



# The Use of Tax Increment Finance by Indiana Local Governments

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## Executive Summary

Tax increment finance (TIF) is a popular but controversial means for counties, cities and towns to pay for infrastructure intended to promote economic development. With TIF, an enacting government establishes a TIF district, and issues a bond to finance infrastructure—roads, water and sewer systems, buildings, amenities—that promotes new economic development. Governments continue to tax the existing assessed value of property in the district, but revenue generated by the added assessed value from the development is diverted to repay the bond. Once the bond is repaid, the TIF district expires and the added assessed value is available for general taxation.

Indiana law now makes clear that TIF is intended to fund infrastructure to promote development that would not occur but for the added infrastructure financed by the TIF revenues. Evidence that the development would not happen but for the establishment of the TIF district must be presented before the TIF district is approved. TIF is not meant as a source of revenue for responding to ongoing development, nor as a substitute for other sources of infrastructure funding. TIF districts are required to expire once the infrastructure bond is repaid. TIF is not meant as a permanent source of revenue for the enacting government.

As measured by the percentage of taxable assessed value included in TIF districts, TIF use in Indiana has increased from almost nothing in 1990 to 7.3% in 2015. Most of the increase in TIF activities occurred over the course of the 1990 to 2011 period. In more recent years the increase in TIF use has slowed. TIF use varies considerably among counties. For example, 12 counties have more than 10% of their assessed value in TIF districts. Six counties have no TIF assessments at all. In general, urban counties use TIF more frequently and to a greater degree than do rural counties.

TIF can be effective only if it adds to the total debt issued by counties, cities or towns. Otherwise TIF debt merely replaces other forms of debt, meaning that the infrastructure could have been financed without TIF. Among Indiana counties it appears that TIF adds to total debt and total infrastructure spending up to about \$800 per person. Between \$800 and \$1,400 debt per person, however, TIF debt appears to replace other forms of debt. TIF appears to add to debt in the few counties with more than \$1,400 TIF debt per person.

There has been much recent research on the effects of TIF in the United States and in Indiana. Research results vary, but it appears that TIF is more likely to increase property values than it is to increase employment. Research on TIF districts established in the 1990s shows larger effects than research on more recently established TIF districts. Recent research shows relatively small effects, and some research shows no effect at all. Some evidence shows that retail TIFs that increase



property values and employment within the TIF district may decrease activity outside the district, reducing the net gain. There is some evidence that TIF becomes less effective the more often it is used. Early adopters seem to have had more success. As TIF use expands, less promising projects may be undertaken, resulting in smaller effects on property values and employment.

When used appropriately, TIF does not raise taxes for taxpayers and does not reduce operating revenue for either the enacting or overlapping governments. When the TIF expires and the incremental assessed value is released for general taxation, tax rates fall for all taxpayers, and revenues rise for all governments. When used inappropriately, however, TIF shifts taxes from taxpayers of the enacting government to other taxpayers (in particular, from city to county taxpayers). If TIF replaces debt service that would have been included under the tax caps, overlapping units do benefit from lower tax cap losses. But if TIF replaces a referendum-passed bond outside the tax caps, or if TIF is used when development would have happened anyway, the overlapping units lose revenue to the tax cap credits. The enacting government loses additional tax cap credit revenue as well.

Rural counties use TIF less than urban counties do. There appear to be several reasons. City and town governments are the most frequent users of TIF, and there are fewer cities and towns in rural counties. Rural counties tend to experience less fiscal stress, so the need for development efforts may be less. Rural counties have less non-agricultural business property and employment. This may reduce political support for TIF, and may limit business expansion opportunities that could be supported with TIF infrastructure.

In summary, TIF can create new development for the benefit of the enacting government, overlapping governments and all property taxpayers, when it is used appropriately. When used inappropriately, it may not create new development, it may reduce existing economic activity, it may shift taxes to taxpayers outside the enacting government unit, and it may reduce operating revenues for both overlapping units and the enacting unit.

The “but for” test can be a useful guide. Indiana law requires evidence that development would not occur but for the establishment of the TIF district. Predicting how an area will develop, with or without a TIF district, may be impossible. As one Rush County official put it, you “never know how it’s going to work out.” However, the “but for” test can serve as a guide for considering whether or not TIF is appropriate for a project. Officials and taxpayers should examine carefully the evidence that the infrastructure is necessary for the development, and that TIF is needed to pay for this infrastructure.

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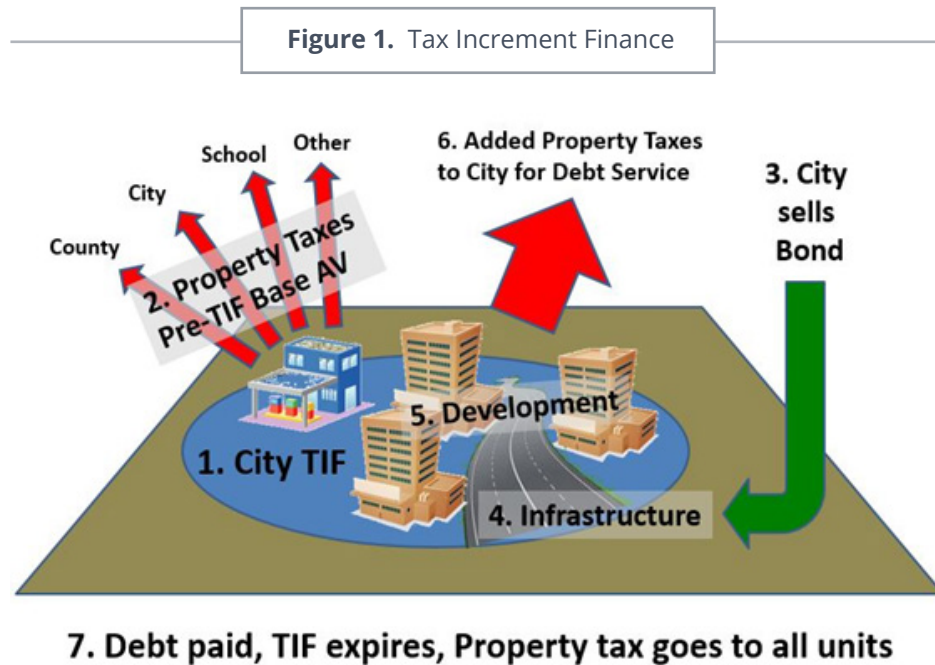
Tax increment finance (TIF) is a popular but controversial means for counties, cities and towns to pay for infrastructure intended to promote economic development. This paper explains what TIF is, how it is used in Indiana, and investigates whether or not it succeeds in promoting new development.

