ISSUE
PROFILE

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IMPROVING THE PRACTICE OF INDUSTRY TARGETING

OVERVIEW

In the last decade, economic development consultants have used national census reports more extensively to draw conclusions about which industries have the greatest impact on local jobs. Using these widely published data bases and indicators has given organizations the ability to identify locally important industries, and therefore to focus and target their efforts to those industries.

Despite its general appeal, the practice of setting industry targets using census data can be full of "pitfalls that lead to failed efforts, wasted dollars and general disappointment." (Moses) This Issue Profile will identify the major benefits, as well as the pitfalls which development agencies encounter when attempting to target their economic development efforts to certain industries. It also suggests occasions when target industry identification is or is not the proper decision-making tool.
Target industry identification, as it is traditionally practiced, can be useful in the following ways:

- Target industry identification provides valuable information on the level of production of an industry as well as product sales activities. When final product information is critical, it is an excellent starting point for "narrowing" the economic development approach, for example, in an initial market segmentation analysis of export-oriented companies.

- Target industry identification offers a descriptive view of current industry status. Thus, it is an excellent starting point for identifying the types of industries which make up the local economy; which might be used in an industry retention program.

- Because few other information resources exist, target industry identification is also accepted as a means to segment markets for the purpose of industrial recruitment-oriented marketing promotion efforts.

Target industry identification has been used as a tool for economic development decision-making in situations which were clearly inappropriate.

- Target industry identification is not an end, in and of itself, rather it is only a small part of target industry analysis, which requires consideration of non-quantifiable knowledge of the sector and its needs or opportunities.

- Target industry identification is not the same as identification of determinants of economic growth. Investments and consumption markets and the trade of goods and services, entrepreneurial activity, technology and the organization of work, etc. all determine how much growth occurs. Industry structure is as much an artifact as it is the cause of growth.

- Target industry identification is not the only method of classifying key economic sectors so as to understand the structure of economic activity. Other classification means can be enlightening too. For example, classification by size of business shows the importance of small firms; by type of ownership shows the importance of existing, middle-sized firms; and by industry linkages shows the kinds of interrelated clusters.

- Target industry identification, because it portrays statistics on whole industries (macro-economic data), is an inappropriate technique for making specific or case level (micro-economic) decisions about the growth prospects of individual firms. Deciding which firms to assist in an industry retention effort, which firms to train for export promotion, or to which firms to offer recruitment incentives requires other, more appropriate decision tools.

Definition of Target Industries -- An increasing number of states and localities have adopted a "target industries" approach to narrow the focus of their work. In economic development, "targeting consists of making choices and placing greater emphasis on one type of business activity as opposed to another (but) falls short of trying to plan the local economy." (Haider) Targeting and target industry analysis is most closely associated with industrial recruitment.

Target industry identification uses knowledge of the economy and statistics on whole industries as a means to focus a part of an economic development activity. Industry "growth" information is used to segment the industry "markets" into prospects or candidates. This process helps to narrow the search and identify the potential customers -- who are expected to, at least, receive some affirmative emphasis -- of the program.

Traditional economic developers rarely use the results of such industry analysis to pick specific industries that are to receive exclusive benefits of community or state programs. Rather, such results are used to identify industry groupings, which government can pursue as a potential source of private sector development.

The motivation for states and localities to establish a targeted industry orientation is strong. A rational industry analysis can make the operational aspects of some economic development activities less subjective and more focused. When appropriately prepared, target industry identification and analysis serves as an important component of the planning process.

Shortcomings of Industry Targeting -- A number of major errors can make the results of a target industry analysis less than satisfactory. These common faults need to be recognized, so as to minimize misapplication of the technique. The most common errors include:

} Ignoring Growth Dynamics -- Many states and localities undertake target industry identification solely for the purpose of narrowing their industrial recruitment activities. However, extraordinary attention on industries, rather than determinants of growth is almost always a misdirected starting point.

Reviewing the broader determinants and dynamics of long-term growth raises important questions and defines the context for deciding which economic development approach should be used. Setting the development approach (such as industrial recruitment) prior to learning about the dynamics of job creation is a common mistake in applying target industry identification. (Part I offers an itemization of some growth issues.)

} Undefined or Broadly Defined Goals -- Target industry adherents sometimes attempt to satisfy too many, often conflicting, interests of constituents, through the target industry analysis.

Economic development decision-making in most areas of the country is fragmented and decentralized. Very often, the basic purpose of target industry identification is expected to meet diverging concerns and address multiple issues. Essentially, having too many goals or objectives has the same effect as having no goals or objectives; it keeps the identification activity from being focused. (See Part II for a thorough discussion.)

} Limited Statistical Data Base -- Most analysts prefer to be able to set their analytical questions and thus generate data to prove or disprove their concepts. That is not always possible. Too often, in target industry analysis the opposite occurs, the widely published data are what drive the types of analyses which are done. Even if it is not the best, census data on industry classes may be the only way to analyze the economy or to target economic development. (See Part III for a list of typical data base limitations.)

} Target Industry Identification and Analysis -- Because an analysis of census statistics is time consuming (and the results difficult to decipher,) target industry identification is sometimes built on an incomplete and/or inaccurate analysis of the economic and statistical information that is available.

