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THE INSTITUTE, a nonprofit research organization, was established on July 1, 1945. It is an activity of the W. E. Upjohn Unemployment Trustee Corporation, which was formed in 1932 to administer a fund set aside by the late Dr. W. E. Upjohn for the purpose of carrying on "research into the causes and effects of unemployment and measures for the alleviation of unemployment."

FOREWORD

The issue of the decline of the Northeast and Midwest is uppermost in the minds of state legislators and local officials in the affected areas. Many of these states have responded by enacting legislation permitting local communities to offer a series of financial and tax incentives to businesses in order to induce them to begin operations there.

There are numerous unknowns that cloud local tax policy towards business. When is the local tax incentive effective at inducing a local development? When is a new industrial or commercial development an economic benefit to a community? What can a community do to mitigate internal controversy that may arise over selective tax relief? In this volume, Dr. Wendling analyzes a number of these issues related to local tax policy towards business. Although the individual community will not find answers to its specific questions, this volume raises issues that each community should address as it considers the use of local financial and tax incentives.

This study serves as an introduction for the Upjohn Institute to the general area of regional development. Future studies may address the influence of tax exemptions on firm location, labor market characteristics of communities in the Midwest selected for new industrial developments, and the impact of a new development on the local community.

Facts and observations presented in this monograph are the sole responsibility of the author. His viewpoints do not necessarily represent positions of the W.E. Upjohn Institute for Employment Research.

E. Earl Wright
Director

Kalamazoo, Michigan
April 1981

EXECUTIVE SUMMARY

Many states have enacted legislation that is designed to improve the competitive position of their communities vis-a-vis communities in other states. Although a broad range of financial and tax incentives has been legislated, tax exemptions and related instruments of differential property tax treatment probably have generated the most controversy in the local community. At the heart of the conflict is the question of the effectiveness of tax exemptions at inducing industrial location and facilitating growth.

The purpose of improving the competitive position of a state or community is to attract new industrial and commercial developments and to retain existing ones, thereby increasing community income, creating jobs, reducing per capita tax liability and exporting taxes. As is the case with any program, tax exemptions are not without costs. There are costs of administration and the loss of potential tax revenues if the exemptions are unwarranted. Furthermore, additional economic development may impose costs on the community such as those associated with congestion and the need to provide additional public services. The community must decide whether the benefits associated with inducement programs are sufficient to warrant them.

Many studies have relegated local taxes to a relatively unimportant role in influencing the location of businesses; they are generally considered much less important than the availability of skilled labor and proximity to markets.

However, local taxes should not be discounted totally. Although other factors may be the primary considerations for establishing the set of feasible location alternatives and the level of local taxes may be only a secondary consideration, local taxes may be the marginal determinant—the critical factor for choosing among the several alternatives. In other instances, the level of local taxes may be of no consequence.

A number of research studies are reviewed in this discussion paper. One study found that the variation in taxes across communities is one of several determinants of the location choice of certain types of firms relocating in the same metropolitan area. Those firms tend to be in the manufacturing and wholesale trade industries. Because these types of businesses generally are less tied to local customers, they can be footloose and locate in the low cost locations. Another study found that tax exemptions are a relatively minor consideration and not used that frequently by large firms. A third study implied that whether local tax incentives are a factor in inducing or retaining businesses depends on the internal organization of the firm; some firms will not need a tax exemption to expand at their current site because the internal managerial requirements dictate that the expansion be local.

The business climate of the state frequently is cited as important in attracting new industry and commerce. One attempt to quantify it for the individual states relied heavily on state taxation, public expenditures and legislation relating to labor and social programs. These factors, however, do not correspond with the ranking by industry of factors important in selecting a location. This difference highlights the fact that the business climate of the state is not the only consideration in selecting a location; basic requirements for markets, labor supply and productivity must be met first.

The first step in order for a community to have an effective tax policy in regard to new industrial and commercial investments is to define its priorities. Then, it will be possible to structure the administration of the program accordingly. For example, when the goal of the community is to maximize its taxable property base, tax policy should be administered so that a tax exemption is awarded only if it is the marginal (critical) determinant for the enterprise considering the location. It should be recognized, however, that a trade-off between equity and efficiency must be made in the establishment of priorities and the administration of policy because local property tax exemptions are likely to affect groups of citizens and taxpayers differently.

ACKNOWLEDGMENTS

A number of individuals have made significant contributions to this study. Conversations with E. Earl Wright, Director of the Upjohn Institute, sparked my interest in this topic and also clarified numerous points in the course of the research. My colleagues at the Upjohn Institute, Saul Blaustein, Phyllis Buskirk and Allan Hunt, gave generously of their time and thoughts, both during informal discussions and on reading earlier drafts. John Hanieski was most helpful in the formulation stage and Judith Cohen, who also commented extensively on a draft, introduced me to a segment of the literature used in this study. Special thanks are due to Betty Thum, who typed several drafts of this manuscript and corrected many of my mistakes in the process, and to Barbara Monroe, who proofread and edited each draft. Of course, all remaining errors are my responsibility.

CONTENTS

I. INTRODUCTION

Two apparent shifts in economic activity have dominated the discussions of public officials and researchers alike. One is the movement of new industrial and commercial investment from the Northeast and Midwest to southern and western locations. The other is the shift in investment from central cities to surrounding suburban and rural locations. Both movements appear to have impacted the older manufacturing communities most severely. Years of outmigration of industrial investment, jobs and people seemingly have impaired the capability of these old industrial regions and cities to provide public services at acceptable tax rates.

The reasons for outmigration vary. Some firms have moved to new regions to take advantage of the special resources of the region, e.g., inexpensive labor, better access to raw materials, lower energy needs, different lifestyle or a different business climate. Firms that have moved their manufacturing location within the same metropolitan area may be taking advantage of new technological developments, which require different building construction or more land, while maintaining the same labor force. Given either reason, the net result remains the same: replacement projects and new industrial and commercial investments are not taking place in the same communities and regions at the same rate as they had previously.

Officials and representatives of the impacted regions and communities naturally wish to regain the former circumstances when persistent unemployment, limited growth and a severely constrained public fisc did not dominate their agenda. In an attempt to enhance the climate for business and to encourage new industrial development, most states have enacted legislation that is designed to improve the competitive position of their communities vis-a-vis communities in other states.

There has been a virtual explosion in the number of states making tax and financial instruments available to business, either directly or through local communities, in the last two decades. Bridges (1965) reported that, in 1963, 25 states had programs permitting local industrial bond financing, but only 14 of these programs were considered active. He also noted that 15 states permitted the granting of tax concessions to newly located businesses. However, at the conclusion of 1979, 34 states had statutes providing for tax exemptions (abatements or moratoriums) either on land and capital improvements, or on equipment and machinery. In addition, 46 states provided for city and/or county revenue bond financing. Numerous other tax policies designed to assist business also were available in selected states. The *Site Selection Handbook* (1980) listed 32 general programs of state or local financial assistance or tax incentives that were available in 1979 to businesses. Additional forms of assistance also were available for specialized purposes.

The increased frequency of states offering instruments between 1966 and 1979 and also the range of financial and tax assistance available are demonstrated in Table 1. The number of states providing for accelerated depreciation on industrial equipment more than tripled and the number of states providing loans for building construction more than doubled. Similar growth was realized in many of the other instruments. The types of assistance range from exempting sales taxes on new industrial equipment to providing loans for building construction. Those listed are just a sample of

Table 1
The Frequency of States Employing Tax and Financing Instruments for Industry, 1966-1979

	1966	1970	1975	1979
Tax exemption or moratorium on equipment, machinery	15	21	27	31
Tax exemption or moratorium on land, capital improvements	11	17	21	29
Tax exemption on raw materials used in manufacturing	32	39	43	46
Inventory tax exemption on goods in transit	32	39	38	45
Corporate income tax exemption	11	21	19	25*
Personal income tax exemption	15	20	19	20**
Excise tax exemption	5	9	10	15
Sales/use tax exemption on new equipment	16	26	33	36
Accelerated depreciation on industrial equipment	9	14	21	28
State sponsored industrial development authority	25	29	30	32
State revenue and/or general obligation bond financing	10	16	21	25
State loans for building construction	11	13	15	23
State loan guarantees for building construction	11	11	14	19
State financing aid for existing plant expansion	14	26	27	31
City and/or county revenue and/or general obligation bond financing	28	43	45	46
City and/or county loans for building construction	8	5	8	11

SOURCE: Data for 1966, 1970 and 1975 are taken from Barry Bluestone and Bennett Harrison, *Capital and Communities: The Causes and Consequences of Private Disinventment* (Washington, DC: The Progressive Alliance, 1980). Data for 1979 are compiled by the author from *Site Selection Handbook,* a reference supplement to *Industrial Development* magazine, 25, 2, 1980, pp. 344-345.