### **How TIF works**

Counties, cities and towns can use tax increment financing to promote economic development. Suppose a city decides that a place within its borders needs development. The area lacks needed infrastructure—roads, water and sewer systems, buildings, amenities—and the new business investment won’t happen without it.

So the city creates a TIF “allocation area”, shown as the blue circle labeled 1 in Figure 1. There is already some taxable

property in the TIF district, which is called the base assessed value. In the figure this is represented by the very modest gas station. The property taxes paid on this property continue to go to the county, school corporation and other units that overlap the TIF area (2 in the figure).



The city then issues a bond (3), borrowing money in order to build infrastructure (4). That's the road in the figure. With the infrastructure in place, businesses invest, and office buildings, factories, warehouses, retail stores are built (5). This new "incremental" property is assessed, and the taxes paid are diverted from the overlapping units to the city to pay debt service and principle on the bond (6). Finally, the infrastructure is in place, the development has happened, the bond is repaid, and the TIF district expires (7). Taxes on the added development now go to the county, city, school corporation and other overlapping units.

When it works, TIF allows new development to pay for its own infrastructure. Existing taxpayers see no increase in tax rates, and overlapping units lose no property tax revenue. Without the TIF the bond would not have been issued, the infrastructure would not have been built, and the development would not have happened. There would have been no added development to tax, so overlapping units of government would not have received any added tax revenue.

### Inappropriate Uses of TIF

What if the development would have happened anyway, without the TIF district or the infrastructure that the TIF taxes financed? In such a case, the county and school district would have collected revenue from the added assessed value of this development. The added assessed value would have reduced the property tax rates required to raise property tax revenue as well. In this scenario TIF would divert revenue to the unit that established the district, and existing taxpayers would not see the tax rate reductions that would have occurred if assessed value had grown faster than property tax levies. Perhaps the TIF revenue would pay added infrastructure costs, but in this case the added infrastructure would not be needed for the business investment to occur. The county, school district and other overlapping units would receive no added revenue, yet would bear the costs of the development, such as added public safety costs or increased school enrollment.

Indiana's TIF statute was amended in 2014 to address this problem (IC 36-7-14-39). Burnett, Khayum, Mujumdar and Friesner (2016) provide an excellent review of TIF legislation. Cities, towns and counties that establish TIF districts must provide evidence that the development would not happen but for the establishment of the TIF district. This "but for" test seeks to ensure that TIF is used to promote development that would not otherwise occur, and is not simply an effort to divert property tax revenue from overlapping units to the unit establishing the TIF district. Whether the "but for" evidence can truly establish the necessity of the TIF-financed infrastructure is an open question. But with this legislation the General Assembly established that TIF is to be a tool to promote development that would not otherwise occur, rather than a tool to shift revenues to the unit that established the TIF.

What if the "but for" test is satisfied, in that the infrastructure is needed to promote the development, but another means of financing the bond was available instead of TIF? Perhaps the bond could be funded with a debt service tax rate imposed by the unit. In this case the added assessed value from the development generates tax revenue for the overlapping units. The tax rates paid by city property owners increase with the added debt service tax rate. Tax rates for other taxpayers decrease if the added assessed value reduces the rates required for the overlapping units' tax levies. The use of TIF instead of another funding method shifts revenue to the city, and shifts taxes to non-city taxpayers.

The 2008 Indiana tax reform added an incentive to use TIF instead of other means of funding infrastructure. The reform made most larger local government bond issues subject to referendum. Voters must approve the debt service tax rate required to repay a capital projects bond with property taxes. Property taxes raised from a TIF allocation area are exempt from this referendum requirement (IC 6-1.1-20-1.6). Almost all of the capital projects referenda since November 2009 have been proposed by school districts (which cannot use TIF). Through May 2016, 30 of 61 capital projects referenda have passed (49%). Using TIF property taxes to repay bonds allows units to avoid the fifty-fifty chance that a bond referendum will be defeated.

What if the TIF district doesn't expire once the bond is repaid? Then the tax revenue from the new development continues to go to the city, town or county that established the TIF district, and not to the overlapping units. This revenue might be used for other economic development purposes, or even to pay debt service on a new bond. But since the TIF incremental assessed value is never released for general taxation, the overlapping units never realize the revenue which might offset some of the service costs of the new development, and taxpayers never see the tax rate cuts that might occur with an increase in assessed value.

Indiana's TIF statute has been amended several times to try to limit the length of time before a TIF district expires. New TIF bonds are limited to 25 years, New TIF districts are limited to 30 years, and earlier "legacy TIFs" were required to expire in 2015, or upon repayment of existing bonds. The General Assembly expects TIF districts to expire, releasing the incremental assessed value for general taxation, rather than used to generate revenue for additional development spending by the unit that created the TIF.

## TIF Use in Indiana

TIF use can be measured by the share of assessed value in TIF districts as a percentage of total net assessed value (including the property in TIF districts). In 2015 7.3% of net assessed value (NAV) statewide was in TIF districts. Assessed value in TIF districts totaled \$22.4 billion, of which \$18.9 billion was real property (land and buildings) and \$3.5 billion was personal property (business equipment). Since real property is 85% of total net assessed value, however, TIF real property was 7.2% of real net assessed value while TIF personal property was 7.8% of total personal property net assessed value.

