

# Toward a Model for Assessing the Effectiveness of Tax Increment Financing: The Ohio Experience

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**T**ax increment financing (TIF) is a popular economic development tool of Ohio local governments. Ohio local governments, like other local governments in the United States, are facing the need to adapt to rapidly increasing, dynamic environmental influences. As a result, financing techniques used by local governments are becoming more market-driven. Some local governments have been successful in using market-based financing techniques for economic development as a way of adapting to dynamic change and fiscal pressures. Two of the main goals of local government economic development policy in the United States are to increase the number of local jobs and to increase the tax base. Funding for local government economic development comes from many and varied sources. TIF is one way to finance economic development. TIFs allow local governments to redevelop parts of the city or county without raising taxes or spending money that should go for other services (Lehrer, 1999). One national study conducted in 1993 found that on average, about one-half of public sector economic development funds came from the local government's general fund, about one-fifth from dedicated public sector revenue sources such as TIF, and about one-quarter from the federal government.

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ADVANTAGES AND DISADVANTAGES OF TIF

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TIF is a funding mechanism in which property tax revenue is dedicated to funding economic revitalization and growth (Lawrence and Stephenson, 1995) and it is used as one economic development financing policy tool in Ohio. TIF involves geographically targeted taxes, expenditures, and regulatory incentives. Local governments that use TIFs identify a specific geographic area within which the local government pledges to use all increases in property tax revenues generated from new development to support infrastructure improvements (Huddleston, 1981; Dye and Sundberg, 1998). “When a project is built within the TIF district, the value of the land increases, and any increases in the property tax revenues are retained *within the district* to help pay the costs of the project” (Klemanski, 1989, at 657). These funds are, in effect, redirected from the general financing of local government services (Man and Rosentraub, 1998). Without TIFs, the costs for infrastructure improvements would be borne by developers, discouraging many from coming into the area.

Generally, in Ohio, TIF is “a payment in lieu of taxes” paid by the developer. TIF acts as an incentive for development within a specific location because it assures public or private investors that any new property taxes will be used to pay for the requisite infrastructure that subsequently generates direct benefits and reduces costs to the investors. The expectation is that using TIF will stimulate economic development in the community. TIFs almost always yield the expected infrastructure development outcomes because TIF projects are regularly completed. The disadvantage of TIFs is that the captured tax increments must be accumulated over many years before they become large enough to cover the cost of a project of any size (Klemanski, 1989). Further, in the long run, TIF diverts a part of a city’s tax base and former recipients of general tax revenues can become losers under TIF unless the tax base generated by the developer exceeds the drawdown. This is especially true of school districts, special assessment authorities, and counties.

When a project is built within a TIF district, the assessed value of the land increases and any increases in the property tax revenues are retained within the district to help pay for project costs. TIF is only one of several different economic development policy incentives offered to businesses. It has been selected for study because it represents a clearly defined example of the roles of each member of a public-private partnership.

Although some variation exists in authorizing legislation and in the specific mechanics of the mechanism, TIF generally requires local governments first to establish an authority for the purpose of administering redevelopment within a specified area. Membership on the authority can

be restricted to city council members or citizens representing business interests, developers, average citizens, and other local taxing authorities. Once established, the TIF authority creates the boundaries for the TIF district. Selection of a district usually requires a finding of a decline in property values (Klemanski, 1989). The public capital infrastructure needed for a private development project is self-financed from property taxes from the project to stimulate new private investment. When the TIF zone is established, property values are appraised to determine a base; then values are assessed every year until the improvement costs are reclaimed and the district no longer exists. The increase in property values is known as the increment. Property tax revenues from the incremental increase in value are used to fund improvements in the zone. TIF in effect provides its own tax revenue source by requiring the sponsor to commit to revitalization efforts for a defined period of time and to focus its efforts in a specified geographic location (Lawrence and Stephenson, 1995).

TIF has become more popular in recent years because many local governments have found it more difficult to borrow money for urban redevelopment. Local governments that do not have high bond ratings or that have a problem attracting business development can theoretically make a business location more attractive by assisting with infrastructure financing of a particular project via TIF.

