sabotaged by poor administration. Public development agencies are usually the administrative home for most economic development incentive programs. The administrative structure, staffing, and other elements of development agency management often vary from agency to agency. Economic development in some states is more public-sector driven while the private sector is more important to program operations in other states. These differences will be reflected in how an economic development agency operates an incentive program.

Economic development agencies should develop an administrative plan defining how the incentive program will be organized, staffed, and conducted on a daily operational basis. This plan should address the following concerns and issues:

Step 1. Identify the organizational home. The policy maker should consider how a number of separate, but related incentives might best be integrated. For example, should they be organized into a set of incentive programs administered by a “Finance Division” or should a separate authority, review board, or commission be established to review and guide operations of one or more incentives? Within this context, the policy maker may consider whether monitoring and evaluation should be managed by program staff or assigned to staff separate from program management.

Step 2. Determine the appropriate level of central control. The policy maker will want to maintain management controls over the incentive, but the precise nature of that oversight will depend on the capabilities of those managing the program and how clearly the policy guidance has been prescribed. Should the program be operated on a centralized or decentralized basis? Should allies, such as local governments, private development organizations, or other groups, play a direct or indirect role in program operations? These decisions will influence the design of the data collection, monitoring, and evaluation activities.

Step 3. Design a marketing plan. The policy maker will also have some insights on how to best disseminate information about the incentive. How will the program be marketed or communicated to target user audiences? What information should be communicated to create appropriate expectations about program use that coincide with the program’s policy intent? The plan should identify how economic and fiscal impact information will be integrated into the marketing effort.

Step 4. Develop a staffing plan. The policy maker will need to identify the resources available to staff the operation? Which development agency and other staff should be involved in the program’s operations? How will they be trained in the effective operation, administration and evaluation of the program? In the staffing plan, resources should be allocated to training and skill development in the area of incentive monitoring and evaluation.

Step 5. Identify the forms for data collection and records for data management. A key operational point relates to how data is collected and maintained. What administrative forms, files, and records are needed to operate the program in line with its design? How can

paperwork be minimized for all involved parties without jeopardizing program effectiveness, efficiency, and accountability? What computerized system is needed to manage this information consistent with program decision making and priorities? The forms and records will be important data sources for the monitoring and evaluation process so the design of these documents will have a significant impact on the quality of the impact analysis that can ultimately be conducted.

Step 6. *Develop rules and guidelines.* The policy maker will want to consider the influence of administrative rules and guidelines on program performance. What administrative rules and guidelines will be followed in the use of the program by companies or communities? How will compliance with these rules and guidelines be ensured? The effects of any rules or compliance activities (such as the use of clawbacks) may have an impact on the ability of the incentive to influence business behavior (and consequently have economic or fiscal impacts).

Step 7. *Identify strategies for analyzing projects.* The number and relative public benefits anticipated from a project may influence the type of project analysis that should be conducted. How will economic development deals of significant size be analyzed and prioritized to ensure that they meet expected rates of return to the state and local governments? At what size (or value) would an individual project trigger the need for individual analysis and when would projects be analyzed within the context of a portfolio of activities?

Step 8. *Make program design improvements.* The policy maker will want to develop a system for accepting feedback and considering program design changes. How will ongoing improvements to the program be made and incorporated into future program operations? How will these improvements be drawn from regular evaluations of the program by internal and external stakeholders? If findings from program impacts influence program design, then practitioners will likely perceive the information collection and analysis process as more useful.

Program Monitoring and Evaluation

The third component of a comprehensive incentive program management system is the monitoring and evaluation aspect. The discussion, thus far, has described how monitoring and evaluation can be integrated with other aspects of incentive program planning and management, but it has not yet described

how to plan the monitoring and evaluation system. States and localities should devise a well-defined plan for undertaking program evaluation. Many aspects of this plan are discussed elsewhere in this report, but the key actions that should be taken can be summarized as follows:

- a. Identify the programs or activities to be evaluated;
- b. Articulate the reasons for conducting the evaluation;
- c. Develop goals to be achieved by the evaluation;
- d. Identify actors and their respective roles in the evaluation process;
- e. Identify planned uses of the evaluation results;
- f. Establish decision rules for judging program performance;
- g. Determine the data needs and sources;
- h. Determine the analytic tools to be used; and
- i. Determine the performance time period to be assessed.

Identifying Programs to be Evaluated. The starting point is to specify the program(s) to be evaluated. In some cases, it is possible to evaluate individual programs and determine whether they are performing. In other cases, it is essential to evaluate the interactive effects of programs as they work in conjunction with one another. Often economic development projects involve the use of several different incentives. This operational reality must be accounted for in structuring evaluation and monitoring activities. The program plan should be used as the basis for deciding whether the incentive is meeting its goals and overall policy intent. The plan should be updated annually based upon the evaluation findings.

Defining the Reasons for Evaluation. It is essential to define the reasons why programs are being evaluated. In the absence of this understanding, it will be difficult to determine whether the evaluation study was effective and beneficial. Quite often, program managers or analysts will be asked to generate information on program activity to justify continued funding support. There are numerous other reasons that programs should be monitored and evaluated, including the need for (1) management information about the status of a project, (2) continuous improvement of decision-making and incentive administration processes, (3) a better understanding of the actual influences that an incentive has on firm behavior, or (4) more systematic information about the impacts of a state or locality's portfolio of economic development activities.

Setting Evaluation Goals. Evaluation works best when the goals of evaluation activities are clear. Once the reasons for evaluation have been identified, the next step is to set specific goals to be accomplished by the study. Is the goal to conduct a periodic evaluation of the program as part of the program's legislative requirements? Is the evaluation being conducted to assess some special concern or issue? Is the evaluation being conducted because of an unexpected change in public revenues and the need to reduce government spending levels?