**Figure 2. Growth of TIF Use in Indiana**

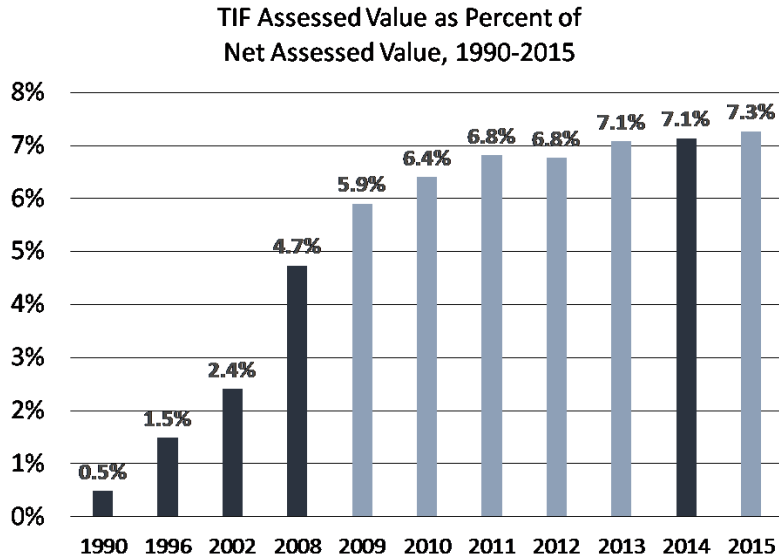
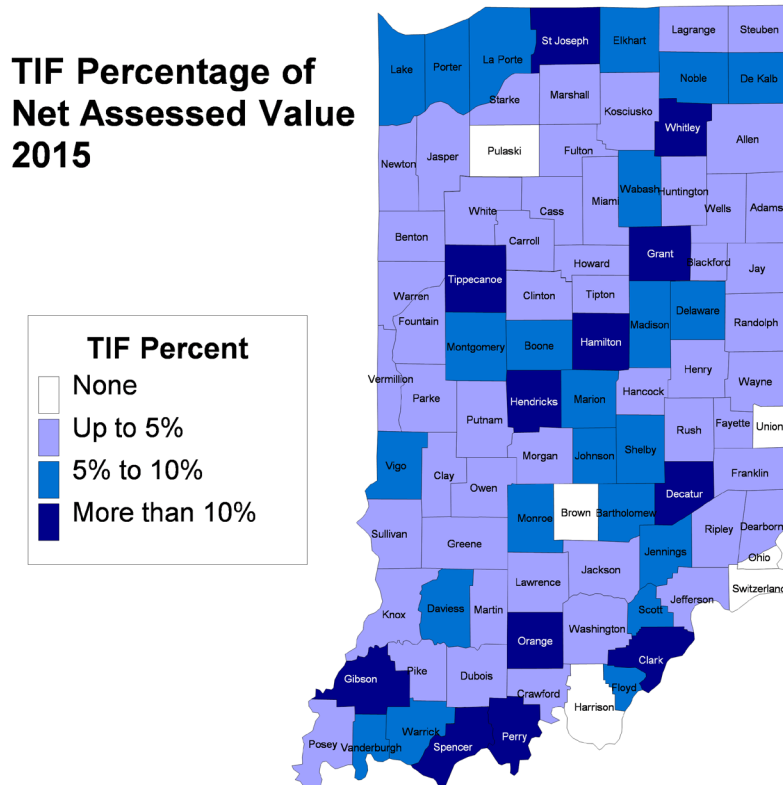


Figure 2 shows TIF assessed value as a percentage of total net assessed value for the years 1990 through 2015. The percentage is shown in 6-year increments from 1990 to 2008, then annually. TIF assessed value grew from near zero in 1990 to 7.3% of total net assessed value in 2015. The most rapid growth occurred from 1990 through 2011. Between 2011 and 2015 TIF use edged upward from 6.8% to 7.3% of net assessed value.

**Figure 3. TIF Use by County**



There is large variation in TIF use among counties (Figure 3). In 2015 12 counties had more than 10% of NAV in TIF districts. Spencer County had the most, 20.5%. Twenty-three counties had between 5% and 10% of their NAV in TIF districts, 51 counties had TIF districts with less than 5% of net assessed value, and 6 counties had no TIF assessed value.

Table 1 sorts the counties by Ayres, Waldorf and McKendree’s (2013) rural, mixed and urban classifications. All six counties that do not use TIF are rural. All mixed and urban counties have at least one TIF district. Among rural counties the median TIF AV percentage of NAV is 1.4%. Among urban counties it is 7.7%. Rural counties have only \$741 per person in TIF assessed value, compared to \$3,637 in urban counties. In each case mixed counties have an intermediate value. Tax Increment finance is used more frequently and much more intensively in urban counties than in rural counties.

**Table 1.** TIF Use by Rural, Mixed and Urban Counties

	All Counties	Rural	Mixed	Urban
Number of Counties	92	42	33	17
Number of Counties with TIF AV	86	36	33	17
Pct w/ TIF AV, all units	93.5%	85.7%	100.0%	100.0%
Median TIF NAV percent	3.6%	1.4%	4.4%	7.7%
Median TIF AV per Person (\$)	1736.7	740.7	1799.5	3636.9

## Does TIF Add to Bonds for Infrastructure?

Tax increment financing is a way to pay for infrastructure needed for development. But it is just one way, among several. Development bonds could be financed from other sources, such as debt service property tax levies or local income tax revenues. Infrastructure could be financed with cumulative funds, which allow local units to collect revenues for several years until there is enough for an infrastructure project.

For TIF to add to development above what would otherwise have occurred, TIF must result in more infrastructure spending than would have occurred without TIF. Does TIF add to the value of bonds issued by local units, or does it merely substitute for other forms of finance?

There are reasons why TIF may allow units to issue more debt and build more infrastructure than they otherwise would. First, debt service property tax levies add to the unit’s tax rate. Taxpayers may resist, causing local government officials to abandon development efforts. TIF finances development with no added tax rate, by diverting the taxes on the new development for repayment of the bond. Second, TIF bonds are exempt from the capital projects referendum requirement. Indiana saw 61 school capital projects referenda from November 2008 to May 2016, and 31 were defeated (51%). This may indicate that some county or city development bonds would be defeated if they were subject to referenda. With the TIF exemption, these projects go forward.