*Four states, Nevada, Texas, Washington and Wyoming, do not tax corporate income. They are included in the total, however. The remaining 21 states exempt corporate income from taxation if certain conditions are met by the business.

**Seven states, Connecticut, Florida, Nevada, New Hampshire, Texas, Washington and Wyoming, do not tax personal income. They are included in the total, however. The remaining 13 states exempt personal income from taxation if certain conditions are met by the business.

the numerous instruments and incentives available. The analysis in this study, however, is limited to local incentives for business tied to the treatment of the local property tax.[1]

There is considerable public debate over the use of tax exemptions for industry and commerce. The debate has concentrated on (a) the efficacy of preferential tax treatment at inducing or retaining industrial and commercial developments and (b) the impact on other taxing units and the residential sector.[2] The opposing views range from tax exemptions being the most effective means of encouraging industrial and commercial development to being giveaways because there are other factors more important to locating industries. Because there is a divergence of opinion on local tax exemptions, there is the need to evaluate the issue being debated and other aspects that soon may gain more attention.

The purpose of this discussion is to consider the efficacy of local property tax exemptions in inducing development and also to address several related questions. The questions include: (a) What is the economic basis for attracting new industrial and commercial developments, and/or retaining existing ones? (b) What are the economic incentives in the

1. In the discussion that follows, tax exemption is used as the generic term for programs affecting the property tax liability of businesses. It includes most forms of tax relief including exemptions, abatements, credits, moratoriums, and other preferential and differential property tax treatment. The principal tax exemption legislation of the state of Michigan is the Plant Rehabilitation and Industrial Development Districts Law of 1974 (PA-198). This statute empowers local government units to establish plant rehabilitation and industrial development districts and with state approval issue certificates which exempt replacement facilities or new facilities from the general property tax for up to a 12-year period and instead subject it to an industrial facilities tax. In 1978, the creation of rehabilitation and development districts and the issuance of certificates was expanded to include commercial property as a result of Public Act 255.

2. The issue of impairment to other taxing units is addressed in the W.E. Upjohn Institute for Employment Research study, "Do Tax Abatements 'Impair' the Financing of Local Public Education." This study appeared in the January 1981 issue (Volume 23, Number 4) of *Business Conditions in the Kalamazoo Area: A Quarterly Review.*

property tax that exemptions are trying to offset or build on? (c) Can a community expect other outcomes from tax exemptions and how is it constrained in achieving them?

The basis for attracting industry and commerce is discussed initially (Section II). It is suggested that cost pressures in the provision of public services require continued growth, assuming the existence of several conditions, and that the creation of jobs from industrial and commercial investment generates increased economic activity. The principles of property taxation, and shifting and exporting concepts, are discussed in Section III. One implication of that section is that the existence of an industrial base does not imply that a lower proportion of taxes is borne locally. The issue of the effectiveness of tax exemptions at inducing investment is addressed in Section IV. One finding is that local variations in taxes do affect the location decision in some situations. Another finding is that other public programs may be more effective than tax exemptions. In Section V the relationship between the community investment goal and the method of administering the local tax program is presented. Conclusions are presented in the final section.

II. BENEFITS AND COSTS ASSOCIATED WITH GROWTH AND DEVELOPMENT

Tax exemptions (credits, abatements, moratoriums and other forms of differential tax treatment) should enhance the competitive position of a state and community. The purpose of improving the competitive position is to attract new industrial and commercial developments and to retain existing ones, thereby increasing community income, creating jobs, reducing per capita tax liability, exporting taxes and/or renewing inner cities. As with any program, tax exemptions are not without costs. There are costs of administration, the potential tax revenue that is lost, more congestion and the need to provide additional public services. Are the benefits of these inducement programs sufficient to warrant them? Why do some communities actively grant exemptions, whereas others award them for only certain kinds of new investments and some do not participate in inducement programs at all? Both benefits and costs are discussed in Sections II and III, with the tax related benefits and costs presented primarily in Section III.

Growth of the property tax base may be necessary for some communities so that they can continue to provide the same level of services. The inherent technology of some public services permits little improvement in productivity, but the cost of providing these services will increase through time as long as wage increases in the public sector keep pace with wages in the private sector (Baumol, 1967; Spann, 1977).[3] The difference is that private sector wage increases are matched by productivity increases, but public sector services, which tend to be labor intensive, display limited productivity growth. Productivity improvements are limited because (a) the output tends to be measured in labor services such as the pupil-teacher ratio or number of contacts per case worker and (b) the potential to substitute capital for labor is limited. Assuming that the public wishes to receive the same service level, the revenues needed to supply these services will increase through time since there are little or no productivity gains to offset wage increases.

Tax revenues cannot be increased indefinitely to meet these costs simply by raising taxes on the existing base because the fiscal capacity of a community is limited. Fiscal capacity is the maximum amount of revenue attainable by the taxing unit from its tax base (Akin and Auten, 1976). Stated differently, it is the maximum tax liability that can be imposed without inducing the outmigration of businesses and residents (Gurwitz, 1979). One reason growth is necessary, therefore, is that if costs of the same level of services keep increasing, then the tax base must be expanded in order to avoid increasing the tax liability of existing businesses and residents.

This situation does not characterize all communities. All have not reached the limits of their fiscal capacity. Some may not wish to maintain the same level of public services.

3. The lack of significant productivity improvements is not based on any notion of mismanagement, inefficiency or quality of the workforce. It is inherent in the production of labor intensive services which are subject to certain constraints. The cost pressures arise because of the association between private sector and public sector wage increases. If wage increases in the private sector match productivity increases, the cost of producing the output will not increase. The wage increases in the public sector lead to higher costs for the same level of services because the wage increase cannot be offset by productivity improvements. However, in order to maintain a skilled labor force, public sector wages will have to match the increase received in the private sector, holding other things constant. Otherwise, those employees would seek positions in the private sector.

Some communities may calculate the costs of growth—administration of tax instruments, increased pollution, inmigration of new residents, increased demand for public services—to be greater than the benefits—lower perceived tax liability, greater employment opportunities, et cetera—and therefore, do not offer any inducements to industry. Other communities may determine that certain types of new investment are beneficial, such as a high technology firm, and use tax exemptions to induce its location.

Growth permits greater revenues to be generated with a given tax levy from the tax base. When exemptions are granted, the effective addition to the tax base is reduced as are the potential revenues. If the tax levied on businesses exactly equals the cost of providing public services, exemptions result in those firms being subsidized by nonexempted property.[4] If this is the case, communities actively competing for industries and commerce must perceive other benefits from the development. The primary benefit is the creation of jobs, which can lead to greater economic activity.

Employment growth in a community increases local purchasing power as the additional wages are pumped into the economy. Increased sales stimulate commercial expansion that may lead to another rise in local employment. Supporting industries or commercial ventures may be established in the area to cater to needs of local business and to access the

4. This issue has been addressed by the state of Michigan in several studies conducted or commissioned by the Michigan Department of Commerce. One study determined that in Ypsilanti Township the cost of "providing basic services to industry amounts to no more than 15 percent of what industrial property pays back in tax revenues at full rates. This means that at least 85 percent of the property tax revenue from industry is a 'fiscal benefit' to the township and subsidizes the community for services provided primarily to residents" (Michigan Department of Commerce, 1978). Significantly large returns on investment also were realized in the Michigan communities of Detroit, Port Huron and Sturgis (Michigan Department of Commerce, 1979). In these studies, costs were defined as the proportionate share of providing local public services to the industry and benefits were defined as the excess of tax revenues from the firm minus the proportionate share of service.

residents' greater purchasing power: growth creates growth (Jacobs, 1969). The overall economic impact of an injection of new dollars into the local economy is a multiple of the original injection and is calculated by the local income multiplier.

The impact of an injection of new income such as wages paid to new employees is divided into direct and indirect effects. Direct effects may include the wage payments to employees and the cost of other factors of production purchased locally. Payments to factors outside the local area represent leakages, since the dollars are removed from the local economy. In each succeeding round of expenditures, the indirect effects are smaller because an increasingly smaller number of the dollars originally injected is left in the local economy. Indirect effects may include the wages paid to new employees hired in response to the increased purchases arising from the new income. The value of the income multiplier depends on local conditions and the size of the unit for which it is being calculated, generally being larger for a state than a local community (Musgrave and Musgrave, 1975).

