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Tax Incentives: An Effective Development Strategy for Rural Communities?

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As national and local economies become more globalized, many rural areas are going to find it more difficult to compete for private capital investments. A traditional tool, modifications to tax policy, of state and local governments will not be as effective (for many communities it has never been effective) in the future. These communities will need to seek other avenues of growth. However, for many rural communities even alternative avenues will not lead to enhanced economic opportunity.

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The use of tax modifications[1] as a tool to enhance local economic growth has existed for over half a century in the United States. During the 1980s and 1990s, state and local governments were making bigger modifications and making them more often (Anderson and Wassmer; Gabe). Competition between communities and states is the primary reason for the growth in the use and size of industrial incentives. When one community increases the value of its package, oftentimes surrounding communities will increase their package as well in an attempt to stay competitive (Bartik; Fisher and Peters).

Despite the increased efforts in modifying industrial taxes, there is still a great deal of debate as to their overall effectiveness. Many argue that the industry that is attracted by incentives (or other tax policy changes) would have located in the area without the use of the incentives (Bartik; Papke and Papke; Fisher and Peters; Schmenner). To the extent the investment would have come without the aid of the incentives, local governments will have needlessly foregone tax revenue. Many opponents of development incentives argue very strongly that this is the situation that exists in most recruitment cases, whereas proponents of incentives argue that new investment would not come to the area without the incentives.

Also, as states race to become more competitive, many argue that this is a race to the bottom, because competing and surrounding states quickly meet each increase. Thus, as states continue to increase their incentive packages, they are simply decreasing their ability to provide public services in the future.

The purpose of this paper is to examine the current state of knowledge concerning taxes and their impact on the location of industrial investment. The next section will briefly review the theory of the firm and will be followed by a section on the relative importance of taxes as a cost of production. Then we will examine the benefits provided by taxes. The fourth section will look at taxes relative to other location factors. The fifth section will look

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[1] Typical modifications are tax abatements, tax credits, and fees in lieu of taxes.

at some of the problems faced by rural areas and how these problems may hamper their ability to manipulate tax policy. We will conclude by summarizing the main tax policy findings and constraints.

Firms Maximize Profits

A firm's primary goal in selecting a new industrial site is to find a location that will allow the firm to maximize its profits (Gerking and Morgan). Profits are emphasized because firms that do not maximize profits will not be able to compete in the long run. The profit maximization approach to industrial location states that a firm will locate where sales can be maximized at the least possible total cost (Shaffer).

In many instances, production costs are not the only consideration in searching for the new site. In addition to labor and input costs, much of the early work on industrial location focused on transportation costs and agglomeration forces (Smith).[2] Future location decisions are going to be more dependent on access to advanced communication technology.

However, Greenhut hypothesized that firms' location decisions may not be based entirely on profit maximization. He believed that the personal goals of persons involved in the site selection decision have a major impact on the location choice. This is particularly the case for many small or single-establishment firms in which the owner's personal preferences weigh heavily in the final decision.

Taxes as Production Costs

There are many factors that a firm examines when deciding where to make its next investment. To make the search process more manageable, a firm is hypothesized to undertake the search process in two steps (Schmenner, Huber, and Cook). The first step involves the regional search, or selection of a particular region or state (Schmenner, Huber, and Cook; Smith, Deaton, and Kelch). In the regional search, the firm is looking for the location that will achieve the firm's location objectives; taxes are not likely a consideration at this point. During the initial process, the firm is interested primarily in securing adequate access to input or output markets or both. A firm may also seek some longer-term objective, like establishing market share in a particular region.

Once the region is determined, the firm searches for a specific site within that region. This site would provide the best mix of low costs and appropriate quality labor, good utilities, and low taxes. Good infrastructure (highways, water treatment systems, communication networks, and mass transit) is also important in the second stage of the search process. Furthermore, amenities such as parks, libraries, museums, and other cultural attractions will have an impact on the location decision.