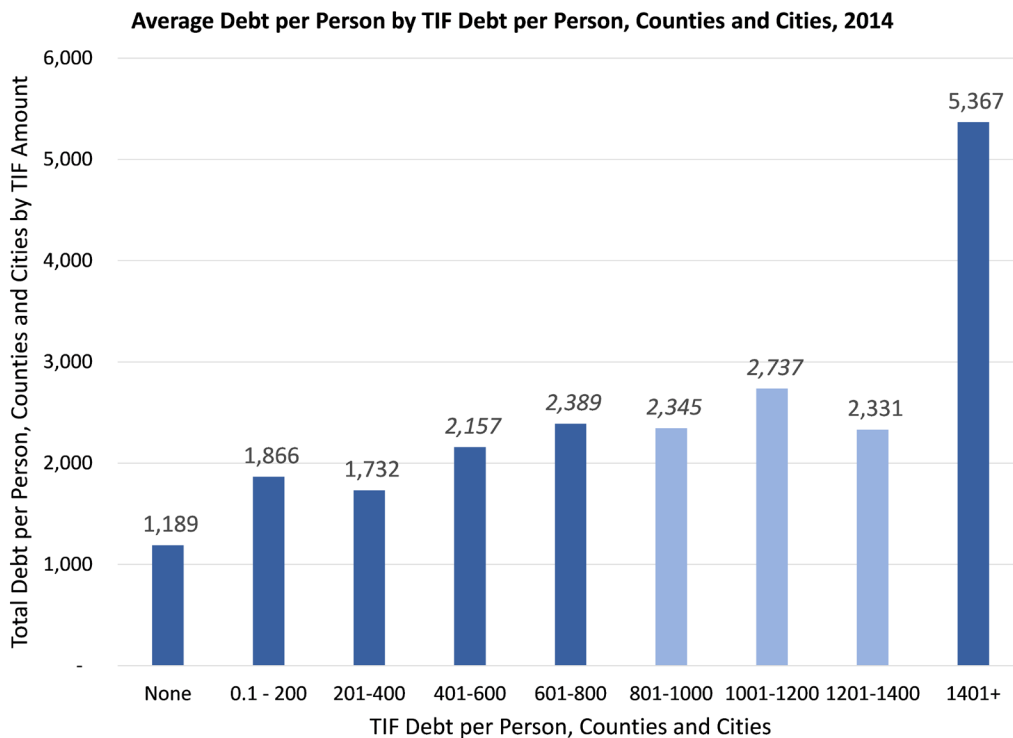
If TIF enables more borrowing, then more bonds will be issued and more infrastructure will be constructed. If TIF substitutes for other forms of finance, then TIF will have no effect on borrowing, and no effect on infrastructure spending.

TIF could not add to development if it merely substituted for other forms of finance. The same infrastructure would be built, and the same development would occur.

A simple way to test whether TIF adds to debt is to compare total debt to TIF debt among counties, cities and towns, totaled by county. Only counties, cities and towns can use TIF, so only the debt of these units is counted. If total debt per person is unchanged for units that use more TIF debt, then the use of TIF does not add to total debt, and it must be substituting for other forms of finance. If debt per person is higher by at least as much as TIF debt, then TIF may be adding to total debt.

Figure 2 shows the results of this test. The counties are divided into nine categories of TIF debt per person, starting with none (no use of TIF debt), then in increments of \$200 to \$1,401 or more (that is, \$1,401 per person in TIF debt). The first two bars in Figure 2 show that from the “none” to the 0.1 to \$200 category, total debt per person increases from \$1,189 to \$1,866 per person. Total debt is higher by almost \$700, which is more than the additional TIF debt of up to \$200. TIF debt does not appear to substitute for total debt. Except for the \$201-400 category, this pattern continues through TIF debt of \$800 per person. This includes 73 Indiana counties, 23 counties with no TIF debt and 50 with TIF debt up to \$800 per person.

**Figure 4.** Average Debt per Person by TIF Debt per Person, Counties and Cities, 2014



From \$801 to \$1,400, however, higher levels of TIF debt are not consistently associated with more total debt. For the 13 counties in this range, higher levels of TIF debt do not correspond to higher total debt. In these counties it may be that TIF substitutes for other forms of debt. If so, TIF does not increase debt or infrastructure spending. A statistical test of these results is included in the appendix.

Above \$1,400 the pattern of higher debt resumes, although there are only five counties in the \$1,400+ range. TIF debt appears to add to total debt in this higher range.



These results seem to show that the use of TIF adds to total debt, and thus potentially creates added infrastructure and development, up to a point. There is less evidence for added debt, infrastructure and development beyond about \$800 in TIF bonds per person, except for the handful of counties, cities and towns that use TIF the most.

## TIF Research Results

Adding to total debt is necessary for TIF to promote development. But the proceeds of the added bond issue must be spent appropriately on infrastructure that is actually needed for new development. The “but for” test must be satisfied, meaning that the development would not have happened without the infrastructure.

There have been many studies focusing on the effectiveness of tax increment financing in promoting economic development, and Indiana has been the subject of several recent research investigations. Greenbaum and Landers (2014) provide a review of TIF research results (Landers is with Indiana’s Legislative Services Agency). Man (1998) and Man and Rosentraub (1998) published studies of TIF using Indiana data from the 1985-1992 period. Three studies of TIF in Indiana have been published recently, by Hicks, Faulk and Quirin (2015), Legislative Services Agency (2015) and Burnett, Khayum, Mujumdar and Friesner (2016).

Greenbaum and Landers point out that the difficulty of evaluating TIF effectiveness is predicting “what might have happened in the TIF districts had they not been designated (the “but for” question)” (p. 658). Researchers often use sophisticated statistical techniques to compare measures of development in jurisdictions that use TIF to those that do not. Research results depend in part on the measures and techniques used, as well as the places and time periods that are studied.

They report that most studies show that TIFs have positive effects on property value growth. Some of this growth may be a net addition to a community’s development, but some growth may be relocated from other parts of the community. This may be a particular problem with retail development, as growing retailers in the TIF district may compete for customers with retailers in non-TIF areas of the community. Net property value growth may be more likely where the TIF district includes industrial or mixed-use property.

Results have been mixed on the effect of TIF districts on employment, the number of business firms, or the volume of sales. Some studies find that TIF increases employment beyond what would have happened otherwise, while other studies find that TIF has no effect on employment. TIFs may be more effective in raising industrial employment. Again, there is some evidence that TIFs for retail development may draw jobs away from other locations in the community.

Man (1998) focused on the development effects of TIF districts in Indiana, using data for cities and towns from 1985 to 1992. These were the years when many Indiana jurisdictions first began using TIF. The study compares 53 cities and towns with populations greater than 10,000, 22 of which had TIF districts by 1992. After allowing for many other factors that could affect economic development, Man finds that cities that used TIF created 4% more jobs than those that did not use TIF.

Hicks, Faulk and Quirin (2015) with the Ball State University Center for Business and Economic Research look at the impact of TIF in Indiana counties for the years 2003 to 2012. They find that counties that increase their use of TIFs had small increases in the assessed value of property, but small decreases in employment and the number of business establishments.

The study points out a problem with determining causation, however. The authors write, "It may be that counties that have higher growth in assessed value use more TIFs or that TIFs cause overall assessed value growth" (p.6). Likewise, the association of TIFs with declines in employment may be because TIFs reduced the net number of jobs, or because counties with falling employment responded by adopting TIFs. Causation could run in either direction, so the analysis cannot offer evidence on the "but-for" test. This problem applies to Man's (1998) employment results as well.

