

# TAX INCREMENT FINANCING

## A TOOL FOR LOCAL ECONOMIC DEVELOPMENT

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**T**ax increment financing (TIF) is an alluring tool that allows municipalities to promote economic development by earmarking property tax revenue from increases in assessed values within a designated TIF district. Proponents point to evidence that assessed property value within TIF districts generally grows much faster than in the rest of the municipality and infer that TIF benefits the entire municipality. Our own empirical analysis, using data from Illinois, suggests to the contrary that the non-TIF areas of municipalities that use TIF grow no more rapidly, and perhaps more slowly, than similar municipalities that do not use TIF. An important finding is that TIF has different impacts when land use is considered. For example, commercial TIF districts tend

to decrease commercial development in the non-TIF portion of the municipality.

### Designating a TIF District

The rules for tax increment financing, and even its name, vary across the 48 states in which the practice is authorized. The designation usually requires a finding that an area is “blighted” or “underdeveloped” and that development would not take place “but for” the public expenditure or subsidy. It is only a bit of an overstatement to characterize the “blight” and “but for” findings as merely *pro forma* exercises, since specialized consultants can produce the needed evidence in almost all cases. In most states, the requirement for these findings does little to restrict the location of TIF districts.

TIF expenditures are often debt financed in anticipation of future tax revenues. The practice

FIGURE 1  
TIF and Non-TIF Areas and Value Components

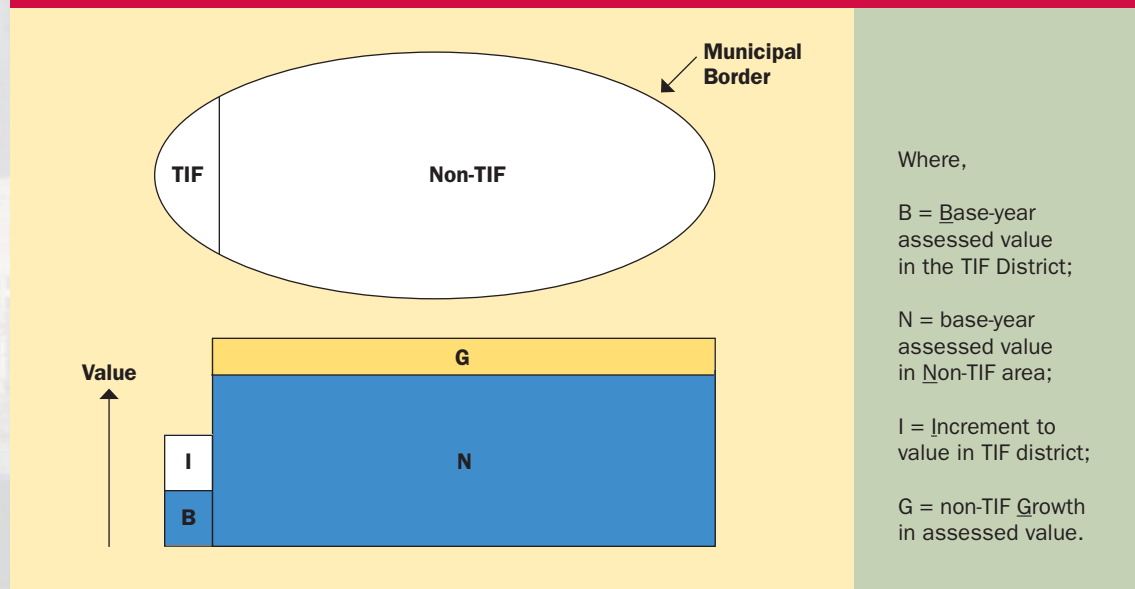




Photo: Sarah E. Newby

**This newly empty lot awaits redevelopment in the Greektown area of Chicago, at the western edge of the Loop.**

dates to California in 1952, where it started as an innovative way of raising local matching funds for federal grants. TIF became increasingly popular in the 1980s and 1990s, when there were declines in subsidies for local economic development from federal grants, state grants, and federal tax subsidies (especially industrial development bonds). In many cases TIF is “the only game in town” for financing local economic development.

The basic rules of the game are illustrated in Figure 1. The top panel shows a land area view of a hypothetical municipality. The area on the western border is designated a TIF district and its assessed value is measured. The lower panel of Figure 1 shows the base-year property values in the TIF (B) and the non-TIF (N) areas. At a later point in time, assessed property values have grown to include the increment (I) in the TIF district and growth (G) in the non-TIF area of the municipality.