## REVIEW OF LITERATURE ON TIF

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Previous research on TIF ranges from planning to applied economic development perspectives. Five TIF models are presented in the previous TIF literature. Davis (1989) found that it was difficult for TIF to have an impact unless it had at least one large development. To have a sufficient flow of revenue throughout the life of the TIF district a large initial development was necessary. His study showed, however, that TIF might result in a district becoming dependent on one development for the vast majority of its tax income.

Man and Rosentraub (1998) analyzed the effect of TIF on property value growth by comparing pre-TIF and post-TIF property value changes using a first-difference model. Their study showed that TIF increased median owner-occupied housing values in TIF-adopting localities by 11 percent compared to what they would have been without TIF. The findings from this study suggest that TIFs effectively stimulate property value growth in an entire community. For TIF to be successful, public intervention in the district must result in increases in property values in the district

to generate additional tax revenues. Thus, assessed property value growth was one appropriate measure of TIF success (Man and Rosentraub, 1998).

Dye and Sundberg (1998) developed an economic model of TIF as a choice by the sponsoring local government. The analytic framework isolates the impact of key variables, permits analysis of the payoff from TIF to each government, and helps inform discussions about equity. The findings from this study suggest that any overlapping jurisdiction, such as the county, should be given greater participation in TIF decisions.

Lawrence and Stephenson (1995) presented a model of TIF that allows calculation of the distributional impacts on multiple overlapping jurisdictions. They assumed that as the tax base changed in a year, each jurisdiction's tax rate was adjusted to yield a target levy. They applied the model to a case study of a TIF district in Des Moines, Iowa, and estimated the annual impact of TIF on tax revenues compared to what they would have been in the absence of the project.

This research draws on Dye and Sundberg's model (1998) to analyze the use of TIF in Barberton, Ohio.

## PROBLEM STATEMENT

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Evidence is ample that compared to similar states, Ohio underuses TIF as an economic development tool. According to Darryl Hennessey, Director of Tax Incentive Programs for the Ohio Department of Development, approximately 100 local governments in Ohio are using TIF (personal communiqué, 2000). In Minnesota approximately 260 local governments with populations over 2,500 have at least one TIF project (Stinson, 1992). It is also evident that "the importance of TIF has increased with the decline in federal and state funding of other local economic development incentives" (Dye and Sundberg, 1998, at 91). Some local governments in Ohio have been notably successful in using TIF. This article applies and extends a model of TIF to assess the effectiveness of TIF in Barberton, Ohio.

## RESEARCH QUESTIONS

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(1) Why is TIF used in economic development policy in Barberton, Ohio?

(2) How effective is TIF as an economic development policy in Barberton, Ohio?

## TIF IN BARBERTON, OHIO

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Barberton, Ohio, is located in Summit County. According to the 1990 U.S. census, Barberton is the fourth largest city in Summit County, with a population of 27,623. The city has a charter form of government with an elected mayor and nine-member city council. It was incorporated in 1891. Along with industry the population of Barberton continued to grow until the 1970s. Several large manufacturing companies located plants in Barberton.

Beginning in the 1970s, Barberton experienced major economic changes because of corporate downsizing. The population declined from a high of 33,805 in 1960 to 27,623 in 1990, an 18.3 percent decrease. The city tax base declined following industrial downsizing, many retail stores closed. Barberton's infrastructure and owner-occupied housing also declined during that time. During the 1970s and 1980s the decline of Barberton's central business district resulted in several abandoned buildings and stores.

The city initiated the use of TIF beginning in 1991. The first site chosen was tax-exempt vacant property owned by the city. The property became the location for a new McDonalds. In 1994 the Stuver Industrial Park site was selected. The vacant property was purchased from Babcock and Wilcox Company. In 1995 the Lake Theater site was selected. The site was vacant and tax exempt because the city owned it.