Because the variety of data is limited (and at times the quality is suspect) practitioners must incorporate other knowledge, besides that provided in statistical tables, in planning their work. (See Part IV for a description of the elements of a statistical analysis.)

} Isolated Process -- When target industry identification is presumed to be an end process, critical steps in the analyses are often left unexplored or unanswered.

Target industry identification is only a small part of target industry analyses. In turn, a target industry analysis is only a small part of a multi-step planning and development process. Other procedures must accompany both the identification and analyses processes, e.g., understanding economic dynamics, setting local goals, analyzing the economic base and so on.

(See Part V for two examples of the practical application of target industry analysis as a market segmentation effort.)

} Industrial Policy Application -- The most serious misapplication of target industry analysis is its use by development agencies for industry policy setting. Industrial policy (briefly) is the identification of critical industries, not individual companies, and the application of programs or protections to develop or retrench those entire industries.

Attempts to target industries by diverting significant parts of the development organization's efforts generally fail because the analysis is not precise enough to be used as the basis for deciding long-run industry winners and losers. Analysis is a means to help agencies make decisions about locally important industries. It is not, in and of itself, a strategy for economic development. (See Part VI for a detailed discussion on industrial policy.)

Target industry analyses are often founded on weak procedural, statistical and interpretive actions. Each of these possible limits, alternative answers, and key implications will be discussed in the remainder of this paper.

With experience, most development agencies can overcome many of these barriers. For example, the City of Chicago recently analyzed its industrial base to narrow its focus on industry retention targets. The following issues were considered in their approach:

- goals were identified first;
- the target industry analysis was a sequential part of a larger initiative;
- limits of data bases were overcome by cross-checking other indicators for consistency; and
- the industry targets were not used in an industrial policy-setting application.

With so many possibilities for errors or misapplication of industry targeting, the economic planner must be careful.

Using Target Industry Analysis Correctly -- In an environment of uncertainty, developers must use all the information possible to help narrow the scope of their work. Target industry analysis is one means to use available data to help define and refine the workload. Industry analysis is most beneficial for two purposes: for the general education of the practitioner and for market segmentation purposes.

} General Education -- Target industry information can be applied to the general informational issues which confront economic developers. For general education purposes, the process of analyzing data helps in the understanding of the economic base itself, how it operates and how the industrial structure affects the socio-economic circumstances of the state or community. A thorough understanding of the industrial base should always precede the development of a strategy for serving companies. Some typical questions which industry analysis helps to answer are:

- What economic sectors have lost or gained the most jobs?
- In which occupations, regions and industries do jobs remain?

- What growth trends nationally are effecting local sectors?

The Committee for Economic Development suggests the primary value of analysis shouldn't result in "detailed, comprehensive economic plans that risk becoming bureaucratic or quickly outdated. Its purpose is to help leaders understand the dynamics of economic change, avoid or revise policies that could have undesirable economic consequences and identify priority actions that are practical and mutually reinforcing."

} Market Segmentation -- The conclusions drawn from target industry analysis are also useful to guide and inform the decision-making related to economic development "prospects." To pinpoint "ideal" prospects, target industry analysis can be used as tool for deciding which segments of industries make reasonable candidates for outreach, sales calls, i.e., "targeting" in the program.

In this application, target industry analysis activities have been used to narrow (target) the efforts of industry retention, place marketing and export promotion.

Target industry analysis in its broadest sense is one technique to provide answers to these basic questions about the economy. With this understanding, more informed decisions are possible.

I. ANALYSIS OF THE DYNAMICS OF GROWTH

If the economy were very stable and consistent, development organizations could predict the future patterns of economic change in a reliable manner by viewing historical trends of industrial growth. With stable growth, the organization could also assume that recruiting a fair share of these industrial expansions would be a sufficient approach to economic development. Development groups often make these assumptions and, as a result, use target industry identification solely to bring rational judgment to the industrial recruitment effort.

Unfortunately, consistency in the growth and structure of the industry complex cannot be taken for granted. Rather, an accelerated pace of change in industry structure is more common in today's environment. The broader question to ask is what causes economic growth and job creation in the first place. Prior to the target industry identification, organizations should consider the possible determinants of growth in a modern economy. Knowledge of these determinants leads to conclusions about other possible approaches to development, besides recruitment.

Dynamics of Growth -- Though far from being a perfect science, there is considerable understanding of the rules and dynamics of economic growth in a free-market economy. Various views of the long-range determinants of growth suggest that the key aspects include:

} Marketplace -- The efficiency of various marketplaces are important to a vibrant, free-market economy: customer markets, both domestic and foreign; financial markets which provide both debt and equity; and markets for supplies and inputs.

} Productivity -- The pace of productivity improvement is broadly recognized as an element of economic growth. (Added productivity serves as a basis for a rising standard of living.)

Organizational know-how, including state-of-the-market technologies and best-of-practice processes, is a key element of production enhancement.

} Economic Foundations -- The capacity of the economic foundations, which help create high-quality inputs or factors of production, is critical in growth, i.e., workforce capacity, technological progress and so on. Public "overhead," in the form of infrastructure support, taxation and legal/regulatory climate, is also a part of this foundation.