In the second stage, the firm will weigh the differences in cost and demand at the community level. Furthermore, the firm will analyze the various incentives offered by the different communities to determine which location will be the most profitable. However, since the number of potential communities is so large and the costs and time needed to analyze all of them would be enormous, it is believed that the firms will only analyze a subset of the potential sites (Gerking and Morgan). The firm determines this subset by specifying two or three key criteria that the firm assumes to be critical to its location, and only examines the sites that satisfy these criteria. Even in this stage, labor, utilities, and infrastructure will dominate the importance of taxes.

Taxes and Business Location

Research before the mid-1970s tended to indicate that taxes had no significant impact on the location of industrial activity. However, the majority of studies since that time has typically found that taxes have a statistically significant negative impact on business activity. The major difference between the early studies

[2] Agglomeration is the collection of population and business activity within a particular area. The benefits of agglomeration are external business services at lower costs, access to a base of workers with specialized skills, and reduced cost of infrastructure.

and the more recent ones has been in data and statistical sophistication. Studies in the 1980s and 1990s focused more on measuring marginal tax impacts and in controlling for other factors affecting industrial activity.

Henderson and McNamara (2000) studied counties that had large new investments in food manufacturing plants (SIC 20). They estimated the probability of a county receiving a large investment in food manufacturing on the basis of data from 1987 to 1995. They estimated four equations as in the 1997 study, and included three measures related to tax policy. At least one of the measures was significant in each of the equations, and each time the coefficient had the expected negative relation with a county's probability of attracting new investment. One of the measures, the share of local expenditures paid with local property taxes, was significant in all but the equation for demand-oriented firms. This implies that new footloose and supply-oriented firms are more likely to avoid locations with high local tax efforts. Another measure examining state tax effort was significant in all but the footloose equation, implying that demand and supply-oriented firms are sensitive to states with higher-than-average tax levels.

Goetz also examined the distribution of food manufacturing establishments. His research is based on theory that firms make their location decision in a two-step process. First, the region of the country that is believed to best meet the firm's overall objectives is selected. The second step is selecting a particular community within the selected region. Thus, Goetz estimated two models. One model, at the state level, examines the regional determinants, or the first step, of the location decision. The second model studied county characteristics that influence the location decision during the second step. Goetz estimated 10 equations within each model.[3]

In the regional model, he finds that state corporate income taxes have a statistically negative relation with food manufacturing establishment growth in 3 of the 10 equations. The three industries that avoid high-tax states are (1) fruit and vegetables, (2) confectionery, and (3) fats and oil. These results imply that firms in these industries tend to avoid higher-tax states if all other factors are held constant. However, for the other food manufacturing establishments, taxes were not found to be a significant determinant in their regional location decision.

The second-stage model found that the level of local expenditures financed through local property taxes had a negative relation in four of the equations: (1) all establishments, (2) dairy, (3) fats and oil, and (4) beverages. Again the results indicate that local taxes are not an important determinant in most industries' location decisions in the second stage. The fats and oil subcategory was the only industry that was found to avoid high-tax locations in the first and second steps of the location decision process.

Henderson and McNamara (1997) examined the locational patterns of food manufacturing plants (SIC 20). Their analysis segmented food establishments into three categories: (1) demand-oriented, (2) supply-oriented, and (3) footloose.[4] They examined the net change in food manufacturing establishments by each category and for all food manufacturing establishments in each county in the Corn Belt region. They found a significant and positive relation between taxes and the total number of food manufacturing establishments and the number of supply-oriented establishments. They did not find a significant relation between demand-oriented or footloose establishments. The positive tax relation in two of the equations was not expected. This implies that communities with higher taxes are more attractive to supply-oriented firms and are not at a disadvantage for demand-oriented or footloose firms.

Rainey and McNamara studied the impact

[3] One equation is for all food manufacturing establishments and one equation each is for the following subcategories of food manufacturing: meat, dairy, fruits and vegetables, grain mill, bakery, confectionery, fats and oils, beverages, and miscellaneous.