The employment effect and the subsequent rounds of economic activity are important aspects of new business development. Because of the activity generated, even establishments that are exempted from all or part of property taxes generally are viewed as profitable to the community. One example of this point is that each dollar spent by the University of Wisconsin-Milwaukee generated an additional $1.33 of economic activity in the City of Milwaukee (Heilmann, 1977). There are a number of qualifying conditions, however, and the existence of them may mitigate the benefits generated by the new development.

As will be discussed in Section IV, the availability of qualified labor frequently is cited as an important determinant in locating an enterprise. Therefore, it is expected that local employment will increase as the result of new investment. Are local residents who are currently unemployed hired, are local residents drawn into the labor force, are workers hired away from other local firms, or is it expected that job seekers from other communities will move in because of the prospect of jobs?[5] If the new enterprise employs those currently unemployed in the local economy or draws community residents into the labor force, the wages paid are a totally new injection and could represent a substantial benefit to the local economy. Alternatively, the new development could seek to bid qualified workers away from other local establishments. Raising the local wage level could have either a large or small impact on the local economy. If raising local wages simply induces more local residents to enter the labor force and does not cause older local establishments to reduce employment, the positive impact on the local economy should be quite large. If the preexisting establishments close because the increase in wages renders their continued operation unprofitable, the net positive impact on the local economy would be much smaller.

Pressures on the local system of public services could arise if the new enterprise induces the movement in of job seekers. The additional cost of serving new residents partially depends on the capacity of the current system of public services of the local community.[6] If public services are

5. This question is the subject of on-going debate in the economics literature. Does industrial and commercial development and the resulting job creation cause migration into an area or does migration precede the movement of industry? Stated differently, do people move to where the jobs are or do the jobs move to where the people are? This "chicken or egg" question is important to evaluating the benefits and costs of industrial and commercial developments and is analyzed by Muth (1971) and Mazek and Chang (1972).

6. Consider the school district that is trying to offer a wide range of courses for its students, but it has undergone several years of declining enrollments. Many courses have only 8 or 10 students in them although they could be taught almost as effectively with 15 or 16 students in the class. If a new industrial development results in the inmigration of families, it may

characterized by excess capacity, additional residents can lead to the more efficient utilization of these services, e.g., additional students in a school district suffering from declining enrollments could permit the same courses and services to be offered at a lower average cost. In addition, the new residents pay property taxes, their homes add to the tax base of the community and, as a result, the property tax burden on each resident may decrease. However, if the public services are not characterized by excess capacity, serving additional residents may require that capacity be expanded. Consequently, the additional cost of new residents may exceed the additional tax revenues derived from them and, in the case of education, the state aid received by the district for their children.

The magnitude of the problem also depends on whether the job seekers settle in the same community as the new business or in a neighboring one. If it is the same community, and if it is collecting tax revenues in excess of the cost of services from the business, these revenues can be used to subsidize services to the new residents. However, if the job seekers move into a neighboring community, and there is the need to expand capacity, the issues of cost and subsidization are more troublesome. The community does not have the excess property tax revenues from the business firm to help subsidize the additional costs of the new residents.

improve the utilization of resources because the average cost of instruction of 15 students in one class is less than the cost for 10 and the marginal cost of the additional students is quite low. No additional teachers need to be hired; additional expenses probably would include the instructional materials. In other circumstances, the demographic characteristics of new residents can be viewed differently. The property tax is an average price. All families with the same real property wealth theoretically pay the same property tax irrespective of their use of public services. For instance, a family consisting of a husband and wife living in a $60,000 home would tend to use fewer public services than a family consisting of a husband and wife and four children living in a $60,000 home. A community might find that new residents with the former characteristic are more "profitable" than those with the latter characteristic, holding other things constant.

One study of the local employment effects of a new industry in a community was that of an aluminum reduction and rolling mill built by Kaiser Aluminum and Chemical Corporation at Ravenswood, West Virginia (Gray, 1969). The new mill was the only manufacturing employment opportunity within the county. Although the company intended to hire primarily local residents, job seekers from outside the area were able to land many of the jobs because they possessed superior training and skills. Approximately 4,000 new jobs were created, but local residents obtained only about 10 percent of them. Furthermore, additional development in the area wàs discouraged because the Kaiser plant raised the area wage level, and the new residents demanded better quality public services than previously had been provided. Although the area experienced a substantial employment growth, its cost structure did not remain the same either. Thus, this development may have been a mixed blessing, particularly from the perspective of the original residents.

The point is that a more global view is required that takes into account all the costs and benefits to the local community and surrounding communities before concluding that tax exemptions are cost effective. Growth may be necessary for some communities and new industrial and commercial projects clearly may generate substantial benefits without increasing costs by a similar amount. In other localities, this may not be the case. The need to consider the more global view is indicated in the statement by Lester Thurow (1970):

> Private incomes may increase enough to more than make up for the costs of moving, but the social costs of accommodating people in a crowded urban area may exceed the net private gain. More public services must be provided, and congestion may increase. Excess capacity, and hence waste, may develop in the production of social services

(schools, etc.) in areas from which people are moving, and new investment in social services may be needed in areas to which they are moving (p. 33).

III. THE ROLE OF TAXATION

The property tax generally is the main source of local revenue to finance local public services and government operations. It also is the principal variable that local communities can manipulate to alter business behavior. For instance, in the competition for industry and commerce, a community cannot effectively enhance its position vis-a-vis other localities by legislating low energy costs or a qualified labor force.[7] The parameters of those factors are beyond the influence of the community. It can, however, manipulate the local property tax and, with enabling legislation from the state, give firms selective relief from this tax liability in order to induce investment.

The property tax has a number of features. It is difficult to avoid because property is not mobile, but the tax is not always ultimately paid by the taxpayer legally responsible for the liability. It also is a price and as such can be used to give signals in the market, to change behavior, and, therefore, is subject to competitive pressures. The property tax also incorporates several concepts of taxation such as access and benefits received. These features are discussed in this section.

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7. Bluestone and Harrison (1980) have made a similar point. "Their executive, legislative and judicial powers give state and local governments some influence over a host of factors that effect industrial location including the costs of labor, energy, transportation and land. . . . Yet, of these factors, there are actually precious few that state and local governments *directly* control, and only a handful more over which they have any meaningful influence. Perhaps this limited control explains why local jurisdictions have pounced on tax and finance schemes as their main response to capital flight" (pp. 219-220).

The Property Tax

The taxation of property (real estate) wealth generally is considered an extremely useful tax instrument, particularly for local governments, because land and improvements to it are not geographically mobile in the short run. This is unlike other forms of wealth, such as savings accounts or jewelry, which can be shifted to those locations where the expected tax liability is lowest. Because property wealth is not very mobile, tax avoidance is very costly and current owners of real property are not likely to move the asset in response to incremental changes in the property tax.

Generally, efforts to avoid the property tax are long run strategies. Assume a given piece of land which has been improved by the construction of a durable structure for the purpose of operating a business or living there. Suppose that there is an unexpected increase in the tax on this property, with no perceived improvement in public services received. In order to pay the additional tax liability, the owner may reduce the amount of planned investment in improvements and maintenance of the property, thereby shortening the economic life of the building. At the end of the economic life the owner may either change the structure so that it is more profitable given the current tax structure, or he/she may simply construct a new building in a different jurisdiction that has a different tax structure. Divestiture also is a strategy but the owner cannot sell the property immediately after the change in tax policy without incurring a capital loss. The increased tax liability cannot be shifted to the new owner because it is capitalized into the value of the property, thereby reducing its market value.

The structure of the property tax, a fixed percentage of the assessed value of property, incorporates several concepts of taxation. It includes the tax concepts of access and benefits received. With respect to access, payment of the property tax provides the resident or company access to a specific bundle of public goods and services such as police protection, fire protection, street maintenance and public schools. These services are available to all taxpayers without any constraint on the taxpayer's use of them. For example, all families with children can use the public schools, and the property tax paid by the family is invariant whether one or six children are sent. Everyone in the community is a property taxpayer, either directly as is the case for owners of property, or indirectly as is the situation for those who rent.