Man and Rosentraub (1998) attempt to address the causation problem by analyzing the effect of growth on the decision to create a TIF district. They find that cities with greater population growth are more likely to use TIF, which means TIF did not cause some of the added economic development. Instead, development caused the creation of TIF districts. After allowing for the reverse causation, however, the authors find that TIF-adopting cities and towns saw 11% more growth in housing values than those that did not adopt TIF.

The Indiana General Assembly requires its Legislative Services Agency (LSA) periodically to evaluate the state's tax incentives. LSA's 2015 report includes an analysis of tax increment financing. The study uses parcel-level data for 2013, meaning that they did not study counties, cities or TIF districts, but focused on the assessed value of individual properties inside and outside TIF districts. They compare 123,000 parcels inside TIF districts to 3.4 million parcels outside TIF districts.

LSA's analysis attempts to account for the causation problem, again by modeling the causes of TIF adoption. The analysis finds that TIF parcels have higher assessed values than non-TIF parcels, but that most of this difference is due to socio-economic factors aside from TIF. After allowing for other factors, property included in a TIF district is about 4% more valuable than other property. Assessed value of a typical property in a TIF district grew 0.03% faster between 2004 and 2013.

LSA's analysis also looks at the effect of TIF on employment, using data on employment in TIF and non-TIF business establishments. They find that firms located in a TIF district have 4.7% more jobs than firms outside of a TIF. Businesses in TIFs saw employment growth 0.5% higher from 2004 to 2013, but LSA discounts this result as statistically uncertain.

The most recent study of Indiana TIFs is by Burnett, Khayum, Mujumdar and Friesner (BKMF, 2016) of the University of Southern Indiana Center for Applied Research, sponsored by the Indiana Economic Development Association. This study also controls for the causation problem. BKMF find that a one million dollar increase in TIF incremental assessed value resulted in 2.2 added jobs during the 2003-07 period and 4.3 added jobs during the 2010-14 period. However, for the whole 2003-2014 period, including the 2008 and 2009 Great Recession years, one million dollars in incremental TIF assessed value resulted in a loss of 1.4 jobs.

Taken as a whole, research implies that the timing and volume of TIF use probably matters. First, TIF debt up to \$800 per person appears to add to total borrowing, but from \$800 to \$1,400 per person, TIF appears to replace other borrowing. If TIF replaces other borrowing, it cannot be said to add to total infrastructure or to development. Second, Man and Rosentraub's research from the early years of TIF in Indiana (1985 to 1992) show that TIF use creates sizable growth in housing values. Recent research on Indiana from 2002 to the present shows smaller effects, if any. Third, Greenbaum and Landers cite research showing that economic development incentives may become less effective as their use increases.

Surely communities have a mix of development opportunities, from projects where new infrastructure will create much development, to others where growth potential is smaller or less certain. Man and Rosentraub's results suggest that the earliest adopters may have been responding to the greater opportunities, which would explain why the growth in property values was so large. Later adopters may be investing in lesser opportunities, and achieving lesser results.

## TIF's Effect on Taxpayers and Overlapping Unit Revenues

Consider three scenarios. First, TIF works as intended. The infrastructure is necessary for the development to occur (“but-for” is satisfied), and TIF is necessary to finance the bond to pay for the infrastructure (TIF adds to total debt). Second, the infrastructure is necessary, but could have been financed by other means, such as a debt service rate passed by the unit. Third, the development would have occurred without the infrastructure, but TIF was used to finance infrastructure anyway. The effect of TIF on taxpayers and overlapping governments differs in these three scenarios.

Table 2 illustrates some simple examples. Suppose there is a city in a county, with a county-wide school corporation, library district and solid waste management district. The budgets and tax rates of the non-city units are combined into the “County” columns for simplicity. The baseline scenario shows the city with a \$1 million property tax operating levy and a net assessed value (NAV) of \$100 million. Operating levies are assumed to be at their state-mandated maximums, so they do not change with assessed value changes. The city tax rate is \$1 per \$100 assessed value. The county, school corporation, library district and special district have a combined operating levy of \$4 million. The net assessed value for all of these units is \$200 million, half in the city and half in the unincorporated area of the county, outside the city. The combined county, school, library and special district tax rate is \$2 per \$100 assessed value.

**Table 2.** TIF Scenarios

Local Unit	Baseline		Scenario 1 TIF City	Scenario 2 City Debt Service, Infrastructure		Scenario 3 NAV Growth, No Infrastructure	
	City	County		City	County	City	County
<b>Budgets</b>							
Operating Levy	1,000,000	4,000,000		1,000,000	4,000,000	1,000,000	4,000,000
Bond Payment			300,000	300,000			
<b>Total Levy</b>	<b>1,000,000</b>	<b>4,000,000</b>		<b>1,300,000</b>	<b>4,000,000</b>	<b>1,000,000</b>	<b>4,000,000</b>
<b>NAV</b>	<b>100,000,000</b>	<b>200,000,000</b>		<b>100,000,000</b>	<b>200,000,000</b>	<b>100,000,000</b>	<b>200,000,000</b>
NAV develmt			10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
<b>Taxable NAV</b>	<b>100,000,000</b>	<b>200,000,000</b>		<b>110,000,000</b>	<b>210,000,000</b>	<b>110,000,000</b>	<b>210,000,000</b>
<b>Unit Rate</b>	<b>1.0000</b>	<b>2.0000</b>	<b>3.0000</b>	<b>1.1818</b>	<b>1.9048</b>	<b>0.9091</b>	<b>1.9048</b>
<b>TIF Revenue</b>			<b>300,000</b>				
<b>Homestead Taxpayer</b>							
GAV	130,000	130,000		130,000	130,000	130,000	130,000
NAV	52,250	52,250		52,250	52,250	52,250	52,250
District Rate	3.0000	2.0000		3.0866	1.9048	2.8139	1.9048
<b>Gross Tax Bill</b>	<b>1,568</b>	<b>1,045</b>		<b>1,613</b>	<b>995</b>	<b>1,470</b>	<b>995</b>
<b>Tax Cap</b>	<b>1,300</b>	<b>1,300</b>		<b>1,300</b>	<b>1,300</b>	<b>1,300</b>	<b>1,300</b>
<b>Tax Cap Credit</b>	<b>268</b>	<b>-</b>		<b>313</b>	<b>-</b>	<b>170</b>	<b>-</b>
<b>Net Tax Bill</b>	<b>1,300</b>	<b>1,045</b>		<b>1,300</b>	<b>995</b>	<b>1,300</b>	<b>995</b>

Two taxpayers are shown, both with homesteads valued at \$130,000, which is the gross assessed value (GAV). After deductions, the net assessed value for each is \$52,250. The district rate for the city homestead is \$3, which is the sum of the city and other county unit rates. The district rate for the county homestead is \$2, since it does not pay the city rate. The gross tax bill is the district rate times the net assessed value, which is \$1,568 for the city homestead and \$1,045 for the county homestead.