} Company Structure -- The nature of industry organization affects growth. For example, world-wide competition, changing technology and other factors, as well as characteristics such as company size, ownership and so on, are known to impact job creation.

} Entrepreneurial Activity -- The role of various agents of change must also be considered, such as entrepreneurship, small business formations, new product or process innovations, or changing competitive conditions.

Implication -- In setting broad development strategies, program tactics, or delivery mechanisms, the first task of the development agency should be to develop an understanding of the dynamics of growth and job creation. For example, the development agency must consider the entrepreneurial role that new, small firms play in creating new jobs and the ability of expanding medium-sized companies to help communities create new jobs.

The task of analyzing growth and job creation in the larger context is certainly difficult, considering that pertinent statistics are not generally available from standard aggregate census reports. Instead, they are usually found in technical economic journals or are collected by companies that maintain proprietary data bases. Knowledge of the underlying dynamics of growth though is critical as it helps guide broad strategy-setting activities.

With responses to the broad questions of what causes growth, an organization can settle on its approaches, focus on possible goals, determine the appropriate governmental role and, potentially, the amount of resources to dedicate to various economic development approaches. Unfortunately, most applications of target industry data come after the approach - such as industrial recruitment - has already been selected.

II. GOAL SETTING

Goals and objectives are important vehicles for measuring organizational effectiveness. Unfortunately, groups set many, often conflicting, goals which they expect to achieve in their target industry identification and analysis efforts. Attempting to satisfy a broad socio-economic agenda through a single effort "stretches the analytical requirements for decision-making, while depriving the practitioner of defined objectives upon which to base policy and analysis." (Conley) Setting specific narrow goals helps eliminate that problem.

The goals of the community or state can vary widely, and as a result the appropriate industry targets will vary accordingly. This means that there may be a different set of targeted industries for each goal.

Community/State Goals -- Some of the more common goals of development agencies include job quality, employment benefit, industry retention, diversified growth and overall growth.

} Overall Growth -- A popular goal of many industrial recruitment programs is to increase capital accumulation (investment) in the community or state. If one assumes that the economy is reasonably stable with a steady rate of growth, all that a community need do is to garner its fair share of this new investment. To determine the best prospects for this growth, series of data can be compared to show patterns of national and local expansion of industries in terms of investments or final sales of industries, or growth in jobs. These assessments can help developers identify industries which are growing either nationally or locally. These industries would then be the focus of specialized target marketing efforts.

} Industry Retention -- Some states/communities target their economic development work to existing industry. A common purpose is to retain the local investments of a company and the jobs that it provides. Numerous data bases describe the impact of current firms both in terms of growth and decline. Their growth and decline affect the turnover of jobs and occupations in the community or state. Target industry information helps development agencies determine which industries contribute and how much they contribute to the local occupational base and payroll base.

} Diversified Growth -- Upon reviewing which industries contribute to payroll and share of income, some states/communities may note that their economy is not diversified. Regions may be specialized, that is, with one group of industries producing a comparatively large share of regional income (or output). While regions which are specialized have strong export potential, specialization may also cause an area to be overly dependent on an industry. If national trends for the industry decline, the fortunes of the local industry and the income it provides to the community will also decline. The development agency's goal may be to diversify its manufacturing and industrial structure, or to balance the economy between the manufacturing and service or commercial sectors.

} Job Quality -- The quality of jobs, especially in terms of the average wage, supplementary benefits and so on, can be a goal. Higher wages usually mean more disposable income and greater community benefit. Especially in the midwest, the loss of a number of high wage manufacturing jobs has led agencies to target industries which supply high-paying jobs.

} Employment Benefit -- One by-product of America's free market economy is sometimes unbalanced growth across regions or unequal distribution of the benefits of economic expansion. The goals of a state or community might be to provide greater equity across geographic regions, or to assist disenfranchised groups. Industries can be targeted based on resident employment needs, if local employee skills are consistent with industry labor needs.

Implication -- Each set of state/community goals leads to different types of target industry identification. This suggests development practitioners need to set a few, specific goals rather than an extensive and varied number of goals or objectives. Alternatively, additional economic analysis should be done to satisfy the unique requirements of each goal or objective. Throughout the

analytical process, state/community leaders also may need to refine their goals based on new information or an emerging understanding of their economy.

Goal setting is important in that it affects not only the types of analyses but also the types of development approaches to be selected. Most development approaches such as new business creation, business retention, or recruitment can satisfy only a narrow range of public goals or purposes. Thus the most appropriate approach depends in part on local goals and objectives.

III. LIMITS OF A STATISTICAL DATA BASE

Having settled on goals, which will guide the target industry identification, organizations must actually conduct the analysis. There is no unique method of conducting an "industry" analysis.

Preferably, the database itself will be extensive and robust, rather than limited. Popularly available records (such as census data) provide a primary, but not necessarily a complete, source for analyzing the make-up of the economy. Unfortunately, these available statistics usually drive the kinds of classifications and measurements that will be done.