Tax increment financing carves out the increment (I) and reserves it for the exclusive use of the economic development authority, while the base-year assessed value (B) stays in the local government tax base. Thus,

- Before-TIF value = before TIF local government tax base = B + N;
- After-TIF value = B + N + I + G;
- After-TIF tax base available to local governments = B + N + G; and
- TIF district authority’s tax base = I.

### Impacts on Overlapping Governments and Non-TIF Areas

The value increment (I) is the tax base of the TIF district. In most states (like Illinois, but unlike Massachusetts) there are multiple overlapping local governments, e.g., the municipality, school district, community college district, county, township, park district, library district, and other special districts.

**FIGURE 2**  
**TIF Areas with Overlapping Governments**

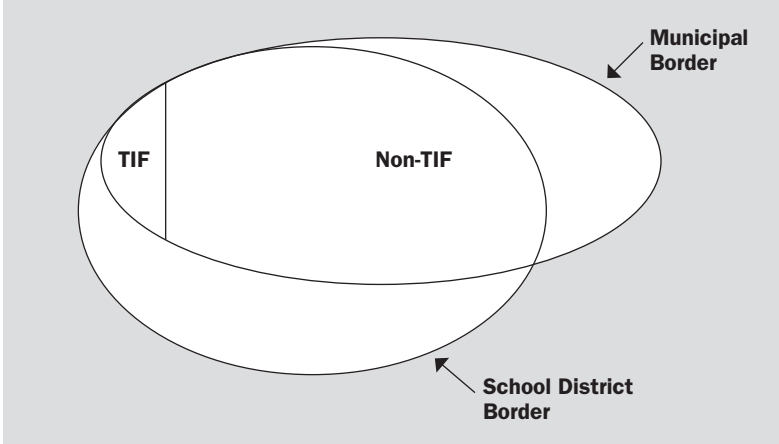


Figure 2 illustrates this situation with the school district representing all the nonmunicipal governments. To understand the economics and politics of TIF, it is crucial to note that while the municipality makes the TIF adoption decision, the TIF area value is part of the tax base of the school district and other local governments as well. Moreover, the TIF district gets revenues from the increment times the combined tax rate for all local governments together. The following hypothetical tax rates for a group of local governments overlapping a TIF district are close to the average proportions in Illinois.

Municipal tax rate	0.15 %
School district tax rate	0.60 %
Other governments' tax rate	0.25 %
Combined tax rate	1.00 %

For each 15 cents of its own would-be tax revenues the municipality puts on the line, the school district and other local governments contribute another 85 cents. Thus, there may be an incentive for municipalities to “capture” revenue from growth that would have occurred in the absence of TIF (to collect taxes that would have gone to school districts). Or, municipal decision makers may favor inefficient economic development strategies that do not result in public benefits worth the full cost, since their own cost is only 15 cents on the dollar. TIF proponents would counter that nothing is captured, because the increment to the tax base would not exist “but for” the TIF authority expenditure. That argument, of course, turns on what would have happened to property values in the absence of TIF.

If, as municipalities are often required to assert when they adopt TIF, all of the increment is attributable to the activities of the TIF development authority, then TIF is fair, in that the school district is not giving up any would-be revenues. If, as critics of TIF sometimes assert or assume, none of the increment is attributable to the TIF and all of the new property value growth would have occurred anyway, then the result is just a reallocation of tax revenues by which municipalities win and school districts lose.

The impact of TIF on growth in property values requires a careful reading of the evidence. It is wrong, as those who look only at growth within the TIF district in effect do, to assume to know the answer. Part of the solution is to use appropriate tools to statistically control for other determinants of growth.

It is also necessary to take into account the potential for reverse causality. We want to know the extent to which TIF adoption causes growth. But the causation could go the other way; anticipated growth in property values could lead to TIF adoption if municipalities attempt to capture revenues from overlapping governments. Or there could be reverse causation bias if TIF is adopted in desperation by municipal decision makers in areas where low growth is anticipated. Either way we should ask: Are the municipalities that adopt TIF systematically different from those that do not? If the municipalities are systematically different, we must statistically disentangle the effect of that difference from the effect of the TIF using a technique that corrects for what economists call “sample selection bias.”

### Impacts on Growth and Property Values

There are two sides to any government budget: revenues and expenditures. As a revenue-side mechanism, TIF is a way of earmarking tax revenues for a particular purpose, in this case local economic development. The effectiveness of economic development expenditures depends on opportunities, incentives, and planning skills that are specific to each local area and each project. By combining data from a large number of TIF and non-TIF municipalities, we can ask: On average and overall, is TIF adoption associated with increased growth in municipal property values? We have addressed this question in two research studies, both of which use statistical controls for the other determinants of growth

and for reverse causation due to sample selection bias.