The circuit breaker tax cap for each homestead is \$1,300, calculated as 1% of the homestead gross assessed values. The city homestead's tax bill is above this cap, so it receives a tax cap credit of \$268. This is part of the tax bill that the homeowner does not pay, and the taxing units do not receive. Since the city's rate is one-third of the district rate (\$1 / \$3), it loses one-third of the \$268. The county, school and other units lose the remaining two-thirds. The city homestead pays a tax bill at its \$1,300 cap. The county homestead's tax bill of \$1,045 is below its cap, so it does not receive a tax cap credit. The county homestead pays its full \$1,045 tax bill.

Suppose, in Scenario 1, there is an opportunity to attract development by constructing infrastructure inside the city. The infrastructure is necessary for the development to occur, and there is no other way but TIF to raise the funds for the bond. Bond repayment will cost \$300,000 per year. The city creates a TIF district around the anticipated development, issues the bond and installs the infrastructure. The development occurs and assessed value in the TIF district increases by \$10 million. The district tax rate of \$3 times the TIF incremental NAV is \$300,000, which is diverted for bond repayment. The city and the county units continue to tax the base NAV at the same rate as in the baseline scenario, and the homestead taxpayers see no changes in their tax rates or tax bills. Once the TIF district expires the TIF district assessed value is taxable. The \$10 million in the TIF district is added to the city and county taxable NAV, which is the result shown in Scenario 3. Assessed value is higher, tax rates and tax cap credits are lower, and all units receive a larger share of their tax levies.

In Scenario 2 the infrastructure is needed for development, but there is an alternative to TIF financing. The city issues a bond and repays it with a debt service tax rate. Both the city and county units continue to raise the same operating levies as in the baseline, \$1 million and \$4 million respectively. The city's total levy is \$1.3 million, including its operating levy and the new debt service levy. The added \$10 million in development NAV is taxable at the whole tax rate (once the development is completed). The rate is calculated as the \$1.3 million levy divided by the \$110 million NAV, which is \$1.1818 per \$100 assessed value. About 27 cents of this rate is for debt service. The county units also tax the added NAV—it is not in a TIF district this time—and they collect their levies with a combined tax rate of \$1.9048.

Compared to the baseline, in Scenario 2 the city homestead is subject to a higher tax rate, with the addition of the debt service rate. Its gross tax bill has increased by \$45 to \$1,613. The county homestead pays a lower tax rate. Its gross tax bill has decreased by \$50 below the baseline. The city homestead still pays the cap tax bill of \$1,300, however, and the tax cap credit rises to \$313. As a result, the city and each county unit receive a smaller part of their levies. Debt service must be paid, so the tax cap loss will come from the city's operating levy. The county units lose a fraction of their operating levies as well.

What if the city had substituted a TIF bond for debt service? The same infrastructure would be built and the same development would occur. Using TIF the city tax rate is lower, and the county unit tax rates are higher. If there are properties at their caps, using TIF instead of debt service reduces tax cap losses to both the city and county units. This is because the city homestead tax bill is lower without the debt service rate, so the tax cap credit is lower, so credit losses for all overlapping units are lower. With TIF, city taxpayers pay less, county taxpayers pay more, but all units collect a larger share of their revenue after the tax caps.

Under the Indiana Constitution, if the bond was passed with a referendum, the debt service rate would be outside the tax caps. In that case, the rate subject to tax caps would be the same as shown in Scenario 3. Tax cap losses would be lower than in Scenario 2 due to the lower operating tax rate in the city. Lower tax cap losses mean more operating tax revenue for the city and county units.

If TIF is used instead of a debt service rate passed by referendum in Scenario 2, the operating tax rate for the city is higher when using TIF, which would cost both the city and county units revenue losses due to higher tax cap (compare Scenario 3 to Scenario 1). With TIF, city taxpayers pay less, county taxpayers pay more, but city and county units collect a smaller share of their revenues after tax cap credits. City debt with a referendum leaves the overlapping units better off than if the city uses TIF. But either way, city taxpayers benefit and county taxpayers lose when TIF is used instead of city debt.

Finally, in the third scenario the development occurs without the infrastructure, so there is no need for a TIF or city bond. The added development is taxed to raise the operating levies, the tax rates decrease, and both the city and county homesteads pay lower gross tax bills than in the baseline. The city homestead continues to pay the \$1,300 net tax bill, but the tax cap credit is less. All units see a revenue gain. If TIF is used anyway, tax rates are higher for both city and county taxpayers, and tax cap losses are higher, so all units receive less revenue.

Table 3 summarizes the results. In Scenario 1 TIF is used appropriately. Taxpayers and overlapping units are unaffected while the TIF district exists. Once it expires all taxpayers and government units benefit. Scenario 2 compares the city's funding of new infrastructure with debt service to the city using TIF, with and without a referendum. Taxes shift from city to county taxpayers either way when TIF is used. If there is no referendum, and the debt service tax rate is included under the tax caps, using TIF reduces tax cap losses and increases after-cap revenues for all governments. Finally, in Scenario 3, the development occurs without need of added infrastructure. If the city uses TIF anyway, tax rates are higher so city and county taxpayers pay more. Tax cap losses are greater, so the city and county receive less revenue.

**Table 3.** Summary of TIF Scenario Comparisons

Scenario	1 w/TIF	1p post-TIF	2	2r	3
<b>City debt</b>	no	no	yes	yes	no
<b>But-for satisfied</b>	yes	yes	yes	yes	no
<b>Referendum</b>	no	no	no	yes	no
			<b>Effect of using TIF instead:</b>		
<b>City taxpayers (no cap)</b>	no change	pay less	pay less	pay less	pay more
<b>County taxpayers</b>	no change	pay less	pay more	pay more	pay more
<b>Tax cap revenue losses</b>	no change	less	less	more	more
<b>City after-cap operating revenue</b>	no change	more	more	less	less
<b>County after-cap revenue</b>	no change	more	more	less	less

## Why Do Rural Counties Make Less Use of TIF?

Rural counties use tax increment financing less than mixed or urban counties do. Table 1 presented evidence based on TIF assessed value. Table 4 shows evidence based on use of TIF debt (Table 4 excludes Marion County). In 2014 24 of 42 rural counties had TIF bonds outstanding, 57%, compared to 85% of mixed counties and 100% of urban counties.