Defining Actors and Roles in Evaluation. Often the reasons and goals for evaluation will suggest that certain actors (stakeholders) are important to the evaluation process. Some states evaluate their programs strictly from an internal perspective. Others involve appropriate external stakeholders. The roles of any involved parties should be clearly defined to avoid confusion about who is responsible for certain actions and decisions. Common actors in this process include the economic development agency itself (which is the evaluated entity), other agencies in the state or local government that operate relevant economic development programs, the funding entity (e.g., the key committees of the legislative body), the state or local fiscal office, key partners and allied development organizations, program users (e.g., businesses), and technical consultants and/or university researchers serving as resources. In some cases, an advisory committee may be charged with overseeing the evaluation effort. In Ohio, for example, the State organized an Advisory Committee comprised of the key stakeholders associated with the state's economic development programs. This group was charged with overseeing an independent evaluation of the programs and advising the state on appropriate future action. This approach lends tremendous support, credibility, and accountability to the process among the key stakeholders.

Self-evaluation has limits. It is usually important that outside disinterested parties be a part of the process to ensure objectivity in determining program performance. This suggests that a private consultant, a team of university researchers, or other groups should play a role in the process at some point. There are many options for using these resources, but they can be particularly useful in evaluation activities after incentives have been offered or in helping to design appropriate data collection procedures for more accurate performance monitoring. In some cases, these outside resources can play an important role in the process. For example, the State of Michigan contracted with the University of Michigan to evaluate the economic impact of new plants accepting economic incentive packages from the state. The role of technical consultants, as well as the roles of other groups, should be clearly defined.

Planning Uses for Evaluation Results. Evaluation results should be used in accordance with the stated reasons for conducting the study in the first place. Moreover, the results should be used according to the incentive program's operational plan. Misuse of results for political and other purposes poses a severe challenge to the credibility of the evaluation process. In general, policy makers should use these results primarily as a basis for policy and management improvement. This approach ensures that a positive and worthwhile purpose exists for evaluation.

Developing Decision Rules for Making Judgments. It is crucial to identify agreed upon decision rules that will be followed by the actors in the evaluation process. These rules should define how the committee and/or research team will decide how policy makers will interpret the learning produced by the evaluation. These rules also should serve as the criteria for making important decisions related to these results. The possible rules could relate to:

- a. How different inputs to the process will be used and weighted for importance;
- b. Whether results will be compared to earlier years' performance or to comparable programs nationally;
- c. How decisions will be made with limited data and information;
- d. How appropriate assumptions will be made where information and data are not available; and
- e. What evaluation criteria will be used to assess program performance metrics.

Employing Appropriate Analytic Tools. This report provides guidance on the types of analytic tools and models available to development agencies. Some computer models and analytic techniques are more appropriate in some types of evaluations than others. A comprehensive analysis of multiple programs may require the use of several methods and models because no one model could answer all of the research questions being asked. The configuration of these analytic methods and tools is crucial to the technical credibility of the study. For example, business surveys, while important, are often discounted by researchers because of the anticipated bias of firms interested in continuing incentive programs for their future benefit. Input-output models as a foundation for economic impact analysis have only recently been used to evaluate certain types of incentive programs. Even the most well-developed tools have their shortcomings. For instance, the Regional Economic Modeling Inc. (REMI) model, considered by many to be the most comprehensive of the commercially available modeling software, has not been

used to assess the economic impacts of several different kinds of state tax incentive and technology grant programs. This suggests that any use of a model will involve testing its applicability in producing credible results.

The actors involved in the evaluation process must clearly understand why certain tools are used and the contributions they can be expected to make. Failure to do this can undermine the entire credibility of the technical analysis component of the evaluation process. A mix of quantitative and qualitative methods and tools are needed in major incentive evaluation projects. The object of evaluation studies should not be solely to evaluate what can be measured in a quantitative sense because much of economic development is best defined in a qualitative way. These factors must not be overlooked; otherwise evaluation results will be far too simplistic to be useful in real-world situations.

Identifying Data Needs. Data needs go hand-in-hand with analytic tools and methods. First-time evaluations usually lack high-quality research data to support the evaluation. The type and quality of data available depend upon several factors, including (a) collection of the right data to satisfy evaluation variables, (b) credibility and objectivity of the collection source, (c) the accuracy and standardization of the data; (d) the availability of longitudinal data; and (e) the proper use of the data in the analysis. Data problems are very common in incentive evaluation studies. These problems often result in major delays to initial evaluation studies. Analysts should be keenly aware of these issues and how to overcome them. In many instances, incentive programs cannot be evaluated in a true research sense because of basic data and research methods problems. Economic development officials should strive to test research methods to ensure that they produce desirable quality evaluation results.

Establishing Performance Time Periods. The time period for which performance can be evaluated is driven by the length of time the program has existed, the extent of systematic program monitoring that has occurred in the past, the quality of data found in different time periods, and various factors affecting the redefinition and changes made to incentive programs over that time period. Major restructuring of programs, new goals, and a host of other factors have a definite effect upon evaluation results or outcomes. This suggests that changes to the program should be carefully identified and planned to allow for adjustments in the evaluation process used to gauge performance in light of program changes. It is important for analysts to ask if policy changes had the intended impact on program performance.



In summary, this approach to developing a comprehensive program design and management system is integral to the success of any program monitoring and evaluation effort. By integrating monitoring and evaluation as a component of program design, it is more likely that the policy makers and program managers will internalize the importance of assessing economic and fiscal impacts to their day-to-day activities. The management of this effort is as important to implementation as the technical “how-to” of implementing an evaluation.

Chapter 9.