Benefits received or, stated alternatively, the value placed on the public services, may be an element of the property tax. The benefits principle holds that tax liability should be proportional to the benefits received. Individuals and corporations presumably receive benefits from the public services in proportion to the value of their property. If a large manufacturing firm had to purchase fire protection services in the private market, it presumably would purchase a larger quantity of services than an owner of a small single-family home would purchase. Thus, taxing property such that higher valued property pays a greater liability is in accordance with the benefits received principle.

In addition to the concepts of taxation discussed above, the property tax can be viewed as an alternative to zoning. As such, the property tax may lead to a more efficient location and distribution of economic resources than would occur in its absence (Fox, 1978). Although the inducement potential of variations in the property tax is considered, differences in the tax also can be used to discourage the location of industry. One perspective is to view the property tax as a charge for damaging the enviroment in addition to paying for certain publicly provided goods. Those communities that place a greater value on the environment than others could impose a relatively high tax rate whereas communities not valuing the environment as highly could impose a lower tax rate. This assumes that the level of public services provided is the same. Since the cost of producing will be greater in the former community than in the latter, more industry is likely to locate in the latter, holding everything else constant. Thus, the resulting environmental quality and location of industry among communities is likely to match the preferences of the residents.

Taxing land and improvements to it may be an extremely useful revenue instrument, but it also is a disincentive to undertaking some activities. One example is that taxing improvements to land may deter the rehabilitation or revitalization of existing structures. Taxing improvements raises the price of capital relative to other factors. As standard economic analysis indicates, less is purchased of a good or service as its price increases and substitution will occur from more costly to less costly factors in production when substitution is technologically possible. Thus, taxing improvements means less will be undertaken and, although rehabilitation tends to be an either-or situation, taxing improvements to the existing structure may make the project financially less attractive than other alternatives.

The Incidence of the Property Tax

The amount of property tax revenues raised locally and the amount of local property taxes paid directly by local taxpayers are not necessarily the same. Who ultimately pays the tax is a question of its incidence, a topic that has been addressed by numerous researchers. The potential to have some of the cost of public services paid by individuals not using them is an important reason for manipulating local property taxes in order to attract industry and commerce. If the community can attract businesses that are able to shift their property tax burden to the price of the product and sell it outside the jurisdiction, thereby exporting the property tax burden, part of its public services will have been paid by nonusers. The process is not that simple (as is discussed below) nor is the result always as intended. Specifically, attracting a new industrial or commercial development does not guarantee that (a) the tax burden borne ultimately by the community as a whole will be less, nor (b) the proportion of the tax burden borne by the residential component will be less. Whether the community's and residential component's burdens actually decrease depends on whether the new enterprise is able to shift and export its property tax liability.

Tax shifting refers to the movement of tax costs to the group (business, consumer, employee, stockholder) that ultimately bears the burden of a tax. Tax exporting refers to the similar movement of tax costs to the geographical location (resident, nonresident) where the tax ultimately is paid. The ability to shift taxes depends on factors such as (a) competition in the product market, (b) the responsiveness of both quantity supplied and quantity demanded (elasticity) to changes in price and (c) the difference in tax rates among states (localities). Taxes can be exported out of the governmental jurisdiction through (a) shifting the tax cost to nonresidents who purchase products with the tax included in the price, (b) businesses bearing the tax, which results in lower dividends to resident and nonresident stockholders, (c) shifting the tax liability to the federal government, and ultimately to all federal taxpayers through a reduction in federal tax liability, in addition to other methods.

Competition in the product market is one determinant of the ability to shift the property tax. If the product market is highly competitive such that the individual firm has no control over the price of the product, all firms must sell their output at the market price or face loss of their market share. If the property tax liability of one firm is increased and its competitors, who are located in other communities, do not incur a tax rise, the firm will not be able to shift the increased tax to the price of the product because it has no control over the market price. A deviation from that price would result in loss of market share. Thus, the property tax is borne by the business through lowered profits and reduced dividends or share value for its stockholders. If the product market is noncompetitive, the firm has greater latitude in pricing the product. A change in the property tax liability can be included in the price of the product without fear of losing its position in the market. Thus, the tax is shifted to the consumer, other things being equal.

The analysis for elasticity of demand is similar to that for product market competition. Consider the case when demand is highly elastic, i.e., the quantity demanded by customers is very sensitive to a small change in the price of the product. Although the cost of producing the product has increased due to a change in the property tax, the price in the market rises by only a fraction of the per unit tax change. As a result, a small part of the tax is borne by the consumer (since the price has risen but by less than the tax) and a large part of the tax is borne by the firm (a substantial drop in the quantity sold reduces profits). When quantity demanded is highly inelastic, the tax burden is again split between consumers and the business, but the distribution is different. Consumers bear a larger portion of the tax since the increase in price is closer to the per unit tax liability. Business bears a smaller share of the new tax burden as the drop in the quantity sold is smaller and, therefore, the decline in profits is less. Elasticity of supply is analyzed in a similar manner.

Generally, manufacturing and commercial establishments should differ in their ability to shift and export property taxes. Furthermore, enterprises within each category of establishments also should vary in their ability to redistribute taxes due to differences in market conditions. Therefore, all commercial and industrial establishments are not equally attractive to communities with the goal of reducing the local tax burden for local public services.

Commercial establishments are tied to a location. They cannot continue to serve the same market from a different location.They produce no products but serve as an intermediary between producers and consumers. Unless the establishment is part of a regional shopping facility, customers primarily are from the local area. Commercial establishments may or may not be able to shift the property tax to the price of the product depending on competition in the area and elasticities of supply and demand for the products. If they can shift part of the tax, they are redistributing it to their customers, who may reside in the same taxing unit.

Manufacturing establishments, conversely, are more likely to produce for a market outside the local area. Stated differently, they are not constrained by the nature of the product or service they provide to a particular location. Thus, there is a greater potential for the tax liability to be exported, assuming market conditions permit the tax to be shifted.

The difference in the ability to shift and export taxes among firms should be recognized by the local community. Assuming that one of the objectives is to change the incidence of taxes so that local residents do not pay the full tab for their local public services, some enterprises will be more successful than others at fulfilling this objective. For instance, a new commercial establishment that does not attract a large share of its customers from beyond the local jurisdiction, but that shifts the property tax liability to the price of the goods sold, is simply redistributing its tax burden to its customers. The burden borne by local residents has not been reduced substantially by the new establishment.[8] A manufacturing establishment that produces its product for a non-

8. It is possible, though, that local residents *perceive* that the tax burden has been reduced. The property tax shifted to the price by the commercial establishment is not seen as a tax. The consumer has a choice if the tax is shifted to the price of the product because he/she can decide not to buy the product, whereas a direct tax on the consumer's property cannot be avoided.

competitive national market, conversely, is not only able to shift the tax liability to the price of the product, but also is able to export some of the tax to outside the jurisdiction. As a result, the burden borne locally will be less than the value of the public services, holding other things constant.[9] Other manufacturing establishments may not be able to shift the burden, but must reduce the return to stockholders, some of whom may be local residents.

A recent study by Palmer and Roberts (1979) of the incidence of Michigan taxes demonstrates the difference between manufacturing and commercial sectors in their ability to distribute local property taxes outside the area. Although they considered seven categories of property taxpayers, only automobile manufacturing, nonautomobile manufacturing and commercial establishments are presented here. They derived their export percentages from sales, franchise and other revenue information. Shifting rates were assumed, two different ones for each category, since it is not possible to observe the component of the price of the product that is due to the local property tax.

They assumed that the four firms in the automobile manufacturing category either shifted all property taxes to consumers or that 75 percent was shifted to consumers and 25 percent of the property tax was paid by stockholders. Of the tax shifted to consumers, 92.7 percent was exported to nonresidents of Michigan. The export calculation was derived from the ratio of Michigan receipts to total receipts for the automobile companies. Palmer and Roberts assumed that either all taxes were shifted to the consumer or all property taxes were paid by stockholders for nonautomobile manufacturing firms. If the tax was shifted to consumers,

9. The real concern is whether the community is a net importer or exporter of taxes. Other communities are also attempting to export their tax burden which then becomes an import for another community. This issue, however, is extremely complex and beyond the scope of this discussion.

92.37 percent was exported to nonresidents. The export figure was based on examination of Michigan's corporate franchise fee returns. The shifting assumptions of the incidence of the property tax on commercial property were either completely to consumers or divided between consumers and stockholders according to a 75 percent-25 percent split, respectively. They estimated, based on tourist expenditures, that only 3 percent of the property tax on commercial establishments shifted to consumers was exported to nonresidents. In all cases, approximately 96 percent of property taxes shifted to stockholders was exported, since this is the proportion of Michigan stock, on average, owned by nonresidents.