Forty-one percent of county governments in rural counties use TIF, a percentage close to the 46% of mixed counties. Sixty-three percent of county governments in urban counties have TIF debt outstanding. The bigger difference in TIF use

is among cities and towns. All the urban counties have at least one city or town with TIF debt outstanding. Only 31% of rural counties have cities or towns using TIF bonds. Urban counties also are much more likely to have special districts with TIF debt outstanding.

Other measures of TIF also show that rural counties are less frequent users. The median rural county has \$42 per person in TIF debt outstanding, compared to \$615 for the median urban county. Rural counties used less debt per capita generally, but they make even smaller use of TIF financed debt. Six percent of rural county, city or town debt is TIF financed, compared to 20% for urban counties.

**Table 4.** TIF Debt Use in Rural, Mixed and Urban Counties

	All Counties	Rural	Mixed	Urban
Number of Counties	91	42	33	16
Use TIF debt, all units	68	24	28	16
Pct w/ TIF debt, all units	74.7%	57.1%	84.8%	100.0%
Use TIF debt, county	42	17	15	10
Pct w/ TIF debt, county	45.7%	40.5%	45.5%	58.8%
Use TIF debt, cities/towns	51	13	22	16
Pct w/ TIF debt, cities/towns	55.4%	31.0%	66.7%	94.1%
Use TIF debt, special dists.	13	4	3	6
Pct. w/ TIF debt, special dists.	14.1%	9.5%	9.1%	35.3%
Median TIF Debt per Pers	192.9	41.7	322.8	615.2
Median Total Debt per Person	1472.1	1243.9	1718.4	2357.7
Median TIF percent of Total Debt	14.1%	6.3%	24.2%	20.1%
Median Revenue Capacity	2554.6	2706.1	2565.6	2264.8
Median Service Cost	2508.1	2519.1	2508.1	2456.8
Median Capacity Cost Index	105.0	204.8	74.9	-94.3
Median Business NAV Percent	49.9%	43.2%	50.3%	60.2%

Past research provides clues to why rural counties, cities and towns make smaller use of TIF compared to urban governments. In their review of TIF research, Greenbaum and Landers (2014) find that factors such as fiscal pressure, higher property tax rates, larger population and a greater share of business property were all associated with greater use of TIF. The recent research on TIF in Indiana is consistent with these results. LSA (2015) found that parcels were more likely to be in TIF districts where population density was higher, where there was more non-agricultural employment, and where the parcels were classified as industrial or commercial. Burnett, Khayum, Mujumdar and Friesner (2016) found that a greater percentage of assessed value was in TIF districts where tax rates were higher, personal income was lower, and employment density was higher.

This research implies that local governments are more likely to use TIF when they have more difficult fiscal problems or higher tax rates. TIF use is greater where there is a concentration of business property or employment. This study's results are consistent with this research. The table shows that TIF property is a greater share of net assessed value where revenue capacity is lower, where the capacity-cost index is lower, and where the share of commercial and industrial business in net assessed value is higher (see a statistical analysis in the appendix). The effect of service cost is unclear in the table, but the statistical analysis shows that higher service costs are associated with greater TIF use, once other factors are accounted for.

**Table 5.** Factors that Influence TIF Use

<b>TIF Share of NAV</b>	<b>Revenue Capacity</b>	<b>Service Cost</b>	<b>CC Index</b>	<b>Business NAV Pct</b>
All Counties	2,554.6	2,508.1	105.0	49.9%
Less than 2%	2,717.2	2,525.4	197.2	41.9%
2% to 6%	2,555.6	2,495.6	41.1	49.3%
More than 6%	2,538.0	2,507.0	14.5	55.7%

Counties with less revenue capacity and lower capacity-cost indexes use TIF more. As seen in the bottom section of table 4, rural counties have higher revenue capacity and higher capacity cost indexes. Counties with more commercial and industrial business property use TIF more. Business makes up a smaller share of assessed value in rural counties. Research results imply the rural counties would use TIF less, and that is true in Indiana.

Local governments facing fiscal stress may look for ways to increase their revenue capacity by attracting new investment with added infrastructure. Property tax rates are already high where fiscal stress is great, so TIF is an attractive alternative to added debt service. Used properly, the infrastructure is financed by the added investment. Used improperly, TIF substitutes for other debt and shifts taxes to other units' taxpayers.

Higher business assessments may indicate that businesses are influential in local policy-making, and support TIF-financed infrastructure to reduce business costs. It also may be that places with much business property benefit from "agglomeration economies." Businesses are more likely to invest in places where there are other similar businesses, because of the availability of parts and equipment suppliers as well as experienced employees. Perhaps there is a greater likelihood that new infrastructure will encourage investment where business is already advantaged by such economies. Or, if TIF is used inappropriately, perhaps there is greater opportunity to use TIF to capture overlapping units' revenues where business is likely to invest anyway.

Why do rural counties use TIF less than urban counties? Cities and towns are the primary users of TIF, and there are simply fewer cities and towns in rural counties. Rural counties have greater revenue capacity relative to costs, and lower tax rates, so see less reason to use TIF for added infrastructure and development. Finally, rural counties have less commercial and industrial business property, which may mean less business influence on policy or fewer business investment opportunities, both of which work against greater use of TIF.

## Closing Thoughts

When used appropriately, Tax Increment Financing may be a useful tool to promote economic development. When used inappropriately TIF is costly for overlapping units, taxpayers and potentially, for the TIF-enacting unit itself.

TIF in Indiana is meant to fund infrastructure that promotes development. This has been made clear by recent legislation. TIF districts are meant to expire once the infrastructure bond is repaid. This causes an increase in taxable assessed value to overlapping units of government and lower property tax rates for taxpayers. TIF is not meant as a permanent source of revenue for the enacting government. TIF is meant to promote development that would not occur but for the added infrastructure spending financed by the incremental assessment from the TIF district. It is not meant as a source of revenue for responding to ongoing development, nor as a substitute for other sources of infrastructure funding.

The “but for” test is now Indiana law. Evidence that the development would not happen but for the establishment of the TIF district must be presented before the TIF is approved. The evidence is unlikely to be conclusive. Predicting how an area will develop, with or without a TIF district, may not be possible. In a focus group conducted for this project, one Rush County official put it well, saying that you “never know how it’s going to work out.” However, thinking through the “but for” test should promote careful examination of a potential TIF project. Consideration of the “but for” question can be useful for deciding what is an appropriate use of TIF, and what is not.