Conclusions and Recommendations

This study's survey and interviews revealed that most state incentive programs do not yet have well-defined monitoring and evaluation systems in place. In most cases, program managers depend on their own initiative and experiences in deciding whether to implement a program monitoring system and in determining how best to implement the system. Often, data are collected for most programs and reported to stakeholders without any analysis. In the cases in which managers analyze the data collected, few use optimal techniques for estimating economic or fiscal impacts. This suggests that the analysis being done for many programs is not very sophisticated, providing results that do not stand up to criticism.

The problem is that many program managers are being asked to develop their own monitoring and evaluation efforts. To undertake these efforts effectively requires a different set of skills than most practitioners possess. Furthermore, many practitioners view these efforts as a drain on the time they have available to market and manage the economic development incentive program. Finally, few of the systems developed by untrained practitioners adequately reflect the standards of reliability, credibility, and validity that many legislators and agency managers require. With minimal resources and a limited focus on evaluation in the early stages of program design, the monitoring and evaluation efforts related to many incentives are simply an afterthought rather than an integral part of program management.

Monitoring and evaluation activities are typically viewed as part of the administrative overhead required to implement a program. As budgets tighten, administrative activities are usually the first to be cut. Without adequate administrative budgets, the responsibility for performance monitoring and evaluation has fallen to program managers, who often have limited training or skills in monitoring and evaluation techniques. Only when programs are being criticized are resources typically allocated to evaluation with little or no prior attention to the data collection that is required to undertake an effective evaluation.

To make the task even more challenging, different stakeholders or constituencies often expect widely differing outcomes from the same development incentives. For example, some expect solutions to deep-seated poverty and unemployment problems. Others expect to create specific types

of jobs for certain segments of the population. And yet others look to these programs to overcome inherent deficiencies in state and local business climates. If this ambiguity of intent is not resolved in the program-planning and priority-setting process, how can it be expected to be resolved in designing an appropriate evaluation system?

Often monitoring and evaluation are given short shrift because this activity is simply viewed by practitioners and legislators as a way to determine the level of program funding or job performance rather than as a process for enhancing program management or fostering continuous program improvement. Consequently, it should come as little surprise that evaluations requested by legislatures are viewed as a threat to economic development programs. For performance monitoring and program evaluation to become institutionalized, the task must be internalized by program managers as part of the budgeting, program design, implementation, and continuous management improvement process. It should not be imposed in an antagonistic environment.

Recommendations for Overcoming Barriers to Monitoring and Evaluation

These barriers make monitoring and evaluation a challenging task for practitioners. But there are a number of ways to improve the situation. Economic developers need to work closely with their stakeholders to do the following:

1. ***Define clearly the basic purpose and policy goals of incentives.***
Even after legislation has been passed, policy makers and practitioners should continue working together to operationalize their priorities into a workable incentive program. The program's intent or basic purpose must be understood and articulated more clearly in a larger context of policy and strategy in order to develop an effective performance monitoring and evaluation system.
2. ***Develop better recognition for the role that program planning and design play in implementing effective performance monitoring and evaluation.*** Policy makers should seek consulting advice and sponsor peer review efforts to examine how other agencies within and outside the state integrate performance monitoring and evaluation systems in the design of economic development programs. National organizations, like NASDA, and government agencies, like EDA, can help by identifying best practices in program design that foster

performance monitoring and measurement among economic development organizations across state or local boundaries.

3. ***Set realistic expectations and benchmarks against which to measure program outcomes.*** Policy makers and practitioners should work together in establishing performance benchmarks that represent achievable standards. Policy makers should also champion practitioner-led efforts to institute methods, including economic and fiscal impact modeling, that will help in estimating the intended impact of proposed policy changes or existing policy options.
4. ***Ensure that sufficient management attention and resources are allocated to monitoring and evaluation responsibilities.*** The most effective way to generate attention to monitoring and evaluation is to allocate resources for the activity. Policy makers should allocate a portion of each program's funding for performance monitoring. These investments should be recognized separately within the program budgeting and management process. The amount would vary, but a rule of thumb used by some program managers is three percent of the program's budget should be allotted to monitoring, evaluation, and other activities related to continuous improvement of the program's design and management. Not every program will be able to achieve this standard, but by setting aside funds for this activity, policy makers should also acknowledge the importance of investing in periodic (e.g., annual or less frequent) third-party verification of performance impacts to confirm the findings of program impacts identified from ongoing monitoring efforts.
5. ***Design monitoring systems to allow for simultaneous assessments of individual project impacts, program evaluations, and portfolio (or agency-wide) reviews.*** When designing performance measurement and monitoring systems, it is important to distinguish between the impacts of specific projects and the portfolio of projects that make up a program. Similarly, it is important to distinguish between the impacts of individual programs and the portfolio of programs offered by a state or locality's economic development organizations/agencies. Agency managers and other policy makers will be more interested in the overall performance of a portfolio of programs. Yet, if monitoring and evaluation systems are left to individual programs, program managers will be most interested in the specific performance impacts of their individual program elements. Agency-wide evaluation efforts can help establish overall priorities. But these efforts may also create competitive

pressures among the managers different programs, causing some programs to be evaluated based on performance measures that may not be appropriate for the program. Consequently, monitoring and evaluation efforts should incorporate data collection and analysis that are focused on a portfolio-wide basis as well as on individual programs and specific projects.