The issue of the local burden of local property taxes also is related to the concept of tax price, which is the amount of local dollars that must be paid to get one dollar of public expenditure. Residents generally make the decision about the level of public services that should be purchased and may *perceive* the price of added public services to be lower if part of the increased tax liability is borne by industry and commerce (Ladd, 1975; Ladd, 1976). The smaller the residential component of the tax base, the lower the perceived tax price and the greater the quantity of public services purchased, holding other things constant. However, the relationship between the perceived tax price and actual tax price paid by residents depends on the ability of the industrial and commercial sectors to export the tax liability.

Tax Incentive Competition

A community that decides to exempt a firm from the property tax liability in order to induce investment is not a monopolistic supplier of exemptions. The more realistic situation is that an offer of a tax abatement by one community is likely to be matched by another community. This competition is fostered by states through making tax incentive options available to the local community. As indicated, 34 states have legislation permitting the granting of tax exemptions on either machinery or land and buildings.

Gurwitz (1978) hypothesized that states offering tax abatements would tend to be clustered geographically. He plotted the geographical distribution of the 30 states in 1976 that offered abatements and the plot confirmed the hypothesis that states clustered in abatement regions. Generally, if state X had the legislation, and state Y bordered X, Y also had the legislation. Only the states of North Carolina, West Virginia and Maine were located in abatement regions, but did not provide similar legislation.

The competitive response also is evident from the growth of the number of states offering tax exemptions (and financial assistance), which was described in the Introduction. The interesting aspect of this growth is that it has been concentrated in the northeastern and midwestern states. According to Bridges (1965), in 1963 only 3 of the 21 states comprising the Northeast and Midwest had programs permitting property tax concessions to new locating businesses, whereas 9 of the 16 southern states had such programs. Bridges also reported that only 15 states had tax exemption programs. By 1979, 18 of the 21 states in the Northeast and Midwest offered property tax exemption programs whereas 12 of the 16 southern states now had such programs. Thus, the flurry of activity represents two competitive responses. First, the northeastern and midwestern regions are trying to match the competition—the southern region. Second, states within each region are enacting tax exemption programs so that their competitive position within the region is not jeopardized.

Competition also is likely to extend to the terms of the abatement. If the usual tax abatement is 50 percent of the tax liability for 12 years, an individual state may feel that it can improve its competitive position by either increasing the percent of the tax liability abated or by increasing the effective years of the abatement, or both. Gurwitz suggested that this competition could continue until 100 percent abatements are offered, unless it is checked by some other mechanism. Dropping out of the competition, however, may be difficult because it may give the state or community "needless notoriety" and be perceived as a change in the state's or community's fundamental attitude toward business.

Not all communities offer tax incentives to firms considering locating or expanding in the community. Some may calculate the costs of the exemption and/or the costs associated with growth to be greater than the benefits and may even use relatively high property taxes or zoning regulations to discourage industrial development. However, those communities that decide to compete in effect have eliminated the abatement of property taxes as a factor affecting location. It no longer compensates for other factors; since most communities are compensating, selection of a location turns on other characteristics.

IV. FACTORS DETERMINING THE LOCATION AND MOVEMENT OF COMMERCE AND INDUSTRY

One purpose of local property tax exemptions can be to alter the competitive position of a community relative to others. The goal may be to attract new and/or retain existing industry and commerce, and the benefits and costs associated with these developments have been discussed above. Many studies, however, have relegated local taxes to a relatively unimportant role in influencing the location of industry; other factors such as the availability of skilled labor, proximity to markets and the location of transportation networks generally are considered more important. Local taxes should not be discounted totally because they are not a major factor. Consider Buehler's (1960) statement:

> One should not overemphasize the tax factor, but neither should he neglect it when many businessmen, their tax experts, and business organizations act as if they are convinced that taxation is important, and when many governments seeking new industries act as if they thought taxation was a significant factor. In some circumstances it is important (p. 51).

The issue is that of being the marginal consideration. If a firm is considering two new locations and both are approximately equal with respect to availability of labor, transportation facilities and closeness to markets, the variation in local taxes, perhaps due to a tax exemption may be the factor that leads to the selection of one community over the other. If one were to pose the question to a respresentative of the firm, however, as to the most important factor in choosing the location, it is quite likely that labor availability or closeness to markets would be listed as more important considerations than the tax exemption. This is a critical point. Other factors may be the major criteria for establishing the set of feasible location alternatives, but taxes and their structure may be the marginal determinant—the factor on which the decision is actually made—for choosing among the elements of the set. In other instances taxes may be of no consequence since the importance of other factors completely outweighs tax considerations.

The source of much of the debate, which was mentioned in the Introduction, is the question of the efficacy of tax exemptions in inducing commercial and industrial development. Opinions range from it being the most effective inducement to it being a giveaway because it does not affect decisions. Evaluations of tax exemptions have been limited in number and those undertaken generally have involved only those firms utilizing an exemption. Thus, it has not been possible to determine when the abatement has been a significant factor in a decision.[10] In order to evaluate this issue, other studies in which taxes or fiscal differences have been incorporated into the location decision must be accessed. A sample of these studies is discussed below.

A number of approaches have been used to evaluate fiscal differences in industrial and commercial development. One method is tracing employment changes and correlating them

10. In order to evaluate when the exemption has been a significant factor in the decision requires that the group under study includes firms that (a) have invested in a project and have received an exemption, (b) have invested and have not received an exemption, (c) have not invested even though an exemption would have been forthcoming and (d) have not invested and an exemption would not have been forthcoming. When combined with other data on the firm and also the location, statements concerning the circumstances when exemptions are significant factors in the location choice can be made.

with indicators of business climate or with measures of acquisitions, mergers, plant openings and plant closures. Another approach is more subjective as firms rank or compile a list of factors considered most critical for an industrial or commercial location. A third method is to model the location choice of a firm and to employ statistical analysis to isolate the independent effect and to rank the relative importance of the factors.

Weinstein and Firestine (1978) argue, on the basis of studies by Allaman and Birch (1975) and Rees (1978), that the relocation of economic activity from the North to the South and West had accounted for a very small percentage of the employment growth in the South and West. It also had accounted for a small percentage of employment loss in the industrialized Northeast and Middle West. Expansion of existing firms into the so-called Sunbelt regions was responsible for a greater proportion of employment growth variation than the migration of firms. Schmenner (1980b) also found this to be the case. Weinstein and Firestine do assert that an inverse relationship existed between employment growth in states and the relative tax burden on business.

The business climate of the state frequently is cited as important in attracting new industry and commerce. Although it is primarily a subjective concept, several attempts have been made to quantify the component factors in order to develop a measure of the business climate. In a study conducted for the Illinois Manufacturers Association (1975) the Fantus Company graded each state on 15 conditions deemed important to business. The conditions included: corporate incomes taxes as a percent of total state taxes; per capita property tax; per capita welfare expenditures; per capita personal income tax; per capita total state taxes; per capita total state and local taxes; labor legislation favorable to management; legal coverage relative to strikes, picketing and boycotts; regulation of unions; unemployment compensation tax rate; average worker's compensation payment; government units per 1,000 of population; per capita state and local payroll; per capita state debt; and per capita state and local debt. Texas, Alabama, Virginia and South Dakota were ranked as having the most favorable business climates and New York, California, Massachusetts and Michigan were ranked as having the worst business climates. Only one of the 18 states with the best business climate experienced a negative change in manufacturing employment from 1970 to 1977 whereas 9 of the 15 worst business climate states experienced a reduction in manufacturing employment from 1970-1977. However, the business climate is not the sole reason for manufacturing employment growth; California had the second worst business climate but it also experienced the second largest absolute increase in manufacturing employment.

Foltman (1976) asked a sample of large employers in New York state to rank the five most important factors in locating a firm out of 58 possibilities. The most frequently selected five factors were (a) supply of skilled labor, (b) proximity to markets, (c) productivity of labor force, (d) supply of unskilled labor and (e) level of state individual income tax.[11] The level of the local property tax was selected frequently enough to rank it 13 among the 58 factors. The difference in the elements included in the business climate index developed by the Fantus Company relative to those selected by executives in the ranking found by Foltman highlights several issues. First, the business climate of the state is not the only consideration in selecting a location; basic requirements for

11. The level and progressivity of the state individual income tax on the growth of employment has received some attention in the literature. The interested reader may want to consult Thomas Romans and Ganti Subrahmanyam's article, "State and Local Taxes, Transfers, and Regional Economic Growth," *Southern Economic Journal,* 46, 2, 1979, pp. 435-444.

markets, labor supply and productivity must be met first. Second, the business climate, if the index developed by the Fantus Company is accurate, reflects only the legislated environment of the state. It provides no information about the ability to produce or sell goods or services there.