The first study (Dye and Merriman 2000) uses data from 235 Chicago area municipalities and covers preadoption, TIF adoption (or not), and postadoption time periods. We control for the selection bias (reverse causation) problem by first predicting which municipalities adopt TIF and then using that information (a statistic called the inverse Mills ratio) when estimating the effect of TIF adoption on property values in a second stage. Use of selection bias correction was first applied to the study of TIF by John Anderson (1990) and is now standard practice.

Our estimates of the impact of TIF have a number of additional variables controlling for home-rule status, the combined tax rate, population, income per capita, poverty rate, nonresidential share of equalized assessed value (EAV), EAV per square mile, distance to the Chicago loop, and county of location. We found that property values in TIF-adopting municipalities grew at the same rate as or even less rapidly than in nonadopting municipalities. The study design did not get at this directly, but the offset seemed to come from smaller growth in non-TIF area of the municipality (lower G).

Our findings were a surprise to those, especially nonacademics, who naively had inferred TIF caused growth by observing growth within a TIF district (I) without any statistical controls for the other determinants of growth (in I or G). Our findings were quite threatening to those with an interest in TIF, such as local economic development officers who spend the earmarked funds or TIF consultants who are paid for documenting findings of “blight” or “but for.” Our findings were also at odds with an Indiana study that found a positive effect of TIF adoption on housing values (Man and Rosentraub 1998).

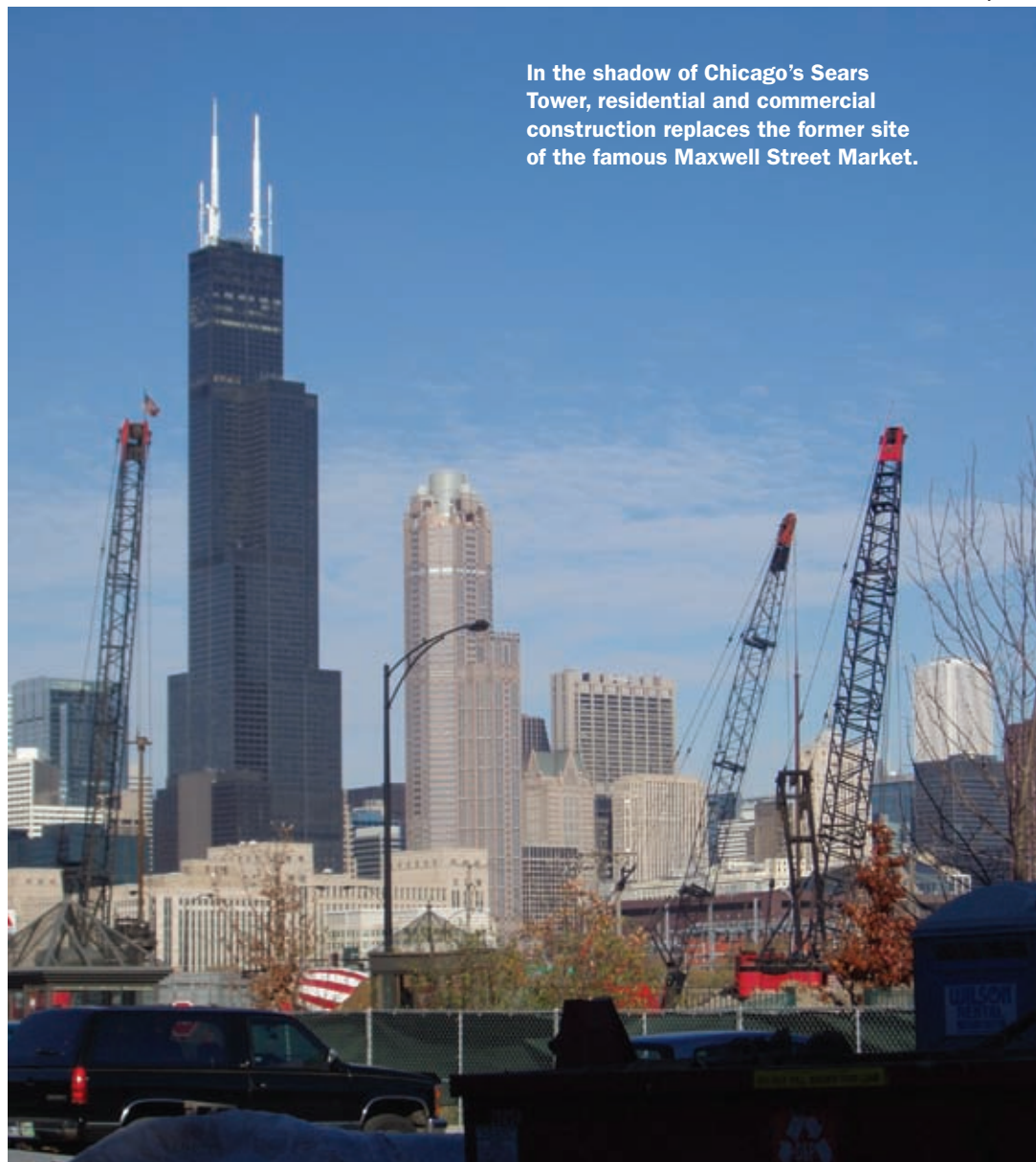
Because our findings were controversial, because the effect of TIF was unsettled in the academic literature, and particularly because we wanted to pursue the possibility of a negative cross relationship between growth in