[4] Firms were assigned to each category on the basis of the relative importance of transportation costs in shipping products versus factors.

of local taxes on the level of industrial activity at the local level. They looked at property taxes and other local taxes to determine what relation local fiscal policy had with growth in manufacturing establishments. Their results indicate that local property taxes and an optional income tax decreased the number of new plants locating in a county. These results are consistent with many of the other findings that communities with high local taxes may be at a disadvantage for attracting new investment if all other factors are constant.

One of the major findings of the recent studies is that tax implications for business location are much more intense for nearby locations than for communities in different regions or states (Bartik). This is not surprising since adjacent or nearby communities are likely to offer the firm many similar attributes (climate, market access, agglomeration, wages, labor supply, and quality).

In addition, previous studies examined the type of services being provided by the tax revenue. When taxes are raised to make improvements in infrastructure or labor quality or both, it has been shown that communities may become more attractive to locating firms (Aschauer; Eberts 1986, 1991; Gerking and Morgan; Miller and Russek). This is not to imply that raising taxes is a good thing. Holding everything else constant, higher taxes will tend to have a negative impact on capital investment. However, if higher taxes are used to make investments in public services that improve the productivity of private capital, the negative impact of the high taxes may be diminished or overcome by the positive productivity benefits.

Finally, previous studies stressed that the importance of taxes varies across industries. Most of the studies that have examined individual industries or firm categories have found taxes to be a significant factor for all of the industries (Goetz; Newman and Sullivan; Henderson and McNamara 1997). Therefore, communities that reduce tax levels for any industry that is relocating may be foregoing tax revenue, even though the tax reductions have no impact on the firm's location decision.

The long-run elasticity of industrial activity with respect to state and local taxes appears to lie in the range of -0.1 to -0.6 for decisions that do not occur in the same area, and -1 to -3 for location decisions concerning the same location (Bartik). The higher intra-area result is as expected since sites within the same area are likely to be much more competitive than sites in more distant locations.

Other Factors in the Location Process

The educational system of the community is important to the locating firm(s) for two reasons. First, a community with a good educational system will produce well-educated residents in the community. All other things being constant, a highly educated work force will provide the firm with a lower labor turnover, employees that are more easily trained, and employees with higher productivity; these factors could allow the firm to produce at a lower cost (Goetz; McNamara, Kriesel, and Deaton). Second, a good educational system provides an indirect benefit to the locating firm in that the employees of the firm who have to relocate will desire a good school system for their children (Gerking and Morgan; Hekman; Johnson).

Colleges are also important in the location decision-making process (Eberts 1991; Smith, Deaton, and Kelch). Universities and technical colleges offer several potential benefits to industry. (1) Research done by colleges may be useful to the locating firm (Eberts 1991). This reduces the research that has to be done by the firm, which reduces the firm's total costs. (2) The firm may realize reductions in its training cost if the college offers courses that will improve the skills of the firm's employees. (3) Family members of the firm's employees may wish to attend college near their home (Goeken and Dobbs). (4) A firm that locates in or near a college community may also have an advantage in that they are close to a good supply of people with advanced degrees to fill managerial or research positions as they become open (Goeken and Dobbs).

Amenities/quality of life attributes are also important. Families are concerned about extracurricular activities outside of work. Cultural

and recreational facilities such as theaters, museums, libraries, parks, and natural attractions will have an effect on how the quality of life in a community is perceived (Boblett; Deller et al.; Isserman). To the extent a community is perceived as having poor amenities, the firm would have to offer higher salaries or other incentives to persuade current or new employees to relocate to that area.

The infrastructure, such as advanced communication technology, highways, water treatment and distribution systems, and mass transit, within the community is another key factor in the location decision. These infrastructure systems can provide three benefits to the locating firm: (1) an input into the production of goods and services, (2) the growth rate of private capital and labor, and (3) to augment the productivity of other privately provided inputs (Eberts 1991). These benefits reduce the amount of investment that would otherwise have to be done by the firm. Thus, communities with better infrastructure stand a better chance of attracting a new firm.