Before an analysis can be done, a data base of statistical information must be collected, this data must classify the activities of economic sectors in a helpful way, and must measure economic growth activity.

Classifying Economic Sectors -- Delineating or classifying the economic potential of a region might be done by any of a number of schemes. Critical measures of the economic structure, such as the ownership, the inputs used by a business entity or the link between the company and outside markets are some possible means. Final output is another possible way to study the economy. Economic sectors may be described according to the following categories:

} Technology -- Use of similar technologies or use of similar capital to labor ratios.

} Business Cycle -- Similarity of response to the business cycle.

} Location Needs -- Near to markets, like retail or household furniture; near to natural resources, like mines or agricultural processing.

} Business Size -- Either by gross sales or number of employees.

} Markets -- Both local versus non-local and type of customers either household, industrial or institutional.

} Business Ownership -- Including single establishments, owner-operator and regional or nationally based multi-location enterprises.

} Inter-Industry Linkages -- Sector clusters, geographic agglomerations, purchase-sales relationships, etc.

} Product Produced -- The final product, such as provided by the Standard Industrial Classification (SIC) system.

Since census data is available, it is most often used for target industry identification. A considerable amount of this census data is organized based on SICs. SIC data on business activity categorizes companies by their primary final output or product. Certainly, industry product categories are not the only, and perhaps are not even the best, way to classify the economic potential of a region.

Measures of Economic Activity -- A number of data elements could serve as "indirect" measures of economic growth. One general task of the analysis is deciding which type of data will be used to measure the growth (or decline) of economic activity. Some of the potential measures of the change in industrial and occupational growth of a state or community would include:

} Sales Value of Shipments -- The Annual Survey of Manufacturers provides output data in the form of sales by SIC code. Similar information on retail sales by store group is also available.

} Income -- The level of income provides a rough measure of the well-being and welfare of the state/community. Income information might portray payroll by SIC, unearned income, income by family and educational status, and so on.

} Employment -- Employment and unemployment figures by county or state, by SIC industry sector, and by the occupation of employed workers, are available through the U.S. Census of Population and from unemployment records. Employment data is frequently used because of the ease of measurement and the consistency of the data over time and across political units.

National census data yields counts of employment and county business establishments, sales transactions of industries, payroll and income information, and other measures of social and economic information. Any of these can be used as profiles to measure growth activity.

Data Base Limits -- Analysts will end up using aggregate level data such as statistical abstracts or census reports in screening industries by growth, size, or other criteria to target in economic development. The practice of using aggregate secondary sources, rather than individual company surveys, has its limits.

Critics note a number of limitations, not only in the aggregation of the information but in the data bases themselves. As a source from which to draw conclusions about the local or regional economy, macro-economic data bases leave a lot to be desired. Some of the more typical limitations are as follows:

} Timeliness -- With the reduced federal expenditure for census counting, data is collected less often and results are published less quickly. As such, data can become quite dated. Information portrayed by census reports can sometimes be three to five years old.

} Potential Sampling Errors -- Most data sets or statistical abstracts are periodic samples. Given the funds available to national census takers, their accuracy is the best possible. However, for

small geographic areas or small industries, the samples can be inaccurate. Published government data will almost always note these limitations.

} Net Information -- National data sources represent net, aggregate figures based on a selected sample of cases. Net data can mask fundamental differences. As an example, census data lists firm size, which includes branch plants of larger firms as well as independent companies. But since the two types operate differently, and react differently to outside forces, census materials really serve to "average" the sometimes divergent impact of these two types of companies.

} Static Observations -- Most of the information on industries represents a snapshot of activity at one point in time, called a static observation. Studies based on this static data will not take into account significant trends or the different underlying movements between the two points in time. Making conclusions, in this manner, for a state, a regional area or even a nation can be misleading. For example, a small firm that doubles its employment or sales becomes reclassified as a middle-sized company. Time-series trends would incorrectly credit the growth in employment or sales to middle-sized firms.

} Trend Information -- On a sub-state level, changes in data over time could be the result of only two or three significant company changes, rather than the cumulative result of an industry. Additionally, changes can reflect "blips" or business cycles rather than true economic trends.

Without fine grain detail (i.e., gross flows), professionals can make inaccurate interpretations of the reasons for changes between aggregate census reports.

Implications -- The adaptation of various economic statistics to the target industry identification effort requires judgments and conclusions about what kind of data to use. Factors for consideration include:

- the means of classifying the sectors;
- relevant approximates of industry growth, and
- the amount of faith to place in the data.

Because of its limitations, the data that is available and typically used to analyze target industries should only be one of the considerations, not the sole basis of defining a target industry. Most economic developers supplement published indicators with additional diagnosis of the broader consideration of world economic trends, knowledge of national and regional dynamics of the economy, and an understanding of the nature of the individual industries in a community. (These issues are addressed in the next section.)

IV. TARGET INDUSTRY IDENTIFICATION AND ANALYSIS

Target industry analysis is a process which ultimately results in the identification of industries which are important to the region being studied. The final decisions concerning which industries are "high impact" will only be as good as the series of judgments leading to that point.