6. ***Invest in training for economic development practitioners to enhance their skills in the design of performance monitoring and evaluation.*** Practitioners need not become experts in performance evaluation, but they should become more informed consumers of analytic methods and models. Practitioners should understand the basics of analyzing program and project impacts and be conversant in basic regional economic research methods. Likewise, practitioners should seek out opportunities for learning about existing and new methods and models. For instance, practitioners may want to know how monitoring and evaluation systems can contribute information about the causal relationship between program activities and intended consequences. This may engender a greater use of experiments or case study research designs in addition to economic impact and fiscal impact studies. This report provides a foundation for learning more about how to improve data collection strategies and analyze information on performance impacts. However, states and localities need to invest in staff cross-training so that program managers can undertake better analysis of their programs and analysts can better understand program management constraints and opportunities.

Concluding Comments

The difficulty in measuring the performance of business incentive programs stems largely from the evolution and maturation of economic development as a profession. An evolving field of social science that links economics, politics, and public policy, economic development is formalizing as a practice with widely recognized and generally accepted performance expectations.⁷⁰ Many programs are implemented on an assumption that they will have the intended effect on business behavior and economic growth. As in so many other social science fields, the exact mix of factors and events that influence the economic development process have yet to be discovered. At the same time, political and budgetary pressures are demanding greater accountability from economic development programs. As the 1990s come to a close, economic

development remains much more a skilled art form than a measurable and predictable scientific discipline.

Historically, very little attention has been paid to testing whether these programs actually cause the effects intended. Incentives represent only one of many factors that may influence economic growth and development. As a consequence, only limited information exists about whether these incentive programs have a causal effect on business behaviors and economic growth.

In the past, the art of economic development has involved policy makers and practitioners making decisions about incentive investments based on “gut instinct” or “back of the napkin” estimations. More recently, a variety of sophisticated new tools have been designed to assess the impact of our efforts. These tools can be integrated more formally into the decision-making process, but they require greater levels of expertise and understanding of evaluation techniques. Consequently, practitioners are facing simultaneous challenges: (a) becoming more skilled in measuring performance and (b) recognizing that unrealistic expectations may have been created about the impact of economic development programs.

The most fundamental challenge facing the economic development practice may well be the promises made about the impacts of investments. Economic developers, through political pressures and haphazard measurement approaches, have created expectations about the impacts of many economic development incentives that may be impossible to achieve. A substantial number of economic development programs have developed data collection systems, but many do not collect credible data. The data presented often overstate the impacts of incentive programs and may not be relevant to the key policy challenges facing the nation’s economy. The result in some places is a credibility gap with policy makers. Implementation of sound monitoring and evaluation systems will make future expectations of these economic development programs much more realistic and restore trust between policy makers and practitioners.

Setting more precise performance standards for economic development programs is a new undertaking for many states and communities. It will require a sustained management commitment to make incentive programs more performance-based. This standard-setting process is complicated by the lack of program and policy goal clarity, different program structures and formats, the political nature of most economic development programs, and many other factors unique to particular states or localities.⁷¹



The research for this report indicates that economic development organizations are working to overcome these problems and establish a clearer idea of the short- and long-term impact of their programs. It is also apparent that these organizations need some help to do the job. At the present time, there is little consensus or agreement among states and communities about which methods are most suitable for evaluating these programs and what standards should guide program operations.

Perhaps more importantly, there is considerable disagreement within and between states and localities as to how incentives programs should be used in competing for new business investment, jobs, income, and taxes. The research found no existing agreement at this time among the states or communities to work toward a consensus on the use of incentive programs. Support for federal intervention to coordinate state and local incentive activities in the future is practically nonexistent. At the same time, “voluntary agreements” among states on the use incentive programs to pursue economic development opportunities seem impractical and idealistic to many policy makers and practitioners, given the political realities and the competition for investment and job creation.

States and localities are willing to work toward mutual interests with other jurisdictions but only to the extent that they serve their own interests. The study team believes that states need to share information about their incentive practices and attempt where possible to overcome the negative consequences of the competition. This report provides a starting point by providing some basic information that will encourage the implementation of monitoring and evaluation efforts. Additional leadership from both the public and private sectors will be essential for achieving progress, especially in implementing these study results. State economic development directors already use their professional networks to a limited degree in sharing information on prospect and consultant demands for incentives. On a number of occasions, states have used this information informally to inhibit the ability of companies to pit one state against another in public “auctions” for projects.

Political imperatives require that state and local government officials continue to aggressively pursue and retain businesses and jobs. Yet, these officials are becoming more mindful of the dangers of overbidding for jobs and business investments. Better analysis can improve the quality of the information available about the likely net impacts of an investment, but sound decisions will depend on states and localities establishing standards of performance based on local policy priorities. Few states and localities have the information yet to set

those standards, but sound performance monitoring efforts can provide the data to move the analysis of incentives in that direction.



Appendix: Sample Survey Instrument

***Survey of Performance Measurement and Monitoring Efforts
for State Business Incentive and Assistance Programs (Non-Tax)***

***Survey of Performance Measurement and Monitoring Efforts
for State Business Incentive and Assistance Programs (Non-Tax)***

The purpose of this survey is to gather information about your office's efforts to measure and monitor key economic development incentive and assistance programs. This data will help you better understand how your colleagues are approaching this issue and will contribute to NASDA's efforts to defining the "state of the practice" of evaluating economic development.

