The Economic Opportunity Approach

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The goal of economic opportunity analyses is to identify sectors which will bring maximum benefits to a particular region using a five step process. These steps include: (1) identifying the region's preferences for economic, social, environmental and other outcomes; (2) estimating the potential contribution of various industries to the criteria included in the region's preferences; (3) identifying the region's attractiveness to particular industries; (4) calculating the desirability of the sectors given the region's preferences; and 5) identifying strategies for increasing the region's attractiveness to the highest ranked sectors. This methodology is based on the experiences gained from several different but related projects (Bailey, 1996; Cox, 1996; Cox, et al., 2000; and Johnson, et al., 1994).

Before beginning an economic opportunity analysis sectors are screened to eliminate all but *footloose* sectors - those not tied to resources such as farming or mining. Truly market oriented, or factor oriented firms cannot be influenced by factors other than the potential markets and the availability of factors of production. The remaining sectors are footloose and thus able to choose their location on the basis of policy relevant factors. It is important to recognize that the list of footloose sectors is growing over time because of technological change. It is also important to remember that even market characteristics and factor characteristics may be influences by policy.

Step 1: Indicators and Local Preferences

Economic opportunity analysis is based on the concept of a local social welfare function that is some function of the utility functions of individual residents of the region in question. In order to approximate this social welfare function, a preference elicitation technique is used to develop weights for a range of potential economic, fiscal, environmental and other outcomes.

A community's preferences should not be overlooked. According to the Tiebout hypothesis, over time, regions tend to attract residents to their particular mix of place-based attributes. Thus different places will have different preferences for these attributes, including those affected by economic development. Economic development outcomes, regardless of the program or policy in question, are felt locally in a number of ways and differ depending on the industry and local economic structure. Impacts include environmental changes, economic changes, increased population, increased demands for public services, increased congestion, changes in property values, etc. The following indicators, and suggested ways of calculating them, are suggested as possible criteria that a community should consider. Several of these indicators may be calculated with the aid of an input-output model for the region.

- QUALITY OF JOBS: For example, "Direct plus Indirect Wage Income per Employee" includes the linkages because multipliers have been applied.

- ECONOMIC BENEFITS: This may be measured by the "Direct plus Indirect Wage and Property income per dollar of Output." This indicator includes the linkages and incorporates the impact on business owners, landowners, investors as well as workers.

- The GROWTH RATE: As and Example, a ten-year average annual growth in employment, by two digit SIC can be calculated.

- EMPLOYMENT POTENTIAL: This may be approximate by total employment per million dollars of output. It is a measure of linkage, and employment effects of each sector.

- INTERNATIONAL COMPETITIVENESS: This is an evaluation based on recent international trade trends and government forecasts. This criterion examines recent changes in employment, value of shipments, capital investments, total imports, and total exports.

- LONG-TERM GROWTH PROSPECTS: This indicator evaluates projected industry growth in the face of international competition, regulatory constraints, technological changes, and future market demand.

- ENVIRONMENTAL CONCERNS evaluate the potential environmental impacts of selected industries based on common industry practice and known by-products.

Since development outcomes are multi-dimensional, a means of weighting these dimensions is needed in order to rank the events that cause the outcomes. A major shortcoming of many weighting systems is the reliance on *ad hoc* scoring methods that do not adhere to basic principles. The less rigorous techniques include ordinal ranking or fixed point scoring. These methods are simple to use, but may lead to erroneous conclusions. The Analytic Hierarchy Process (Saaty, 1980) is a means of weighting impacts by analyzing peoples revealed preferences. AHP is a proven means of eliciting consistent and transitive preferences. They have also developed software that can be used with groups (Cox et al., 2000).

Step 2: Economic Impacts (attractiveness of the industry to the place)

Several tools may be used to estimate the differential consequences of various industrial sectors on a local economy. IMPLAN (Impact Model for PLANing, a commercial input-output model) or some other input-output model may used to identify industries that would bring the most benefits to the region, and to develop a series of sectoral multipliers for measuring linkages. A Community Policy Analysis System (COMPAS) model (Scott and Johnson, 1997) can be used to measure the fiscal impacts (changes in cost of providing public services, local government budget demands, and public revenues) of selected industries. Input-output models such as IMPLAN generate various types economic multipliers, for each sector, for any county or combination of counties in the US. When a new firm is anticipated in a sector for which there is no current firms the IO system should be adjusted to include the new sector. Estimated changes

in total employment, total income, total retail sales (based of direct employment increases for selected target industries), should be obtained from the input-output model.