Certainly, published data bases and statistics can be useful in showing the amount of money entering the local economy and which industries employ local job holders. From this data, researchers can calculate time-series and cross-sectional trends. Because the data are available all across the U.S., comparisons of local economies (income, jobs and industry activity) are possible. However, great care must be used in drawing conclusions from the data sources. The analytical process also must take into consideration qualitative and political factors, in addition to the quantitative factors.

Although vast amounts of economic data exist, little of the information is truly valuable in its original form. Because of this, the tendency of many groups is to under-use and under-analyze the statistics that are available. Too often target industry identification decisions are based on only one or two easily understandable aspects of the analysis. Instead, all available information and data should be used to help illustrate key concepts. Drawing reasonably accurate conclusions also requires a systematic analysis of the data. First, general indicators of industrial structure should be prepared, subsequently more specific measures of economic significance should be selected.

Practical analysis of census data requires deriving from statistical information such conclusions as the following:

- industry (export) sectors which drive the local economy;
- existence or absence of measurable trends;
- supplements to published data regarding sector needs; and
- conclusions about important sectors.

Several of these parameters will be discussed.

Export Base Analysis (Which Industries) -- Assuming the analyst has selected industry products as a classification scheme, the next question in the target industry analysis concerns which industries to analyze.

Conventional thinking suggests state and community economies are anchored by goods-producing industries. Goods-oriented industries produce and export products and services. The sale of export products brings in outside money that is then spent in the area and stimulates the local economy. Historically, manufacturing, mining, farming, and forestry were thought to be major export products and therefore the most effective vehicles for creating jobs and sustaining growth. Observers also note that other industries -- large warehouses, "back office" operations and special public facilities -- bring in new funds too. All of these "export" industries should be analyzed.

Export base analysis and calculation of location quotients are the two analytical techniques which help determine which industries in the economic region should be subjected to further analysis.

} Export Base -- An important state/community decision is to identify export-oriented firms. Export base analysis is the categorical assignment of the industrial sectors, that is, economic activity in a region, into basic (export) and non-basic (local) sectors. In one approach, export firms are assumed to include all those which are a part of the goods-producing industries and certain commercial operations which serve multi-state markets.

} Location Quotients -- Another way to identify export firms is to calculate location quotients. Location quotients are the ratio of an area's total employment or income held by a particular industry, divided by the percentage of national employment or income in that same industry. Location quotients greater than one imply that a state or locality exports a portion of that industry's product and, in addition, that an area has some comparative advantage in support of that industry.

Gauges of Significance (What Criteria) -- Having identified the export industries of the state or community, the next step is an attempt to select criteria which describe and quantify the significance of those industries: the variety of occupations, number of employees, economic outlook, etc. There are several kinds of analysis which a development organization could undertake. Two of the most common are:

} Industrial Growth Rate -- A calculation of the historical rate of expansion of the product or industry provides reasonable prospects for current and future growth of the industry. Firms in growing industries would presumably be more ideal targets for recruitment, if the location factors of the state or community are appropriate to the industry's needs.

} Critical Mass -- A critical mass of firms (a large number of workers, firms, or shipments) may be needed to justify specialized attention in the form of public services to the industry. The assumption is that large industries will continue to get larger.

There are, however, other criteria of significance that can drive the analysis and calculations of potentially important target industries. A more comprehensive analysis of published records, which yields a clearer understanding about which industries are important, would consider collateral details such as:

} Economic Diversity -- The breadth of the firm base (for example, significant contributions to income from manufacturing, distribution, commercial and business services) provides a balance of economic activity to soften shocks of national trends.

} Concentration and Control -- A large representation of mid-sized establishments in close geographic proximity implies the area already has a competitive environment for business. This could make recruitment or retention efforts easier.

} Shift Share Analysis -- The components of the growth rate of an industry can be divided into: a portion equal to the national growth rate, a portion due to national industry growth, and a portion due to local industry growth. Industries growing nationally could be expected to be candidates for potential local growth.

} Regional Growth or Decline -- Conclusions about the prospects of success or failure of an industry in the multi-state region will have impacts on the local planning. Firms growing in the same region of the country, but not growing locally, suggests that the area may have unique problems or may have opportunities for growth.

} Capacity Utilization -- Industries that are near full utilization of their current capacity are more likely to need to expand and grow. Analysts need to look at the strength of past investment behavior of the industries, to determine future prospects for adding plant capacity.

} Productivity -- Companies with high value added per worker, where the process of automation is advanced, can be adding output to a local economy without adding a large number of employees. Thus, even industries that are not increasing employment can be growing in terms of total output.

Drawing Interpretations (Specific Conclusions) -- Practitioners will find that consistent and accurate interpretation of the standard census data presents a problem. Macro-economic data and trend information can easily be misinterpreted and then misapplied. Reasonable people using the same information can vary in their interpretation of the importance of the statistics and then come to different conclusions about what it means to the economy. Some of the more common misinterpretations are as follows:

} Existing Concentration -- Some groups assume that an industrial recruitment program should target the same industries that are currently located in the community or state. The process usually is a little more involved. At best, target industry analysis only provides a list of industries that have historically been critical to the welfare of the local economy.