the TIF district (I) and growth outside the TIF district (G), we undertook a second study (Dye and Merriman 2003). In addition we wanted to look at whether there are different TIF effects when more municipalities are included and different types of land uses are considered. We used three different data sets: property value data for 246 municipalities in the six-county Chicago area; less complete property value data for 1,242 municipalities in all 102 Illinois counties; and property value data for 247 TIF districts in the six-county Chicago area.

For the six-county sample (similar to our earlier study, but with more years and more municipalities), Table 1 presents the pre- and postadoption growth rates for the TIF-adopting and nonadopting municipalities. These calculations are from

**We found that property value in TIF-adopting municipalities grew at the same rate as or even less rapidly than in non-adopting municipalities.**

Photo: Sarah E. Newby



**In the shadow of Chicago's Sears Tower, residential and commercial construction replaces the former site of the famous Maxwell Street Market.**

raw data, before any statistical controls for other growth determinants or corrections for selection bias. The first row compares EAV growth rates of the TIF-adopting and nonadopting municipalities in the period before any of them adopted TIF. EAV grew slightly faster for municipalities that would later adopt TIF.

The second row shows that in the period after TIF adoptions took place, gross-of-TIF EAV grew less rapidly for TIF adopters. The last row shows that the net-of-TIF EAV growth rate for TIF adopters was even lower, suggesting that growth (I) in the TIF district may come at the expense of property values outside the development area (G). In summary, if we make no statistical adjustment for the effects of other determinants, TIF adopters grew more slowly than nonadopters.

When we use the more recent six-county data in a multivariate regression model with statistical

controls for local characteristics and sample selection, we no longer get the earlier provocative result of a significantly negative impact of TIF adoption on growth, but we still find no positive impact of TIF adoption on the growth in citywide property values. Any growth in the TIF district is offset by declines elsewhere.

The second study was designed with particular attention to land use. The property value data is broken into three land use types: residential, commercial, and industrial. Each TIF district also is identified by one of five development purpose types: central business district (CBD), commercial, industrial, housing, and other or mixed purpose. Thus, we can look separately at growth in municipal EAV by type of land use and type of TIF. Unfortunately, the data do not record EAV by land use within TIF districts, so we must settle for the growth in the tax base that is available to local govern-

ments. Most of the estimates of effects by land use type are not significantly different than zero. However, commercial and industrial TIF districts both show a significantly negative impact on growth in commercial assessed values outside the district.

The second study also extends the analysis to all 102 Illinois counties, which results in a much larger sample of municipalities (see Table 2). The TIF-base EAV (B) is unavailable, so we look at growth in available EAV. The simple means from the larger sample again suggest a negative effect of TIF on growth in property values. When we use this all-county sample to estimate the impact of TIF in a multivariate regression with statistical controls for other growth determinants and for TIF selection, there is a significantly negative impact of TIF adoption on growth in overall available (non-TIF) property values. This revives the earlier hypothesis that TIF adoption actually reduces property values in the larger community.