An extremely subjective analysis is Fulton's (1971) discussion in which he depended upon his many years as a location consultant for his list of factors. He suggested that the following were basic considerations to the choice of a location:

- A combination of all location factors so as to give the lowest cost per unit of output;
- Minimum transportation costs with maximum service, reasonable labor costs with satisfactory productivity, inexpensive utilities with reliable service, and pleasant surroundings with a modest cost of living;
- A plentiful supply of labor without sacrificing proficiency of skills, an attractive plant site without excessive cost, and a cooperative local attitude without limitation on independence;
- A tax structure which is healthy—with low rates but not so low as to jeopardize normal services.

An important feature of this list is the mention of both taxes and public services. Low taxes do not ensure that a community has achieved a favorable competitive position. The level of taxes must be weighed in light of the services provided. Low taxes and no public services do not necessarily make a community a low cost location. The public services available in a community may be an important element of the desirability of the community as a location for industry or commerce. Moreover, in many instances, the publicly provided infrastructure of a community enables the private sector to function (von Rabeneau and Hanson, 1979).[12]

The modeling of firm behavior in the selection of an industrial or commercial location has taken two directions. One is the study of intrametropolitan relocation. The other is to analyze firms that have moved over a wider region. Intrametropolitan relocation is the most amenable to mathematical modeling and statistical evaluation. It also is an effective way to highlight the marginal effect of a factor because a number of the location specific factors should be relatively similar across the metropolitan area; local community variations in property taxes are likely to be one of the major differences.

Erickson and Wasylenko (1980) and Wasylenko (1980) have reported on the intrametropolitan relocation of firms within the Milwaukee SMSA. Approximately 380 firms moved from the city of Milwaukee to its suburbs between 1964 and 1974. Initially, Erickson and Wasylenko determined that manufacturing establishments that left the central city and moved to the suburbs appeared to place a high premium on the availability of vacant land and a skilled labor force. Construction firms appeared to value lower land prices, available land for expansion, and a skilled labor force.[13] Reasons for other sectors varied but seldom were fiscal differences

12. Businesses not only rely on the community's infrastructure, such as water and sewer services, but other public services may be important to attract and retain high quality personnel. The literature contains numerous studies indicating that families are willing to pay premium prices so that they can have access to high quality public education. Given that families seem to be exhibiting this preference, businesses also probably consider the available services in their location decisions.

13. Variations in the availability of a skilled labor force was a statistically significant factor for all seven industry groups. This is a surprising result because the firms in question already were employing workers in this metropolitan area and labor was fully mobile across boundaries. Since this variable was measured as the number of residential employees of that industry group within a seven-mile radius of the new location, it may reflect that industrial movement follows that of its employees. This result also may be unique to Milwaukee because of its transportation network.

significant determinants. However, all suburban locations were considered to be feasible options even though zoning regulations did not permit industrial developments in some communities. Wasylenko modified the above study by limiting the possible location choice to those suburbs that did not zone-out industry and found that variations in the local property tax were a determinant of location choice for some categories of firms. He summarized his results with the following:

> Local property tax differentials are a statistically significant determinant of relocation for manufacturing and wholesale trade firms when municipalities which zone-out industry are excluded from the sample. For construction, retail trade, finance and service firms, tax variables do not appear to be statistically significant determinants of firm relocation. (p. 349)

These results follow logically. Construction, retail trade, finance and service firms must be close to their customers. If there is sufficient demand to warrant their operation, they will do business there and not elsewhere. Thus, they do not have the latitude in choices. Manufacturing and wholesale trade firms generally are less tied to local customers and can explore a number of alternatives for locating their operations, including the one with a relatively low property tax liability. Because they have the flexibility to seek out the most advantageous position, they frequently are called "footloose."

Tybout and Mattila (1977) examined the intrametropolitan location of manufacturing industry as measured by employment in the Detroit SMSA. The main purpose of the study was to test the hypothesis that agglomeration effects are an important determinant of the intrametropolitan location of industry. Agglomeration is the location of industrial suppliers and/or customers of an industry in close proximity to it (in the same community). Thus, they were examining the stock of industrial development rather than the movement.

Relatively high property taxes and the escalation of property taxes were expected to deter the location of industry. They determined that relatively high property taxes had a statistically reliable negative impact on employment by location in the following 3-digit industries: miscellaneous chemical products, blast furnaces and steel works, and motor vehicles and equipment. The change in property taxes over the ten-year period did not have a statistically reliable impact on employment in any of the industries studied. This finding may reflect that once the firm has made the fixed plant commitment to the community, it has lost its bargaining power and the community has some latitude in raising the tax rate.[14]

The modeling of the movement of firms over a wider geographic area and classifying the nature of the relocation is characterized by Schmenner's (1980a) research. He asserts that the decision to either increase capacity on-site, establish a branch plant or relocate operations is based on managerial considerations internal to the operation of the plant. It is not based on a desire to take advantage of low wage levels, low land prices or low taxes. The option selected, either on-site expansion, establishing a branch plant or relocating, is based on the special circumstances of the firm such as diseconomies in the current operation or the inability to take advantage of new technologies. On-site expansion is not a clear-cut solution to capacity problems because it may create

14. Tybout and Mattila used average employment in the industry in March 1969 and the average tax rates in 1969 and 1959. The appropriate question is: What was the tax rate when the actual decision was made? There is valuable information in the result that once industry does settle in a location, variations in tax rates over some range have little influence on economic activity.

additional diseconomies such as the physical separation of departments that need to be closer together, increasingly complex reporting lines and increased formalization of labor-management relations with the consequent loss of flexibility. Relocation becomes much more of a possibility when the plant's needs are to improve process technology and control rather than to increase in size. Establishing a branch establishment is a more favorable option when the source of diseconomies results from the proliferation of products or increased workforce size, rather than technological considerations.

On the basis of 407 plants in New England, of which 141 relocated between 1970 and 1976, Schmenner developed profiles of establishments that either relocate, open branch plants or expand at the existing site. Plants that are likely to relocate are characterized by (a) the need for large amounts of room, (b) a relatively large percent of the firm's product sold outside the local market, (c) materials costs decreasing as a percent of sales, (d) a large percent of factors of production purchased outside the region and (e) relatively large growth of sales in the past 5 to 10 years.

Plants that are likely to open branch plants are characterized by (a) multi-plant status, (b) rapidly growing sales, (c) new product development, (d) capital intensive technology and (e) low labor skill requirements. Plants that are not likely to relocate are characterized by (a) relatively large employment, (b) relatively low values of square feet of plant per worker, (c) labor costs as a relatively large percent of sales, (d) change in the product line and (e) considerable off-site warehousing. These findings follow logically from the model. For example, the less dependent one is on the local market for inputs and product sales, the less tied is the firm to the current location and the more likely it is to relocate. As Wasylenko found, those firms that are not tied to a location do take fiscal differences into consideration when evaluating location alternatives within the same metropolitan region.

Schmenner's approach and results may help to improve decisionmaking at the local level. Assume that the governmental unit wants to grant a tax abatement only when it will be the marginal factor in inducing or retaining industry. First, some firms that want to expand are forced by their economic and managerial needs to expand at the current site, hence no tax abatement is necessary. Second, if a local firm is forced by technological factors to construct a totally new facility, the choice it faces is either constructing the facility locally or relocating. If other conditions can be met by the community, such as the availability of sufficient land, it is possible that the reduced tax liability could be the factor persuading the firm to stay. Alternatively, if other indications are that the firm will not move, even though it needs to construct a new facility, no tax exemption is necessary. Finally, the branch plant is likely to depend on the same locational features as the parent plant and, as a consequence, this approach provides no special insight into when the abatement will be the marginal factor. Thus, Schmenner's analysis is more germane to developing decision rules for using tax abatements to retain existing industry rather than to attract new industry.