When used appropriately, TIF does not raise taxes for taxpayers, and does not reduce revenue for either the enacting or overlapping governments. When the TIF expires and the incremental assessed value is released for general taxation, tax rates fall for all taxpayers, and revenues rise for all governments. TIF creates new development for the benefit of all.

When used inappropriately, however, TIF shifts taxes from taxpayers of the enacting government to other taxpayers (in particular, from city to county taxpayers). If TIF replaces debt service that would have been included under the tax caps, overlapping units do benefit from lower tax cap losses. But if TIF replaces a referendum-passed bond which is outside the tax caps, or if TIF is used when development would have happened anyway, the overlapping units lose revenue to the tax cap credits. The enacting government loses additional tax cap credit revenue as well. Again, TIF should be used carefully, when evidence suggests that the “but for” test is satisfied, and when there is no other feasible way to pay for the infrastructure.

TIF research results vary. TIF is more likely to increase property values than it is to increase employment. Recent research shows relatively small effects. Retail TIFs that increase property values and employment within the TIF district may decrease activity outside the district, reducing the net gain. There is some evidence that TIF becomes less effective the more it is used. Early adopters seem to have had more success; as TIF use expands less promising projects may be undertaken. This again supports careful consideration of every TIF project.

Rural counties use TIF less than urban counties do. There appear to be several reasons. City and town governments are the most frequent users of TIF, and there are fewer cities and towns in rural counties. Rural counties have somewhat lower fiscal stress, so the need for development efforts is less. In addition, rural counties have less non-agricultural business property and employment. This may reduce political support for TIF, and may limit business expansion opportunities that could be supported with TIF infrastructure.



## Appendix

1. Table A-1 shows three simple regressions of total county, city and town debt on TIF debt. Obligations outstanding are the sum total of debt principle, interest and lease payments, less federal credits, owed as of 2014. The dependent variable is total county, city and town debt per person; the explanatory variable is TIF debt per person. Marion County is excluded for consistency with much of the rest of the analysis. Marion County's Unigov system makes divisions of taxes, appropriations and debt into county, city and special district categories problematic.

Regression 1 uses all 91 counties, regression 2 uses the 73 counties with TIF debt up to \$800 per person, and regression 3 uses the 13 counties with TIF debt between \$800 and \$1,400 per person. There are only 5 counties with TIF debt above \$1,400, too few for a meaningful analysis. Data are from Indiana's Gateway system.

**Table A-1. Dependent Variable: County, City and Town Debt Obligations Outstanding per Person, Total by County, 2014**

	1. All Counties	2. TIF Debt \$0 to \$800 per Person	3. TIF Debt \$800 to \$1,400 per Person
Constant	1195.77***	1125.5***	193.7
TIF Obligations Outstanding, per Person	1.577***	1.944***	2.395
R-squared	0.420	0.203	0.054
F statistic	64.4***	18.1***	0.6
Number of Counties	91	73	13

\*\*\* Significantly different from zero at 1%

For all counties in regression 1, the R-squared statistic is 0.42, implying that TIF debt by itself explains 42% of the county by county variation in total debt. This is not unexpected, since TIF debt is included in the total. The F and t-statistics show that the TIF debt coefficient is significantly different from zero. TIF debt does explain total debt.

Regression 2 uses data from the 73 counties with TIF debt per person less than \$800. The R-squared is smaller at 0.203, but again the TIF coefficient is positive and significant. Counties with more TIF debt have more total debt, which implies that TIF debt adds to total debt, rather than substituting for other forms of debt.

Regression 3, however, has an extremely low R-squared and an insignificant coefficient on TIF debt. Though the coefficient is high at almost 2.4, it is so uncertain that the true coefficient may be zero. If the true coefficient is zero, places with more TIF debt do not have more debt overall. TIF debt would be substituting for other forms of debt.

2. Table A-2 shows three regressions of the percentage of net assessed value in TIF districts on several measures of fiscal capacity and tax base composition. Revenue Capacity is the amount of revenue the units in each Indiana county could have raised had they used statewide average property and income tax rates. Service Cost is the appropriations the units in each county would have made had they appropriated the statewide average appropriations per person county wide, per person in cities and towns, per school pupil, and per road mile. Revenue capacity and service cost together comprise a measure of fiscal capacity, the Capacity-Cost Index shown in table 5, which shows the availability of public resources to meet public needs. Lower revenue capacity and higher service cost together indicate greater fiscal stress.

Business, Homestead and Agriculture Percent show the percentage of net (taxable) assessed value that are business and rental housing land, buildings and equipment, homeowner land and buildings, and agricultural land and buildings.

Data are for 2014 pay 2015 assessment and property taxes and the 2015 budget year, from Department of Local Government Finance and Legislative Services Agency documents. Data for Marion County are excluded, because of the difficulty is separating county and city service costs under UniGov. The remaining 91 counties are included.

**Table A-2. Dependent Variable: Percentage of Net Assessed Value in TIF Districts, Counties, 2015**

	Regression 1	Regression 2	Regression 3
Constant	-0.111*	0.05526	-0.056
Revenue Capacity	-0.00243**	-0.00188	-0.00188
Service Cost	0.00484**	0.00212**	0.00489**
Business Percent	0.208***		0.112*
Homestead Percent		-0.112*	
Agriculture Percent		-0.206***	-0.0944**
R-squared	0.251	0.288	0.254
F statistic	8.68***	9.69***	8.67***

\* Significantly different from zero at 10%

\*\* Significantly different from zero at 5%

\*\*\* Significantly different from zero at 1%

The regressions have only small explanatory power, with R-squared statistics between 0.25 and 0.29. The F-statistic shows, however, that the variables together are statistically significant in explaining TIF use. In other words, much of the reason for variation in TIF use among counties remains unexplained, but these five factors do matter.

Revenue capacity is negative in each equation, and statistically significant in Regression 1. This provides some evidence that TIF use decreases when local governments have more resources to tax. Service cost is positive and significant in each equation. TIF use increases where service demands are particularly great.

The business, homestead and agriculture percentages sum to 100%, so they are not included in the same equation (as the sum would be co-linear with the constant term). Entered separately, however, it is clear that added business property increases TIF use, while added homestead and agricultural property decreases TIF use.

These results support the conclusion that TIF use is higher where there is higher fiscal stress and more business property.

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