When we run separate regressions for available EAV growth by type of land use for the all-county sample, we see more evidence of a zero or negative impact of TIF on property value growth. Again, there is a significant

**TABLE 1**  
Mean Annualized Percentage Growth Rates in Municipal EAV for Preadoption and Postadoption Periods by TIF Adoption Status for the New Six-County Sample

Period	Dependent Variable	TIF Status Group	
		TIF Adopters (N=100)	Nonadopters (N=146)
	Growth in		
Preadoption (1980–1984)	Gross EAV = (I + G) / (B + N)	4.66	4.41
Postadoption (1995–1998)	Gross EAV = (I + G) / (B + N)	5.20	6.46
Postadoption (1995–1998)	Net EAV = G / N	5.06	

Source: Dye and Merriman (2003).

Note: These are raw group means with no statistical controls for other determinants of growth.

**TABLE 2**  
Mean Annualized Percentage Growth Rates in Municipal EAV for Preadoption and Postadoption Periods by TIF Adoption Status for the 102-County Sample

Period	Dependent Variable	TIF Status Group	
		TIF Adopters (N=205)	Nonadopters (N=1037)
	Growth in		
Preadoption (1980–1984)	Gross EAV = (I + G) / (B + N)	3.31	1.86
Postadoption (1995–1998)	Gross EAV = (I + G) / (B + N)	6.27	7.60
Postadoption (1995–1998)	Available EAV = G / (B + N)	5.19	

Source: Dye and Merriman (2003).

Note: These are raw group means with no statistical controls for other determinants of growth.

“cannibalization” of commercial EAV outside the TIF district from commercial development within the TIF district.


The TIF district sample of the second study includes 247 TIF districts in 100 different municipalities in the six-county Chicago area. We match TIF base (B) and TIF increment (I) in each year to information for the host municipality. The key results are:

- Enormous variation in TIF district size, with an average base of around \$11 million.
- Enormous variation in TIF district EAV growth rates around an average of 24 percent growth per year.
- TIF districts that start with a smaller base tend to have higher rates of growth.
- Most of the TIF growth occurs in the first several years, and growth rates decline an average of about 1 percent per year after the initial surge.
- Growth rates in the host municipalities are generally much smaller in the TIF district (an average of 3 percent compared to the TIF average of 24 percent).
- The estimated relationship between TIF growth and city growth is U-shaped; starting from zero, higher growth in the host city means lower growth in the TIF district, but the relationship turns positive at a host city growth level of about 6 percent.

## Conclusion

Tax increment financing is an alluring tool. TIF districts grow much faster than other areas in their host municipalities. TIF boosters or naive analysts might point to this as evidence of the success of tax increment financing, but they would be wrong. Observing high growth in an area targeted for development is unremarkable. The issues we have studied are (1) whether the targeting causes the growth or merely signals that growth is coming; and (2) whether the growth in the targeted area comes at the expense of other parts of the same municipality. We find evidence that the non-TIF areas of municipalities that use TIF grow no more rapidly, and perhaps more slowly, than similar municipalities that do not use TIF.

Policy makers should use TIF with caution. It is, after all, merely a way of financing economic development and does not change the opportunities for development or the skills of those doing the development planning. Moreover, policy

makers should pay careful attention to land use when TIF is being considered. Our evidence shows that commercial TIF districts reduce commercial property value growth in the non-TIF part of the same municipality. This is not terribly surprising, given that much of commercial property is retailing and most retail trade needs to be located close to its customer base. That is, if you subsidize a store in one location there will be less demand to have a store in a nearby location. Industrial land use, in theory, is different. Industrial goods are mostly exported and sold outside the local area, so a local offset would not be expected. Our evidence is generally consistent with this prediction of no offset in industrial property growth in non-TIF areas of the same city. 

**Commercial and industrial TIF districts both show a significantly negative impact on growth in commercial assessed values outside the district.**

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## ▶ REFERENCES

- Anderson, John E. 1990. Tax increment financing: Municipal adoption and growth. *National Tax Journal* 43: 155–163.
- Dye, Richard F., and David F. Merriman. 2000. The effects of tax increment financing on economic development. *Journal of Urban Economics* 47: 306–328.
- . 2003. The effect of tax increment financing on land use, in Dick Netzer (ed.), *The property tax, land use, and land-use regulation*. Cheltenham, UK: Edward Elgar, 37–61.
- Dye, Richard F., and Jeffrey O. Sundberg. 1998. A model of tax increment financing adoption incentives. *Growth and Change* 29: 90–110.
- Johnson, Craig L., and Joyce Y. Man (eds.). 2001. *Tax increment financing and economic development: Uses, structures and impact*. Albany: State University of New York Press.
- Man, Joyce Y., and Mark S. Rosentraub. 1998. Tax increment financing: Municipal adoption and effects on property value growth. *Public Finance Review* 26: 523–547.