Schmenner (1980b) also conducted a national study of how location decisions have been made by large, multi-plant companies during the 1970s. The sample of firms studied included 410 of the largest manufacturing companies and encompassed nearly 18,000 plants and 40 percent of all manufacturing employment in the United States. One focus of his study was the source of employment change by region. He determined that in the East North Central states (Ohio, Michigan, Indiana, Illinois and Wisconsin) employment grew in the largest manufacturing firms by 7 percent, but a large proportion of this growth was due to the acquisition of smaller companies. Increased employment at existing operations in the region or opening of new plants in the region accounted for a small part of the growth. Other findings of Schmenner's study supported the contention of Weinstein and Firestine that relocations of existing firms across regions had not been the source of regional decline in the industralized Northeast and Midwest nor the source of growth in the Sunbelt areas. Instead, he wrote that "relocations are just a small part of the geographical shifts in manufacturing employment. . . . Only 13.7 percent of all major company plant relocating, involving just 14.4 percent of relocating employment, crossed state boundaries." (p. 4)

Schmenner determined that when companies are considering a new location, they narrow the list of possible alternatives by identifying one or two controlling concerns. The type of concerns also tends to vary by industry type. Those concerns that are most frequently controlling are (a) labor costs, (b) labor unionization, (c) proximity to markets, (d) proximity to supplies/resources, (e) proximity to other company facilities and (f) quality of life in an area. Having low taxes is a frequently listed secondary (desirable) factor. It is interesting to note the difference found again between the primary location concerns and the list of factors included in the business climate.

Several public policy questions arising from his research and relating to state and local taxes also have been addressed by Schmenner. Two results that he felt are defensible are:

- The effect of tax rates on the location decision is a weak and secondary one. While there are no doubt instances where either high taxes deterred locations or where low taxes attracted locations, these instances appear not to be widespread. (p. 18)

- Physical help with site selection and new plant start-up is used twice as often by large companies surveyed (61 percent) as is financial help (i.e., tax concessions, industrial revenue bonding) (31 percent). (p. 18)

A number of recommendations concerning local fiscal policy for the attraction of industry are suggested by the findings. Three of the recommendations are:

- Avoid the use of tax incentives as "carrots" for economic development; they are not used that much and are probably not worth the cost and effort. (p. 18)
- Avoid using new financing arrangements as the linchpin of a development strategy, although industrial revenue bonding may have to be continued since withdrawing it may cause needless notoriety (p. 18). (Recall that in 1979, 46 states permitted local communities to issue industrial revenue bonds.)
- While increased industrial development in central cities and other so-called distressed areas is probably beyond the scope of public policy, policies like tax credits or reductions which are guaranteed, quick, with no tests to meet or hurdles to overcome, and which require nothing of the corporation except location in the city or distressed area stand a better chance for success than other types of policies. (p. 19)

Schmenner's recommendations appear to be contradictory: do not use tax incentives because they are not worth it, but they may work in central city development. The key to reconciling his recommendations probably is the word "linchpin." Tax incentives as the centerpiece of a program to encourage growth probably are not worth the cost, but they may be a determining factor when the major elements of a decision already have been made. For example, when the choice is between a central city location and a suburban location, a local tax exemption that is relatively painless to access may sway the choice to the central city location.

V. COMMUNITY GOALS AND THE ADMINISTRATION OF TAX INCENTIVES

When the goal of local tax policy is to maximize the community's taxable property base, a tax exemption should be awarded only if it is the marginal determinant—the critical factor distinguishing this location from another one—for an enterprise considering location.[15] Tax exemptions may be used in other situations, however, as communities may adopt other goals for local tax policy. Their calculation of potential benefits and costs arising from tax exemptions may suggest that using local tax policy to achieve an alternate goal produces the most favorable ratio of benefits to costs. An increased number of jobs and diversifying the tax base may or may not outweigh the additional pollution and public service needs of new residents. Therefore, in order for a community to have an effective tax policy in regard to new industrial and commercial investment, the first step is to define its priorities.

Examples of communities adopting alternate goals abound. Pacific Northwest states have gained notoriety by their no growth posture. States and cities have indicated a

15. If a tax exemption is awarded even though a firm would have located there without the inducement, the addition to the taxable base has been reduced needlessly. From a maximization perspective the exemption is not warranted. If an exemption is awarded and it is the factor that induces the firm to locate there, then the exemption has led to an increase in the taxable base. Thus, maximization of the taxable property base requires that an exemption be awarded only when it is the marginal determinant.

strong interest in high technology or light industries that tend to create numerous jobs and relatively little pollution. Elsewhere, the recycling of abandoned facilities, the construction of luxury housing and other projects to spur revitalization of specific areas have become objectives. Since tax exemptions can be used in attempts to achieve any of these, the question is: How could tax incentives be structured to make them effective or, at least, more effective than they currently are determined to be?

Recall that Schmenner (1980b) suggested that tax incentives are likely to be more effective than most other policies to induce industrial development in central cities. He qualified this position by contending that the exemption must be guaranteed, quick and require nothing of the corporation other than to locate there.

This strategy requires that a community establish and prioritize the goals for the use of tax exemptions. The goal may be simply to encourage economic growth. Adopting Schmenner's suggestion, tax abatements would be available to all proposals that increase employment and add to the tax base. If the goal is to develop a balanced economic base, the stated policy on tax exemptions could be that exemptions would be available only in selected industry groups, but to all proposed developments from those groups. Another possibility, particularly for central city revitalization, is to make tax exemptions available to all projects locating in a specific area of the city. This strategy would not preclude other projects qualifying since they could be evaluated on a case-by-case basis.

Schmenner is stressing that policy be straightforward, clear-cut and publicized, i.e., there should be no uncertainty involved. Underlying this recommendation may be the recognition that the application procedure is not without costs and that uncertainty can reduce the expected profitability of the investment and lead to the selection of another location. A clearly defined policy may also (a) indicate the type of business climate, (b) demonstrate that the community has calculated the benefits and costs of alternate policies and is resolved to go with one, and (c) serve as a proxy for other intangibles important to industry and commerce. Furthermore, it is the most the community can do since it cannot legislate effectively low labor or energy costs.

Establishing community goals and adhering to them also may equalize bargaining power between a firm and a community. Bearse (1979) contends that there is unequal bargaining power between communities and large firms. He fears that under this type of institutional arrangement, only the most powerful companies will receive tax exemptions. These companies tend to have more talent and sophistication than the local authority awarding the exemption. Consequently, decisions will generally favor those proposals presented by the most powerful companies. If this imbalance is not mitigated, local growth and development may take one form whereas community preferences would suggest a different one. Thus, establishing the development goals at the outset could alter the bargaining power of the community relative to the firm.

The use of local property tax exemptions is likely to affect groups of citizens and taxpayers differently—it is not neutral. Although developing a consensus on community goals may mitigate disagreements, the awarding of tax exemptions by local governments is likely to generate some controversy. Conflict may involve (a) new firms and commercial establishments versus existing enterprises, (b) residential property taxpayers versus business taxpayers and (c) the selective granting of tax exemptions.

Tax exemption programs should recognize that equity and efficiency considerations are involved in the administration and also at the heart of the controversies cited above. Equity is something of an average concept. Equitable treatment can imply handling similar individuals in a similar manner, or it can mean compensating for past differences so that in the future things will be more equal. It incorporates the notion of fairness. Efficiency is more of a marginal concept. What makes the greatest difference? If there is a choice to be made between X and Y, efficiency criteria would direct that the one generating the greatest return or that is most productive be chosen. Unequal treatment is inherent.

Seldom does the selection of a community goal or its administration follow strict equity or efficiency criteria. Controversy arises over the trade-off between equity and efficiency considerations and the difference in importance groups may attach to each. For instance, assume that the expressed goal of local tax policy is to maximize the community's tax base for taxing purposes. Therefore, tax exemptions should be awarded only when the exemption is the marginal determinant to the enterprise considering location. However, what if an exemption is granted to a new firm that will be competing directly with an old firm? Equity considerations would argue that the firms be treated similarly since they will be in direct competition; but the new firm would not have chosen the location without the exemption. Clearly, efficiency considerations have been substituted for those of equity. If an attempt is made to correct this inequity by providing property tax relief to the older firm, another controversy could arise. Why just this firm and why not other established firms? Conversely, granting exemptions to firms because other firms have received them, without any attention to the inducement potential of the exemptions, represents adherence to equity considerations.

The issue of equity and efficiency can extend beyond the local community and instead, it may include the entire state. The issue revolves around whether the greater frequency and unwarranted use of tax exemptions leads to some areas of the state being subsidized by others. This question is based on the initial experience in Michigan in which it was determined that tax exemptions had a much higher rate of usage in the southwestern part of the state (Kleine, 1979).