The Barberton TIF district began with a master plan that declared the district to be in decline. The Barberton City Council approved the redevelopment plan, certifying that the plan conformed to Barberton's comprehensive plan and that the area would not develop unless there was public intervention. Once the area was legally incorporated into the TIF district, the estimated assessed valuation for each parcel of real property in the district was frozen at what is referred to as the base estimated assessed valuation or initial assessed valuation. The property tax income from the initial assessed valuation was divided among the taxing district according to the mill rate. As the estimated assessed valuation of the real property in the district rises, all the income is allocated to a special TIF fund, which is used to underwrite redevelopment activities. The TIF fund will be operational until the improvement is complete and the costs are recaptured. After TIF is dissolved, the taxing district will resume its place in the comprehensive plan and will receive its allotted share of the total property tax income.

According to Fred Guerra, Director of Planning for the City of Barberton, TIF was chosen to stimulate growth and urban development in the downtown area (personal communiqué, 2000). Since TIF is a method

of infrastructure development, the investment associated with promoting or responding to growth in the TIF district may attract complementary businesses and households to the area and thus even stimulate further growth (Man and Rosentraub, 1998). The subsequent economic growth may cause an expansion of a community's tax base, which could foster an increase in the value of all types of property, including owner-occupied houses.

## METHOD

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The case study method was chosen for this research because the approach "tries to illuminate a decision or a set of decisions: why they were taken, how they were implemented, and with what result" (Schramm, 1971, in Yin, 1984, at 23). The case study method answers the questions *how* and *why*. "A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used" (Yin, 1984, at 23).

A single, revelatory case design (Yin, 1984) was used to test the study propositions. Qualitative data were collected by face-to-face interviews, by observation, and by review of relevant documents collected from the city of Barberton (such as TIF agreements adopted in May 1980 and May 1990). The criteria for interpretation of the study findings are the elements in the study model. Using the data from the study, a simple time series design was developed (Campbell, 1975) and then applied to the theoretical proposition and the study model was tested. The researcher studied the use of TIF in Barberton and compared it to the study model.

Several Ohio local governments use TIF. The researcher selected Barberton because of its proximity to the university and because it is a representative "small size" Ohio municipal government.

## THE MODEL

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The model used to determine the impact of the TIF projects is adapted from Dye and Sundberg (1998). An equation for the present value of property tax revenues is presented; and the present value of revenues is modeled, first without and then with the TIF projects for the city of Barberton. The net present value (NPV) of TIF is then calculated as the present value of the difference in tax revenues with and without TIF. The Dye and Sundberg model includes the cost of TIF. The data on costs for

this model were estimated for use in this study model because all costs attributed to the projects were not available.

Barberton TIF consists of three TIF project districts (see Table 1). Property values ( $V_x$ ) in the projects are expected to grow at the rate of  $g_b$  and the value of the other property in the districts is expected to grow at the rate of  $g_x$ . With a discount rate of  $r$ , the present value of the revenue collections ( $PV(T_x)$ ) by Barberton in the absence of TIF is:

$$PV(T_x) = \frac{T_x V_x F}{r - g_b} + \frac{1 - F}{r - g_x}$$

The second term represents the present value of future ( $F$ ) tax collections from the declining area. Economic efficiency is defined for purposes of this article as a positive NPV. Positive NPV means that the benefit a TIF project creates beyond what would have been collected from the area without the project is at least sufficient to cover the cost of the project. The NPV of a project to Barberton is therefore equal to the expected tax revenues with TIF less the expected tax revenues without TIF and the city's share of the cost. The equation is:

$$NPV(T_x) = \frac{T_x(1 - F)g'_x - g_x}{(r - g'_x)(r - g_x)} - \frac{T_x(FV_x + AcFV_x)}{(1 - g'_b)(r - g'_b)} - \frac{t_x FV_x}{r - g_b} - \frac{t_x cFV_x}{t_x + t_s}$$

**TABLE 1. TIF Projects in Barberton**

		<i>Stuver</i>	
<i>Without TIF</i>	<i>McDonalds</i>	<i>Industrial Park</i>	<i>Lake Theater</i>
Initial assessed property value	\$160,000	\$ 75,000	\$ 100,000
Expected yearly tax revenue	\$ 4,800	Not Available	\$ 300
<i>With TIF</i>			
Assessed property value	\$406,000	\$1,500,000	\$1,286,500
Captured assessed value	\$300,000	\$1,425,000	\$1,186,500
Expected yearly tax revenue	\$ 14,000*	Not Available	\$ 8,000**
PV of yearly taxes to fund TIF (benefits)	\$ 9,200	Not Available	\$ 7,700
PV of yearly costs to fund TIF (costs)	\$ 1,650	Not Available	\$ 200
NPV of TIF	\$ 7,550	Not Available	\$ 7,500