Agglomeration economies represent the cost savings that accrue to firms that locate in communities with a relatively large concentration of manufacturing/commercial business activity (Henry and Drabenstott; Johnson; McNamara, Kriesel, and Rainey). The concentration of activity tends to provide broader access to markets, business services, and technological expertise. In addition, agglomeration forces are generally associated with an abundant supply of skilled labor. Thus, communities located closer to metropolitan statistical areas have location advantages over more remote communities.

Labor access is also a very crucial factor to the firm. Labor access can be broken into three parts: quality, availability, and costs. Labor quality would reflect the general skill level of the labor force of the area and their ability to use their skills efficiently. A labor force that has high labor quality tends to be more productive, thus leading to lower production costs for the firm (McNamara, Kriesel, and Rainey). It is assumed that a more capital-intensive industry will require a better-educated labor force. Factors affecting labor quality are education, transportation, and health care. Labor availability refers to the ability of the firm to find enough employees with the desired skills and within the desired wage rate to operate the plant.

Taxes as Payments for Benefits

Government policies can have an impact on the firm's decision-making process, particularly taxation and incentive policies. Corporate income and property tax rates can affect a firm's profits either directly or indirectly (Gerking and Morgan). It is obvious that a firm's profits will decrease if the burden of an increase in taxes is borne directly by the firm. However, it may not be so clear that a firm's profits will decrease if the increase in taxes is passed forward to the consumer. By passing the tax to the consumer through higher prices, the firm's market will decline, thus indirectly reducing profit.

On the other hand, Newman and Sullivan argue that business taxes should not be viewed strictly as another cost to the firm. They perceive business taxes in part as benefit taxes. "Firms derive some benefit from local or state expenditures on fire, public safety, transportation, and perhaps education" (Newman and Sullivan, p. 216). The relevant question for the firm now would not be which location would minimize the tax burden to the firm, but what location would provide the firm with the most desirable overall fiscal package.

Government expenditures for welfare payments and other transfers can have a negative impact on firm location (Fox and Murray; Miller and Russek). This is due to the fact that the firm does not receive any benefits from these expenditures. However, if the local government was to increase expenditures on education, infrastructure, health care, or other activities that will benefit the firm, that area may increase its chances of attracting a firm (Aschauer; Eberts 1986, 1991; Gerking and Morgan).

Relative Importance of Taxes in the Location Decision

Taxes are one of many costs faced by the firm and are generally one of the smaller costs the

firm must pay. For instance, labor costs are typically 14 times those of taxes (Bartik). Thus, differences in local wages will have a bigger impact on most firms' decisions, particularly labor-intensive firms, than will taxes.

Many other factors will affect the firm's location decision. Agglomeration, infrastructure capacity, quality and availability of labor, and quality of life are all factors that firms weigh when determining their next location. Some researchers have found that increasing taxes to pay for improvements in infrastructure and labor quality may enhance the community's attractiveness to potential locating firms.

In addition, any benefits received from changes to an area's tax policy will only be short-lived, as competing communities are likely to quickly match those changes. Thus, the community that lowers its taxes will not likely see a long-term competitive benefit, but will face lower tax receipts throughout the future unless the tax reductions are reversed. This could lead to a decrease in public service quality or quantity in the area, which will make the area less attractive for future investment activity.

Conclusions

Taxes can have an impact on the location of industrial activity. However, it is only one of several factors that firms examine when making their location decision. Recent research has shown that much of the growth in rural areas is occurring in areas that are adjacent to metropolitan areas. For these communities, tax policy can be a determinant in whether a potential firm chooses a community on one side of the metropolitan area as opposed to a community on the other side.

Tax policy will likely be less of an issue for communities that are not adjacent to, or have easy access to, metropolitan areas. These communities are more likely to face deficiencies in areas of concern to firms. Any reduction in taxes by these communities will only leave fewer resources to address these other needs, and thus likely weaken long-range competitiveness.

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