State: _____

Program Name: _____

Part I. Program Background

1. How many discrete project activities, would you estimate, received financial assistance through this program during the past year?
 - " Less than 10 projects
 - " 10-24 projects
 - " 25-49 projects
 - " 50-99 projects
 - " 100 or more projects (please estimate the number ____)

2. Based on your best estimate, how much program funding (state only) was invested in all of these projects from this program last year? (Please do not include funding from Federal sources or from other state programs in this estimate).
 - " Less than \$100,000
 - " \$100,000 - \$500,000
 - " \$500,001 - \$1,000,000
 - " \$1,000,001 - \$5,000,000
 - " \$5,000,001 - \$10,000,000
 - " greater than \$ 10,000,0000 (please estimate the volume \$ _____million)

3. Please indicate which of the following statements best describes how businesses benefit from this program.

This program offers assistance to:

 - " A business (or consortium of businesses) as the program's intended beneficiary.
 - " A for-profit enterprise (e.g., a bank or investment fund) to leverage direct investments in one or more private enterprises.
 - " A not-for-profit intermediary (e.g., a community development corporation or finance authority) to provide direct assistance to one or more private enterprise.
 - " A community or other public entity in order to ***pass through the incentive directly to one or more private businesses.***
 - " A community or other public entity to undertake public activities (e.g., road improvements, training, etc.) ***that directly benefit specific identifiable business or group of businesses.***

" A community or other public entity to undertake public activities (e.g., road improvements, training, etc.) *intended to benefit a group of businesses (e.g., an industry or a neighborhood) indirectly.*

4. Which of the following statements *best* describes your **agency's influence over whether an applicant receives assistance** through this program?

This program:

- " Provides assistance to *all eligible applicants.*
- " Provides assistance to eligible applicants on a first-come, first-serve *basis until the funding is expended.*
- " Responds *at the agency's discretion* to selected inquiries made by eligible companies.
- " Offers assistance to applicants submitting proposals under *a competitive request for application* process.
- " Provides funding only to applicants with whom *our agency initiates the contact.*
- " Other (please specify) _____

5. Which of the following statements best describes your agency's latitude in defining **the program's eligibility criteria.**

Our agency has:

- " *Little or no latitude in defining eligibility* because the criteria are explicitly defined by legislative mandate.
- " *Some latitude in defining the program's eligibility criteria*, even though the criteria are defined in our legislative mandate.
- " *Broad discretion in defining the program's eligibility criteria*, even though the criteria may (or may not) be generally described in our legislative mandate.
- " Other (specify) _____

6. Which of the following statements best describes the latitude your agency has **in determining the level of assistance** that will be offered to the applicant.

The amount of benefit offered (e.g., value of assistance) to the recipients is:

- " Explicitly defined in the program's statute (e.g., in terms of a pre-specified dollar amount, percent of project amount, pre-specified interest rates and terms, etc.).
- " Defined based on a range provided in the program's statute (e.g., a project size range or a not-to-exceed interest rate and term, etc.)
- " Defined by the agency based on a general policy established for the program.
- " Defined by the agency based on a case-by-case analysis of each applicant's needs, anticipated benefit, or actual impact.
- " Other (specify) _____

7. Which of the following best describes how resources are allocated to assistance recipients?
- " Resources are allocated to applicants *who have successfully accomplished* part or all of a project's pertinent objectives (e.g., create or retain jobs, completed sales, etc.)
 - " Resources are allocated to applicants *who anticipate providing future benefits* pertinent to the program objectives.
 - " Other
(specify)_____

Part II. Data Collection Issues

8. Does your agency collect quantified performance data on this incentive program? (*Check all that apply*)
- " Yes, during the course of our contact with a client
 - " Yes, after we have substantially completed our work with a client
 - " Yes, on an annual or biennial cycle.
 - " Yes, on a periodic basis (e.g., monthly, quarterly, or semi-annually).
 - " Not really, that work is done on an as needed basis
 - " No

(If your answer to Question 8 is NO, we appreciate your time. You may skip to Question 18. If your answer is YES, please proceed to Question 9.)

9. What type of quantified data do you collect for managing or monitoring the performance of this incentive program (check all that apply)?

a). Activity Measures:

- " total dollars available for the program
- " amount of public investment made
- " administrative costs of program
- " number of staff available for program
- " number of marketing actions (e.g., brochures distributed, clients met etc.)
- " number of inquiries and/or prospects
- " number of clients
- " number of active projects
- " number of completed projects
- " other (please specify)_____

b). Output/Outcomes Measures:.

- " amount of public investment made
- " number of jobs created
- " number of jobs retained
- " value of private investment leveraged
- " tax revenues generated

- " volume of business sales resulting from activity
- " value of cost savings for business
- " value of firm payroll and/or average salary paid
- " ratio of value of taxes generated per dollar of public investment
- " ratio of jobs created per dollar invested (or dollars expended per job created)
- " other (please specify) _____

10. When do you collect output/outcome-related data (check all that apply)?

- " before project start
- " while the public investment is being made (e.g., before project activity's completion)
- " within 6 months of project completion
- " within 7 to 12 months of project completion
- " within 1 (13 months) to 2 years (24 months) of project completion
- " within 2 (25 months) to 3 years (36 months) of project completion
- " more than 3 years (please specify time period) _____
- " output/outcome data not collected

Part III. Data Analysis Issues

11. Which of the following methods do you use to describe the impacts of this program? (Pick the answer that best describes the method used for this program.)

- " Net fiscal impacts (e.g., the program's relative costs and benefits in terms of state taxes)
- " Return on investment (ratio of repayment for every dollar of public investment)
- " Economic impacts (total benefits in terms of income, employment, or other measures)
- " Ratio of "public benefit" resulting from each dollar of public funds invested (e.g., dollars per job, business sales per dollar, etc.)
- " We use another method (If "**another method**," please complete Question 11a.)
- " None of the above, we report the data we collect but do no further analysis. (If "**none of the above**," you may skip to Question 17).

11a. If "another method" properly describes how this program is evaluated, please briefly describe that method here. (Please note, this is a very important contribution to our survey results!!!)

12. Which of the following best describes how you analyze the results from this program?

- " In general, every project is examined to determine whether it has a net positive impact.
- " In general, the program is judged based on aggregate results of the individual projects.
- " Other (please specify) _____

13. How large must a specific project be for this program before you believe the individual project's relative merits and costs should be assessed?