Tax Rate = 3%; Time = 10 years

\*\$14,000 – \$4,800 = \$9,200

\*\*\$8,000 – \$300 = \$7,700

## FINDINGS

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TIF in Barberton, Ohio, is utilized because it provides flexibility to the city in using economic incentives (Guerra, personal communiqué, 2000). Flexibility is defined as the adaptability of TIF revenue payments (payments in lieu of taxes) to finance public infrastructure development needs unique to the city. A TIF project is defined as “efficiency enhancing” if it has a positive NPV, that is, if the benefit it creates beyond what would have been collected from the area without the project is at least sufficient to cover the cost of the project. The model assumed that the Barberton TIF districts had property values that remained constant during the study period. The higher post-TIF growth rates in Barberton have a positive and increasing effect on the NPV of the projects. The previous literature on TIF emphasized the importance of the share of the project costs paid by the overlying governments (Dye and Sundberg, 1998). Those data, however, were not factored into this model, since higher local government tax rates are offset by the higher tax collections received. Like Dye and Sundberg’s study model, this study model assumed that the assessed property valuation would remain constant during the TIF life span.

The NPV calculations show that the projects are economically viable (the benefit each creates beyond what would have been collected from the area without the project is at least sufficient to cover the cost of the project), and financially efficient at the current tax rate. Financial efficiency is defined as a positive net cash flow. NPV equals \$7,550 for McDonalds and \$7,500 for Lake Theater. This shows that the financial viability of these projects is improving. As Dye and Sundberg (1998) point out, the concept of NPV must be factored into the model because a poor financing decision may be made if financial viability is viewed as the sole criterion. If non-TIF growth is constant or negative, the project need not result in high TIF economic growth rates to be viable. Just halting the decline in property tax growth rates and restoring tax-exempt city property to the tax rolls is an efficiency-improving result (Dye and Sundberg, 1998).

## CONCLUSIONS

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The analysis of data on the use of TIF in Barberton suggests several things. First, the data suggest use of TIF in Barberton had a positive effect on the assessed values of the TIF district property. The connection between TIF and growth of assessed property value is present in this study; it appears that TIF was a factor in the increased assessed property value. Second, two of the projects appear to be economically efficient (positive



NPV) and financially viable (net cash flow is positive). Third, although the initial increase in assessed property value may be high, the captured assessed value may be too low. Fourth, the expected yearly payments in lieu of taxes may be too low given the NPV calculation. Overall, however, the use of TIF was a wise choice from Barberton's perspective because the city was able to have vacant or abandoned areas favorably developed and returned to the tax rolls. The Stuyver Industrial Park project has not resulted in yearly TIF payments because the city had some disagreements with the county and this was found to be an important issue in this study. TIF is clearly dependent on good working relationships with overlapping taxing jurisdictions. This finding provides new insights into the issue of TIF adoption.

## IMPLICATIONS

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This study has important policy implications for academics, state and local government managers, and citizens because it provides the first empirical case study research on the effect of local government economic development tools such as TIF in Ohio. Barberton should carefully examine TIF relative to the underlying economic growth rate within its overall boundaries. If the underlying economic growth declines, it will become difficult for TIF to pay off, even if it has a positive impact on the future. One recommendation would be to require an annual adjustment in the tax increment for the general rate of inflation. Another recommendation would be that use of vacant city property calls for greater participation by citizens in the decision-making process (as evidenced by the need for good working relationships with overlapping jurisdictions), including decisions concerning the types of businesses and areas that qualify for TIF. Finally, a statewide policy on the types of projects that the state wishes to stimulate should be put forth to give communities an idea of the economic development projects they should be directing their efforts toward.

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