COMPAS type models use statistically estimated relationships to predict changes in social and fiscal conditions under altered economic conditions, such as changes in employment, real property tax base, personal property tax base, retail sales and total income.

The sectoral multiplier information can then be plugged into the COMPAS [1] type model to project changes in local government revenues and expenditures. Impact projections are assessed on the basis of differences between estimated baseline levels (without a change in economic conditions, and steady rate of growth) and projected levels (with a change in economic conditions). Fiscal impact analysis is useful in determining whether induced increases in public service demands are balanced by corresponding equivalent increases in revenues generated.

Local expenditure decisions are made in response to increasing cost of, or demands for, public service provision. An increase in public expenditures when real costs rise can be interpreted as an effort to maintain a level of service. However, an increase in public expenditures may also reflect higher quantities of service provided, if improvements in quality are realized, such as higher pupil-student ratio or a greater percentage of crimes solved. Projections must be interpreted carefully.

Step 3: Industrial attractiveness (attractiveness of the place to the industry)

The next step is to estimate each sector's attraction to the study region. Models like the NorthEast Economic Development System (NEEDS) estimate the attractiveness of a region to selected manufacturing, and needed desirable improvements in the region's "economic development infrastructure" - its natural, human, social, and man-made capital resources which influence the location and investment decision of employers. Another, simpler model used for this purpose was the Attractiveness to Industry Model (AIM) (Johnson and Kriesel, 1985; Kriesel, et al., 1988).service structure and general population characteristics. These models can be used to identify the region's attractiveness to the range of industries being studied, and determine the regional characteristics that attract these firms.

Using a system like the NEEDS, the analyst can prioritize the industries in terms of the likelihood of success in attracting them. The results of this stage should provide local decision makers with a better understanding of the complex interaction of industries within their region. Naturally, the models applied in this stage of the study cannot predict with 100 percent accuracy the fiscal or economic impacts of various scenarios (economic stimuli); however, the methods suggested here are robust in determining objective rankings of those sectors, which have the highest and lowest benefit to the region. Therefore, it is incumbent on the reader to interpret the results with some latitude.

[1] Some analysts conjoin the COMPAS and IO models so that solutions are calculated simultaneous.

Step 4: Scoring the Potential Sectors

In this step a simple calculation is conducted to apply the scores calculated in step 2, weighted by the preferences in step 1, and the probabilities or likelihood of the sector finding the region attractive in step 3. The resulting scores will suggest the amount of effort that should be directed at attracting each of the sectors. A sector will score high if it leads to highly desired results or if it is can reasonably be expected to be attracted to the region, or both. An alternative to this straightforward scoring is to set minimum levels of preference, desirability scores, and attractiveness score before calculating the overall scores for the sectors (see Johnson, Wade and Archambault, 1994, for a case where this approach was taken). The product of this step a list of priority sectors for the region or community.

Step 5: Developing a Strategy

The final step will require the involvement of a cross-section of regional or community leaders. If a model like NEEDS or AIM, discussed in Step 3, is available, analysts will have the basis for determining which of the community's characteristics are limiting the communities attractiveness to the priority sectors the most. Conversely, they will indicate which characteristics the community should improve in order to make itself more attractive, and the degree to which these improvements will increase the likelihood that particular sectors will find the region attractive, and the degree to which its overall score will increase. This information is enough to allow a crude benefit-cost analysis for various economic development strategies.

Conclusions

Economic opportunity analysis rests on the postulates that residents of different communities want somewhat different outcomes from their economic development efforts, and thus will ultimately want to target different sectors; that different communities have unique attributes that make them differentially attractive to different sectors; that different communities will have different abilities to affect their attractiveness to targeted industries; and in the end, that targeting industries only make sense it the targets are accompanied by precise prescriptions for changes in the community that will increase the likelihood of attracting the chosen industries. Thus economic opportunity analysis is highly place oriented, requires the involvement of a broad cross-section of the community, and requires the commitment of the community to make changes and investments in order to bring about the strategies developed by the analysis.

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