- " When the public investment in the project is *less than \$50,000*.
- " When the public investment in the project is *at least \$50,000, but less than \$250,000*.
- " When the public investment in the project is *at least \$250,000, but less than \$2 million*.
- " When the public investment in the project is *at least \$2 million, but less than \$10 million*.
- " When the public investment *exceeds \$10 million*.
- " Assessments should be undertaken at a programmatic level only.

14. In analyzing this program's projects, which of the following do you include as costs?

- " Direct program appropriations (excluding related staff and administrative costs)
- " Staff required to implement this program (in dollar terms)
- " Non-staff administrative costs associated with this activity
- " Additional expenditures associated with this program activity (e.g., strategic planning, policy development, etc.).
- " Foregone tax revenues (from credits, exemptions, refunds, abatements, or deferrals).
- " Opportunity costs for the public investments made in this project.
- " Other (please specify) _____

Part IV. Organizational Management Issues

15. At what point in the program's management do you analyze the impact of a project's performance?

- " before project start
- " while the investment is being made (e.g., before project activity's completion)
- " within 6 months of project completion
- " within 7 to 12 months of project completion
- " within 1 (13 months) to 2 years (24 months) of project completion
- " within 2 (25 months) to 3 years (36 months) of project completion
- " more than 3 years (please specify time period) _____
- " performance impact data reported, but not studied

16. Do you have a formal computer model that you (or your agency) use to analyze performance data collected *for this program*?

- " Yes, a formal computer model operated by special research analysts in the agency
- " Yes, a computer model operated by program managers and staff
- " Yes, but the model has not been formally adopted by the agency
- " Yes, but the model is developed/maintained by consultants/academics outside the agency

- " No, we develop models based on individual evaluation needs
- " No, we hire consultants/academics as needed to perform customized evaluations
- " No, but we are in the process of developing a formal model
- " No, we do not use a computer model
- " Other (please specify) _____

17. In general, after you collect (and analyze, if applicable) the data, who *typically* receives copies of the findings?

- " taxpayer (public)/press
- " legislature's economic development committee staff
- " legislative auditors or oversight staff
- " governor's budget or policy staff
- " agency director or manager
- " agency board of directors (or commission)
- " program manager
- " program review committee
- " program's line personnel
- " other agency personnel
- " other (please specify) _____

18. Do you have any comments that you would like to share regarding performance monitoring and measurement in this program or in your state's economic development efforts more generally?

19. Program Manager's Name: _____

20. You may attach your business card in answer to Question 20.

- a. Your Name (if different from program manager): _____
- b. Phone Number: _____
- c. Fax Number: _____
- d. Address: _____
- e. City/State/Zip: _____
- f. E-mail: _____

***Please return this survey to NASDA by fax to 202-898-1312 by April 7, 1998.
THANK YOU FOR YOUR ASSISTANCE!***

Endnotes

1. National Academy of Public Administration, *A Path to Smarter Economic Development: Reassessing the Federal Role*. Sponsored by the U.S. Economic Development Administration and the Annie E. Casey Foundation, November 1996.
2. In 1995, Minnesota Public Radio and the Minneapolis Federal Reserve Bank organized a group of policy makers, primarily representing opponents to these incentives, in an effort to challenge the proliferation of the use of incentives and to express concern about the competition among states and localities for business. One of their calls for action involved federal action to prohibit – or at least inhibit – state or local incentives. Many of these same critics actively participated in the working groups that led to the NAPA report findings in this area, and they sought recommendations for more aggressive federal intervention in the “economic war of the states.”
3. The most recent version of that database is: National Association of State Development Agencies, *Directory of Incentives for Business Investment and Development in the U.S., 5th Edition*. Washington, DC: CD-ROM, 1998.
4. For example, Greg LeRoy, *No More Candy Store: States and Cities Making Job Subsidies Accountable*. Chicago: Federation for Industrial Retention and Renewal. Washington, DC: Grassroots Policy Project, 1994.
5. Included in these responses were several questionnaires with incomplete responses. Some program managers deemed their efforts too new to provide meaningful responses. One state, Georgia, did not provide responses for any of their incentive programs, primarily because the contact indicated that the incentive programs were undergoing management changes at the time of the survey. Consequently, much of the analysis was conducted using only the responses from the 326 non-tax programs and 175 tax programs that provided detailed survey answers.
6. The program size for non-tax programs ranged from less than 10 projects to 2,500 projects. Of the 326 responding to this question, more than 60 percent of respondents indicated that their programs funded less than 25 business projects last year, while 25 percent invested between 25 and 100 projects and 12 percent offered state money to more than 100 projects during the same period. If those programs offering an extremely large number of projects (i.e., more than 500 projects per program) were excluded, an adjusted average program size would be approximately 34 projects.