The unwarranted granting of exemptions, i.e., awarding them when they are not necessary to induce the location or retention of industry, limits the potential size of the tax base for funding local services. This problem is exacerbated if the frequency of unwarranted exemptions is greater than elsewhere. Some local services, such as public education, also receive monies from the state to help finance these operations. These state funds generally are raised through general taxes, such as income and sales, and collected throughout the state.

Consider the case of state aid to local public education. The per pupil aid to the school district in the state of Michigan is inversely related to the per pupil state equalized value (the property tax base) of the district. An unwarranted tax exemption results in the local property tax base being smaller than it would be in the absence of the exemption. Because the tax base is smaller than it could have been, a relatively greater amount of state aid flows to that district than would have occurred had the exemption not been granted. Therefore, communities awarding a relatively larger number of unwarranted exemptions may be receiving an implicit subsidy from the rest of the state. Consequently, an unequal propensity to grant exemptions may lead to an inequitable shifting of tax burdens.[16]

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16. The analysis of the shifting of the tax burden is only a partial one. Other elements of the tax system may be shifting the burden in other directions. The critical distinction is that those shifts presumably have been agreed to by the legislature, are designed to meet some goal and are the direct result of the way the tax system has been structured. The shift described here is an indirect consequence of the relative propensity of communities to grant unwarranted exemptions.

VI. SUMMARY AND CONCLUSIONS

During the last two decades there has been a virtual explosion in the availability of tax instruments granted by states to local communities. In 1963, 15 states permitted local communities to grant tax concessions to newly locating businesses. Through 1979 the number of states providing for tax exemptions on either land and capital improvements or equipment and machinery had increased to 34. Notwithstanding this trend, controversy has emerged concerning the efficacy of tax exemption programs: proponents assert that tax exemptions have been instrumental in landing new developments; opponents contend that tax exemptions are unimportant in the selection of industrial sites and create unnecessary burdens for the community.

Growth of the property tax base through new industrial and commercial developments may be necessary for the continued provision of a constant level of public services. Some public services are characterized by little improvement in productivity due to the production technology. Consequently, the cost of providing these services at a constant level will increase through time. The current strain on the public fisc differs among communities, however. Some will not face such pressure for some time whereas others are at that point already.

The benefits of investment in a community are not restricted to growth of the property tax base. New investments can (a) create jobs, (b) increase the level of community income, (c) lead to a redistribution of taxes outside the community in addition to others. The number of jobs created and the impact of them on the local economy varies not only by the size of the development, but also by local labor conditions and the extent of leakages from the local economy. The costs associated with new investment can include increased pollution, congestion and capacity pressures on the system of public services. If the new development induces considerable inmigration of job seekers, the local community and other communities in the area may need to provide education services to more children and street, sanitation, police and fire services to more households. This could be particularly troublesome if these pressures occur in a community that is not benefiting directly from the investment. Consequently, some communities may choose not to compete or to encourage industrial and commercial development because they calculate the costs to be greater than the benefits associated with it.

The redistribution of taxes outside the local area depends on the enterprise's ability to shift and export the property tax levied on it. The ability to shift and export taxes differs by firms and depends on conditions in the market for its product. Redistribution creates the possibility that the property tax revenues raised locally are greater than the local property taxes paid directly by local taxpayers. Holding other things constant, enterprises that can shift and export taxes are more profitable to a community than those that cannot.

The research evidence on the effectiveness of property tax exemptions at inducing new investment in the form of industrial and commercial developments is inconclusive. The volume of research done on this topic is somewhat limited, however. Variations in local property taxes are a determinant of location selection for firms in the manufacturing and wholesale trade industries making intrametropolitan relocations. Although this is not a direct test of the effectiveness or importance of property tax exemptions, it does indicate that firms in some industries do take fiscal differences into account.

Major companies, on average, view local tax exemptions as a secondary consideration in choosing a location for a new facility. This does not preclude the possibility that local property taxes, or an exemption from them, may be the marginal determinant in the final selection. A finding that may be extremely interesting to local officials, and its use may be less controversial, is that local assistance with finding a suitable site and plant start-up is used more frequently by major companies than are local tax incentives.

Schmenner's (1980a) research is an important contribution. He has theorized that internal managerial considerations determine the course the firm is going to take with respect to new plant investment. The operation of the plant and characteristics of production dictate whether a firm (a) will expand capacity at the same location, (b) will construct a totally new facility, or (c) will build a branch plant. Consequently, his research should improve decisionmaking at the local level.

As an example of applying Schmenner's research to the practical problem facing local officials, consider the community that wants to grant tax exemptions only when they are the marginal factor. First, since some firms are forced by their economic and managerial needs to expand at the current site, no tax exemption is necessary. Second, some firms are required to construct totally new facilities so that they can utilize the most efficient technology. The tax exemption could be a factor in retaining a firm if it is not already tied to the present location because of a specialized labor force or raw materials or for a nonmarket reason.

Wasylenko's (1980) findings also provide some guidance for the local decisionmaker. As reported, fiscal variations are a determinant, but only for firms in the manufacturing and wholesale trade sectors. These types of businesses can be footloose and can explore alternate locations. Therefore, a tax exemption may serve as an inducement when internal managerial or production requirements do not lead to the community being excluded from consideration. Firms in the construction, retail trade, finance and service industries are not responsive to property tax differences in their location selection, according to Wasylenko's results. They locate the business where the market is and a tax exemption is not going to induce a firm's location if the market does not justify it.

These guidelines do not mean that local officials will not have some very difficult decisions to make. What if a local business plans to construct a new facility but it can build it either in the same community or in one that is ten miles away across the state line and has lower property taxes. The firm can maintain the same labor force, suppliers and transportation networks at both locations. If both communities can grant exemptions, does the one in which the plant is located offer an exemption knowing that the other community can match its offer and still provide a lower tax liability? Does it just sit tight and hope that some nonmarket factor induces the firm to build the new plant in the same community?

As indicated, variations in property taxes are usually considered to have some influence on the location of industry, but not to be the most important factor. This is a mixed blessing. Although it means that a property tax exemption is not likely to induce new industrial development if other conditions are not met, it also implies that once a firm does locate, the community can be more flexible in taxing it. Furthermore, the extent to which tax burdens can be placed on the firm is inversely related to its attachment to the community because of fiscal factors (Grieson, et al., 1977).

The selection of the objective for local tax policy probably is the most important decision the community can make. It should prescribe how tax policy is to be administered and also reflect the trade-off between equity and efficiency that is going to be made. As Schmenner has suggested, the administration of local property tax exemptions may be a critical factor. Straightforward administration is based on the selection of community goals and prioritizing them. Debating these questions during the administration of exemptions may interject sufficient uncertainty and discourage the investment.

The trade-off between equity and efficiency considerations always generates controversy. The trade-off in this situation is likely to result in even more conflict because of the inconclusive record of success of tax exemptions inducing investment and the general public attitude towards the level of property taxes. Selective relief in the form of tax exemptions, particularly when viewed as unwarranted, is likely to give rise to charges of inequitable treatment. Even when an exemption meets efficiency criteria, it may raise questions of equity. Community agreement on goals, however, may do much to mitigate these conflicts.

An important point to this study is that new investment in a community has the potential to increase both benefits and costs, some of which extend beyond the jurisdiction's boundary. A rational policy towards the use of tax exemptions requires that the community calculate all costs and benefits of alternate investment objectives, including the cost of administering the program. Then, it should select the objective that fits community preferences and administer the program accordingly.

This policy may lead to the result that some communities provide tax incentives for projects that broaden the tax base. Another community may grant exemptions only to small projects that intend to hire local residents so that growth of the community is gradual and the system of public services can adjust incrementally. Other cities may open their doors to any investment and still another city may accept only firms that can export the tax burden.

A number of critical unanswered questions remain that have implications for social policy in this area. Do new industrial and commercial developments move to areas with excess labor supply or do they rely on people seeking employment to move in? Is one community's gain another's loss? Do adjacent communities share unequally in the benefits and costs associated with industrial development?

Unfortunately, this study has not provided an answer to the question the local decisionmaker probably asks the most: When is the tax exemption the factor that induces the firm to locate in my jurisdiction? Schmenner's research has helped to narrow the range of inquiry; but to address this topic requires that a program in a particular state be evaluated using firms that have not received a tax exemption as well as those that have.

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