} Under-represented -- Another simple assumption is that under-represented industries (location quotient of less than one) need to expand. Just because an industry is under-represented locally does not mean it would be a good target. More likely there are very good reasons the industry doesn't exist locally.

} Target Industry Interest -- Just because an industry is targeted, that does not mean the individual firms that are a part of a targeted industry will show any interest in the advertising and promotion of a development agency. Targeting is not an ordination process.

} High Growth Firms -- Some groups assume that if firms are growing nationally, then they are a good target. As an example, during the early 80's, a number of areas actively targeted "high tech" firms. Such efforts were unsuccessful, often because "high tech" firms, although growing, had to rely on extensive networks of other firms for survival.

} No Growth Firms -- Declines in employment in an industry (from a peak year) are sometimes thought to represent low potential. It is presumed to show excess capacity or changing market structure. Declines can also represent other things, such as improved productivity, intra-regional movement, etc.

Industry Sector Information (Other Additional Considerations) -- The potential success of targeting an economic development effort to meet the goals of the state or community depends on the industries chosen. The final choice of industries on which a development organization would concentrate its efforts is affected by the knowledge of interested local parties, politics, and the 'fit' of industries with existing economic development programs." (Pritchard)

To be able to target, a state/community must select one or more industries that would be important. Analyzing the available statistics, by showing high potential industries, plays only a partial role in the process. Knowing which industries are large and/or growing prepares a development agency to go to the next major step: sector analysis to illuminate specific needs of particular industries. Some of the additional items to consider include:

} Community Goals -- A community's expectations for jobs, new investment, alternate occupations, etc., will dictate in part the types of companies that would be preferable. Industries selected up to this point should be compared to previously selected goals to assure compatibility.

} Recent Market Shifts -- Recent shifts in markets (consumer or international,) or increases in local competitors can present opportunities or barriers to existing firms and relocating industries.

} Community Resources -- Assets and liabilities of the community -- public services, utilities, special services -- will be important to the success of the development effort.

} Factor Cost Issues -- Local wage rates or labor skills, utility costs or costs of key services and component materials may be important to the industry. (A community's cost attributes may not fit company needs).

} Business Attitudes -- Unique operational and location requirements, key issues facing the industry are important, essentially because no two industries have the same kinds of needs.

Assuming industry groups have passed all the previous tests, specific mailing lists and contacts, as well as staff resources, are needed to contact appropriate firms. If such lists are not available, there is no reason to target.

Implications -- Determining which industries are potentially high impact depends on a number of criteria. Because so much data and information seem to be available to describe the industrial structure, a typical response is to ignore what could be valuable information and, instead, base judgments and decisions on a few readily available (or measurable) statistical indicators. Almost every economic development strategy is grounded in an analysis of the economic and industrial base. "If accurate, [it] will provide a clear and realistic picture of where the [state or locality]...can be expected to go. A strategy developed without a clear and accurate understanding of the economic base will almost always result in failure." (Moses)

Generally, developers should decide how to measure economic growth, decide which firms make up the export base and then analyze industry trends using numerous indicators. Economic development organizations should not shorten the target industry analysis.

V. TARGETING AS A PART OF A LARGER PROCESS

Target industry analysis is not an end, but rather a means or tool to improve decision-making in economic development operations. One of the most practical uses of target industry analysis is

market segmentation. Market segmentation involves culling from a comprehensive list of existing industries to identify specific industries with a high potential for growth. Firms within these industries can be singled out for special promotion and calling, since they are presumably the best targets. Two common applications for market segmentation purposes are found in place marketing and business retention.

Place Marketing (or Industrial Recruitment) Effort -- Some communities dedicate the majority of their economic development work to business recruitment and attraction. Within this approach, state and local community promotional activities obviously vary, but usually include the following elements:

} Community/State Preparedness -- The initial preparedness of the area must be assessed, in terms of both local leadership and physical resources. In addition, the attitudes and opinions of local business and the public towards growth should be known.

} Organizational Goals -- Social, economic and specific implementation goals must be set, preferably in cooperation with a broad range of interest groups.

} Economic Base Analysis -- The role of the existing industrial base and sources of local income should be analyzed.

} Target Industry Analysis -- An analysis must be conducted on potential "industry" segments which satisfy the vision and goals of the organization.

} Location Factors Identification -- The business needs of relocating firms (e.g., space, labor force, transportation, and financial) must be known as well as the management decision process companies use in selecting a site.

} Community Attributes -- The strengths and weaknesses of community characteristics, its extraordinary resources, and the local business climate are important items in company relocation decisions. Additionally, the availability of these community resource, industrial sites and inducement programs are often viewed as critical.

} Competition Analysis -- An analysis must be conducted to locate concentrations of the selected industries, nationally and internationally, and to study the quality of economic foundations in other areas (which may also be competing for the same industries).

} Place Marketing Services -- A plan must be developed listing specific measurable marketing activities, for example, promotional pieces, direct mail campaigns, on-site visits, etc. These are needed to sell the community to a prospect.

Business Retention (or Existing Business) Effort -- Some communities decide that nurturing and maintaining the existing industrial base is important. Target industry analysis is usually one of the steps of implementing a business retention effort. The steps that are generally followed include:

} Service Network -- Government, trade groups, local development organizations and labor unions, are organized to assist in the industry retention activity.