7. The program size for tax incentives ranged from less than 10 tax filers to 286,000 tax filers in 1997, reaching an average of 3,003 tax filers per program. If the largest programs (i.e., programs used by more than 15,000 tax filers) were excluded, an adjusted average of program size would be a more modest 473 tax filers.
8. If the average funding is adjusted by excluding programs offering extremely large investments, the averages are \$11.1 million for non-tax incentives and \$9.8 million for tax incentives.
9. For non-tax programs, the survey indicates that 56 percent of the respondents, representing 177 programs, invest more than \$1 million per program to businesses. This number includes 29 percent that offer financial resources between \$1 million and \$5 million, 7 percent that offer between \$5 million and \$ 10 million, and 21 percent that invest more than \$10 million.
10. The survey shows 45 percent of respondents, or 78 programs, forego more than \$1 million of state revenues in 1997. Among them, 41 programs (or more than half of these 78 programs) serve more than 100 projects or tax filers. Meanwhile only 12 programs offer tax benefits to less than 25 projects or tax filers.
11. U.S. Census region definitions are used in grouping the states into the South, Midwest, West, and Northeast.
12. Kathryn E. Newcomer, "Using Statistics Appropriately," in Joseph S. Wholey, Harry P. Hatry, and Kathryn E. Newcomer, editors. *Handbook of Practical Program Evaluation*. San Francisco: Jossey-Bass. 1994, pp. 457-58. Robert K. Yin. *Case Study Research: Design and Methods*. Beverly Hills: Sage Publications. 1984, p. 16.
13. Nexus Associates, Inc., *Performance Measurement and Evaluation of Economic Development Initiatives: An Annotated Bibliography*. Prepared for the U.S. Economic Development Administration, July 1997.
14. For more on these issues, see Earl Babbie, *The Practice of Social Research: Sixth Edition*, Belmont, CA: Wadsworth Publishing Company, 1992, and Paul C. Stern and Linda Kalof, *Evaluating Social Science Research: Second Edition*, New York: Oxford University Press, 1996.
15. Nexus 1997.
16. Jon Clark and Gordon Causer, "Introduction: Research Strategies and Decisions," pp. 163-75, in Graham Allan and Chris Skinner, editors, *Handbook for Research Students in the Social Sciences*. Bristol, PA: The Falmer Press. 1991, pp. 165-66.

17. Ron Snell, *A Review of State Economic Development Policy: A Report from the Task Force on Economic Incentives*. Denver: National Conference of State Legislatures, March 1998.
18. The interviews were conducted by telephone using a structured questionnaire that included a series of open-ended questions about their attitudes related to economic development incentive programs.
19. Donald T. Iannone and Daryl McKee, *Marketing Communities in the Coming Information Age*, American Economic Development Council, Rosemont, Ill., Fall 1998.
20. Terry Buss, *A Review of the Economic Development Research Literature for the Ohio Economic Development Study Project*, October 1997.
21. See for instance: Terry Buss, "State Economic Development Incentives: An Overview of the Literature," Cleveland State University, October 1997; Keon S. Chi and Drew Leatherby, *State Business Incentives: Trends and Options for the Future*, Lexington: Council of State Governments, 1997.
22. Timothy J. Bartik, *Who Benefits From State and Local Economic Development Policies?* W.E. Upjohn Institute for Employment Research, 1991.
23. For more on these issues, see Earl Babbie, *The Practice of Social Research: Sixth Edition*, Belmont, CA: Wadsworth Publishing Company, 1992. and Paul C. Stern and Linda Kalof, *Evaluating Social Science Research: Second Edition*, New York: Oxford University Press, 1996.
24. Babbie 1992.
25. Lynne Koga et al., "Analytical Foundations, Research Findings and Sensitivity Analysis," Utah State and Local Government Fiscal Impact Model Working Paper Series 94-3, Governor's Office of Planning and Budget, 1994.
26. Babbie 1992, Yin 1984, and Stern & Kalof 1996.
27. Richard Bingham and Timothy Bartik, *Can Economic Development Programs be Evaluated?* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 1995. See also, Robert F. Boruch, *Randomized Experiments for Planning and Evaluation: A Practical Guide*. Thousand Oaks, CA: Sage Publications, 1996.
28. Bingham and Bartik 1995; Boruch 1996.
29. Earl Babbie, *Survey Research Methods: Second Edition*. Belmont, CA: Wadsworth Publishing Company, 1990.

30. Robert K. Yin, *Case Study Research: Design and Methods*. Beverly Hills: Sage Publications. 1984.
31. Yin 1984, p. 23.
32. Stern & Kalof 1996.
33. Barry Render and Ralph M. Stair Jr., *Quantitative Analysis for Management: Fifth Edition*. Englewood Cliffs, NJ: Prentice Hall, 1993.
34. Lee S. Friedman, *Microeconomic Policy Analysis*. New York: McGraw-Hill Publishing Company, 1984, p. 17.
35. Another EDA study focuses on the uses and availability of secondary data. Joseph Cortright and Andrew Reamer, *Socioeconomic Data for Understanding Your Regional Economy: A User's Guide*. Impresa, Inc. and Andrew Reamer & Associates, December 1998. See www.econdata.net for more information.
36. "State Business Incentives: Options for the Future," *State Trends & Forecasts*. The Council of State Governments, June 1994; Snell 1998.
37. To determine the level of discretion that each agency has related to an incentive program, we asked each respondent to rate their level of discretion along a continuum of several categories. Using a coding system in which programs offering no management discretion received a score of zero (0) and programs offering broad discretion received a code of two (2), we combined these three dimensions of discretion into a single surrogate variable representing "management flexibility." Those respondents with a combined 0-2 score were labeled as having "no discretion." Those with a combined score of 3-4 were labeled as having "some discretion." Those with a combined score of 5-6 were labeled as having "broad discretion."
38. The Maryland Resource Allocation Model builds off the IMPLAN economic model and the New York State model incorporates a REMI economic impact model. More detailed information about the IMPLAN and REMI models, as well as the Utah, Maryland, and New York State models are provided later in this chapter.
39. For a more detailed discussion of economic base analysis, see Charles Tiebout, "The Community Economic Base Study." Supplementary Paper No. 16. Committee for Economic Development, 1962 and A. Kirkelas, "Why Regions Grow: A Review of Research on the Economic Base Model." *Economic Review*. July-August 1992, pp. 16-29.
40. Wassily Leontief, *Studies in the Structure of the American Economy*, Oxford University Press, 1953.