} Economic Base Analysis -- The role that various industries play, and an understanding of how the local economy works should be described.

} Resource or Social Accounts Analysis -- The major public and private resources -- financial, technical, informational -- available to help existing firms should be identified.

} Target Industry Identification -- Significant commerce and industry in the area should be identified. From among those selected, there will be industries that can benefit from a retention effort.

} Sector Analysis -- Through literature review, secondary data collection and analysis, surveys, focus groups or discussion groups, or direct surveys, the key problems and competitive environment for the industry(ies) should be illustrated.

} Final Strategy -- Major problems and issues should be winnowed to find one or two projects where the assistance of the Service Network (identified in the first step) could give the industry a competitive edge.

Implication -- Target industry analysis is only one component of any state's or community's comprehensive development initiative. The examples above represent potential activities of two different strategies to economic development; they are by no means the only methods of developing a plan nor the only possible uses of target industry data. They do illustrate that target industry analysis is not a beginning, or an end, but rather just one step in a much larger process. Target industry analysis is an interim step, preceded by growth dynamics and goal setting, and followed by further analysis of specific industry needs and program delivery based on those opportunities that arise.

VI. USING TARGET INDUSTRY ANALYSIS AS INDUSTRIAL POLICY

At times, rather than using target industry analysis to inform the decision-making on market segmentation, it is used in the manner of industrial policy. In conventional industrial policy setting, an organization would follow the practice of identifying the industry first, upon which some action would be taken. Once the key industrial targets are selected, two different industrial policy practices are sometimes suggested: (i) all of an agency's resources are then strategically targeted to those "high impact" industries; or (ii) only limited assistance is made available to non-targeted industries.

Although it is not often explicitly stated, by directing all available resources to certain industries, the state or community has in fact selected its vision of an ideal industrial structure. By setting aside resources for a particular industry, the state/community is practicing industrial policy, not industry targeting.

Industrial policy targeting is supposed to guarantee a more effective deployment of resources. It is intended to insure that limited resources -- for instance, work force training, technology

advancement, equipment modernization and export assistance -- are used for projects with the greatest impact. This type of industrial policy setting is a very controversial practice and deserves a detailed examination. For a number of reasons, this kind of exclusionary industry targeting is unsound.

Definition -- Industrial policy is a summary term for the activities of government that are intended to develop or retrench various industries. Industrial policy provides "an explicit conception of the direction in which the industrial structure ought to be evolving, and...a set of tax, loan, trade, regulatory and other policies to lead to economic activity along the desired path. Industrial policy has two aspects: 'picking the winners' and 'protecting the losers.'" (Schultze)

Industrial policy setting is "practiced where elected officials are willing to affect the nature, timing and location of growth according to the community's expectations for its future. These types of development plans are rooted in research, analysis and complex but rational decision-making with a result of preferential treatment for certain sectors." (So) Selecting an industry for public emphasis:

- Signals government's confidence in the future prospects in the industry, and
- Carries an implicit government promise to support the industry.

Presumptions -- An underlying assumption of industrial policy setting is that the free-market allocation of resources among classes of industries operates in the general public interest only if directed by the government to do so. Greater planning of the economy could be used to protect critical industries or to soften the economic transitions experienced by industrial sectors. By planning for and targeting the growth of a particular industry or region, it is expected that:

- Private capital, from individuals and investors which follow the government's lead actions, will be attracted to the targets, and
- The reallocation of resources to the chosen industries will then benefit the economy as a whole.

Criticisms of Industrial Policy -- Despite the alleged benefits, industrial policy setting has been soundly criticized. "The practice of singling out particular industries for support and development... contrast(s) with the notion that the role of government is to create an environment in which any firm in any industry has the opportunity to prosper." (Porter)

Pundits recommend that government's purpose should be to facilitate the operation of the free-market society. It may need to remove imperfections in the markets, but it should operate <u>through</u> markets, not against them.

Frederick Hayek, the 1974 Nobel prize winner in economics, cautions that planning industrial policy -- a planned society -- "is necessarily limited in size and scope to what the minds of the planners can comprehend." He proposes an alternative to the more common philosophies of industrial policy or laissez faire. His views were summarized in a <u>Wall Street Journal</u> article. According to Hayek, "The world does not exist in two categories: planned (with the overtones of purpose and order implicit in the word) and unplanned (with its suggestion of things wild, disorderly and without reason). Rather society and the market economy belong to a third group -- they are orderly, bounded

by rules and suited to the purpose of the individuals using them, but they arose quite naturally. Thus, a social or economic system can be rational and efficient even without planning."

Sporadic Record of Success -- Many examples of government industrial policy -- planning and targeting to spur geographic growth, to manipulate the type of output, or to protect industry segments -- show little, if any, permanent success.

The command economies of totalitarian countries have failed in attempts to plan future industrial output which would raise their standard of living. Market-based economies have also had a mixed track record in permanently saving designated industries. In addition, the experience of the late 1960's and early 1970's in the U.S. is instructive. The federal government targeted geographic areas with urban renewal funds, but seemed to fail to achieve permanent changes though targeting did meet national policy objectives of redistribution of income.