41. Ronald E. Miller and Peter D. Blair, *Input-Output Analysis: Foundations and Extensions*, Prentice Hall, Englewood Cliffs, NJ, 1985.
42. See Miller and Blair 1985 and Allen and Gossling 1975 for detailed descriptions of these problems.
43. Three basic types of procedures are used to estimate the regional demand for an industry's output to determine if that industry is a regional export sector. The first, which is used in a modified form to generate the RIMS-II multipliers, calls for the use of **Location Quotients (LQ)**. The second procedure that is often used is **Supply-Demand-Pool Technique (SDP)**, which uses national input-output tables to estimate a region's demand for a specific industry's output. The third procedure uses **regional purchase coefficients (RPC)**, which are based on the proportion of regional demand that is self-supplied by the region's industries (Stevens, et al. 1983). This approach is used in the REMI and IMPLAN models.
44. Alberta H. Charney and Julie Leones, "Implan's induced effects identified through multiplier decomposition," *Journal of Regional Science*, 1997, Vol. 37, number 3, pp. 503-17.
45. For a good review of multiplier and their limitations, see Benjamin H. Stevens and Michael Lahr "Regional Economic Multipliers: Definition, Measurement and Application," *Economic Development Quarterly*. Vol. 2. No 1 pg 88-96.
46. Dan S. Rickman and Keith R. Schwer, "A Comparison of the multipliers of IMPLAN, REMI and RIMS II: Benchmarking ready-made models for comparison," *Annals of Regional Science*, 1995, pp. 363-74.
47. John B. Carihfield and Harrison Campbell Jr., "Evaluating Alternative Regional Planning Models," *Growth and Change*, Spring 1991, Volume 22, number 2, pp. 1-16; John B. Carihfield and Harrison Campbell Jr., "Evaluating Alternative Regional Planning Models: Reply," *Growth and Change*, Fall 1992, Volume 23, number 4, pp. 521-530; Donald R. Grimes et al. "Evaluating Alternative Regional Planning Model: Comment" *Growth and Change*, Fall 1992, volume 23, number 4, pp. 516-20.
48. Sharon M. Brucker et al., "The Variation of Estimated Impact from Five Regional Input-Output Models," *International Regional Science Review*, 1990, Volume 13, Number 1, pp. 119-39. Philip Bourque, "Regional Multipliers: WAIO vs. RIMS" *International Regional Science Review*, 1990 Vol. 13, number 1, pp. 87-98. Brucker et al. (1990) compared multipliers resulting from IMPLAN, RIMS II, and three older models with a locally designed model of two key Texas industries in 1978. The researchers concluded that while the estimates were not consistent, perhaps a good criterion to use when

selecting a model is how flexible and friendly it is to accepting regional information that is available to the user.

49. Bourque, p. 97.
50. Timothy J. Bartik, *Who Benefits from State and Local Economic Development Policies?* Kalamazoo, MI: W.E. Upjohn Institute, 1991, p. 205.
51. Peter Fisher and Alan Peters, *Industrial Incentives: Competition Among American States and Cities*, Kalamazoo, MI: W.E. Upjohn Institute, 1998, p. 46.
52. Fisher and Peters, p. 58.
53. Michael E. Porter, *Competitive Advantage of Nations*. New York: Free Press, 1990.
54. Timothy J. Bartik, "Strategies for Economic Development" in J. Richard Aronson ed. *Management Policies in Local Government Finance*. Washington DC: ICMA, 1996, pp.287-311.
55. Robert Burchell et al., *The New Practitioner's Guide to Fiscal Impact Analysis*, Center for Urban Policy Research, Rutgers, The State University of New Jersey, 1986.
56. Lynne Koga et al., "Expenditure Estimates in the Regional Models," Utah State and Local Government Fiscal Impact Model Working Paper Series: 96-1. Governor's Office of Planning and Budget, 1996.
57. There are two other approaches that have been developed using the average cost method (Burchell et al., 1986). The **service standard model** is based on estimates of the standard amount of public resources needed to service the new level of development. Service standard, for example, could call for one public safety officer for an increase of 5,000 in population and one recreation worker for every 10,000 increase in population. These standards are typically developed from national sources, such as the U.S. Census of Government. The service standard model is easy to understand and use, but it does not allow for differences in local and national service standards. Another approach to average cost estimation is the **proportional valuation technique**. This method is based on (1) an estimate of the community's total expenditures on nonresidential development based on its percentage of nonresidential property values to the total property value and (2) the project's percentage of the community's nonresidential property valuation. If the new development accounts for a 0.5 percent increase in the community's nonresidential property value, then it would generate an estimated 0.5 percent increase in public costs. Of course, these estimates are for annual operating costs so one-time development costs are added in separately. The **proportional valuation technique** can be difficult

because it does not account for differences in service demands across industries, such as the difference in wastewater treatment costs of a food processing plant as opposed to an instrument assembly operation.

58. Burchell et al. 1986.
59. Burchell et al. 1986.
60. There are two other marginal cost approaches available (Burchell et al. 1986.) First, the **comparable city approach** is based on assembling the expenditure multipliers by comparing the average expenditures of cities of various sizes and growth rates with the average expenditures of cities with more common populations and growth rates. If, due to a larger development, the community's population moves up into the next size category, then its average per capita expenditure is multiplied by the larger-size category's expenditure multiplier. The net change in expenditures due to the development is the difference between the city's average per capita costs multiplied by the large category's expenditure multiplier and the costs multiplied by the smaller category's multiplier. If public expenditures do not vary with the size of the city, this method would convert to the simple per capita method because the multiplier of the various sized cities would be one. Second, the **employment anticipation method** is a method used to estimate impact of nonresidential development. This method is based on a historical relationship between commercial and industrial employment and per capita municipal costs, which also vary by city size.
61. Urban Land Institute. *Development Impact Assessment Handbook*. Washington, 1994.
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