Most federal governments of free-market countries have directed their research and policy activities to the level of output rather than the type of output or geographic location of the output. National policy attention usually takes the form of fiscal, monetary or trade policies. Even with this limited focus, democratic governments often debate how to use interest rates, money supply and so on to influence the level of economic conditions such as inflation or unemployment.

Picking Winners and Losers -- Using industry identification as an industrial policy tool to decide which firms get special public services is difficult to justify. As opponents of industrial policy suggest, governments cannot anticipate future industrial winners and losers, if for no other reason than that adequate data (or theory) does not exist to allow that kind of decision-making. Absent adequate theory, industrial planning and targeting is impossible altogether. (Where public officials cannot agree to the nature or location of growth, an industrial policy is not possible either.)

Creating a successful industrial policy requires two conditions that rarely exist according to former Treasury Secretary George Schultze. One is that "the government has the analytical capability to determine with greater success than market forces what industrial structure is appropriate, who the potential winners are, which of the losers should be saved and how they should be restructured. The second is that the American political system would (or could) make such choices among firms, individuals and regions on the basis of economic criteria rather than political measure." (Schultze)

Further, because industry analysis deals with macro-economic measures, it is not a valid or reliable "test" to determine future micro-economic "winners" in the economy. Even growth industries have a number of failing firms, because of poor management, poor capitalization structure, or changing market conditions. And even in declining industries, there are superior companies capable of expanding their efficiency, market share, and also capacity. A broad industry class is by its nature an inaccurate (and therefore inequitable) means to predict the chances of an individual company's life cycle.

Industry analysis isn't designed to highlight individual company success. As such, it is a poor test basis for making case-by-case decisions about inclusive or exclusive participation in an economic development program. Thus industrial policy based on target industry analysis suffers from both types of classical errors in testing: in a Type I error the decision process rejects an industry (with

firms) that could help improve the economy; in a Type II error decision makers accept an industry (whose firms) would hold false hope for expanding the economy of the area.

Implication -- Target industry analysis is not an adequate tool for industrial policy setting. Target industry analysis should not be the first step around which one organizes a set of program and policy responses aiding those targets. Despite its growing use, it is not clear that target industry is an appropriate way to organize the work of an agency.

Additionally, target industry analysis or industrial targeting is an inappropriate method to respond to critics who say the general or company-by-company approach to economic development should be replaced with a more targeted (some call it strategic) approach. Since cost-benefit or job quality/job benefit is what is important to most communities, case-by-case impact analysis is much more accepted in the profession because it can be done with reasonable precision. Because of its poor modeling and predictive capabilities, industry targeting is fundamentally weak as a "test" for deciding which industries are deserving of specialized policy actions.

Development officials should use strategic information about the measures of growth to their competitive advantage. Officials can and should borrow from industrial policy the element of goal-oriented strategic thinking as a component for the economic development effort. Because commanding the economy is unworkable, developers have responded with flexibility as a main weapon. What has evolved is exemplary of informed opportunism. It is the primary means of operation of some of the world's most successful companies.

VII. KEY SHORTCOMINGS OF TARGET INDUSTRY ANALYSIS

Because economists (and development organizations) do not have the information to analyze the real economy, they are forced to make a few simplifying assumptions in hopes it will enable them to predict general trends. This is the primary benefit and also the major weakness of target industry analysis. The analysis process involves taking vast amounts of data and manipulating it into a form with potentially greater informational value. At the same time, the manipulation process often oversimplifies a very complex economic system. In particular, oversimplification is due to:

} Modeling Capacity -- The only broadly available statistics come from census reports, which are often used to predict trends, to model economic growth, and for other purposes. Census data are built around product categories, which are not the only, and perhaps not even the best way to model or categorize economic potential of a region. In fact, other categorizations, such as the size of the company and age of the company, are more accurate for measuring job growth.

} Projections -- In extrapolating projections and drawing a conclusion based on historical information, a presumption is often made that the industry trend analysis data helps "read the future." If the economy (and industries) were stable, this might be a reasonable assumption in the short term. Since the 1970's, however, the industry structure has undergone numerous structural changes.

Reasonably accurate projections in the form of econometric models will show important effects, but only on a macro-economic scale and only over a short time frame. Granted, industrial growth is affected in measurable ways such as historical sales trends and overall industry size, but growth of the economy is impacted in uncertain ways by new technologies and the entrance of new producers on the world scene.

} Judgmental Process -- Because the typical SIC-based industry analysis is incomplete, (at a national, regional, or local level) selection of a target industry can never be a scientific or mechanical behavior. There are too many options, unknowns or changes over a period of time. Professional opinion is required to factor in the important aspects of economic growth which are not a part of the numerical data.

Available theory and existing target industry analyses offer an informative but incomplete picture of the economy. Choosing target industries cannot be based solely on an analytical decision-making process, because there is no valid and reliable statistical test that can be applied to the data. Development agencies instead rely on consensus, experience, past demonstrations, and philosophy.

Target industry analysis is a tool that can lead to improved decision-making and thus outcomes only in the hands of seasoned and experienced practitioners.

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