

POLICY BRIEF

# Local Tax Abatement

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## INTRODUCTION

This policy brief reports data and analysis on Indiana’s local property tax abatement from 2002 through 2011, the most recent year for which all data is available. The purpose of this study is to extend the findings from our earlier work on tax incentives (Faulk and Hicks 2013), which focused primarily on state tax incentives. The magnitude and relatively poor performance of local tax incentives in Indiana as reported in that study motivated this more in-depth treatment of these incentives. There we report that Indiana’s counties have increased their abatement to as much as \$8 billion in property value annually, representing a large share of total assessed valuation growth. We also reported in Faulk and Hicks (2013) that these abatements perform poorly as job creation tools. We add to that work here by first explaining the scope and type of local tax abatements in Indiana, which is followed by a brief review of existing research on local tax incentives in Indiana and elsewhere. We then provide a history and analysis of tax abatements offered by local governments in Indiana.

## EXISTING LOCAL TAX ABATEMENTS IN INDIANA

The legislature has authorized several types of tax abatement for use by local governments. These include abatement of real and personal property taxes for qualifying firms. There are also credits on personal income tax for firms investing in specific locations or activity. See *Table 1*. Data on the magnitude of these tax abatements in any given year is provided at the county level by the Department of Local Government Finance

TABLE 1. LOCAL TAX ABATEMENTS IN INDIANA, 2013

Tax Abatements	Description
Enterprise Zone Deductions	Deductions for personal income tax on one half of income earned up to \$7,500.
Personal Property Business Investment Deductions	Deductions for existing businesses against personal income tax for qualified investments.
Personal Property Business Veteran Deductions	For qualified veteran-owned businesses.
Personal Property Economic Revitalization Deductions	Abatements on all new personal property (up to 10 years).
Real Property Business Investment Deductions	Deductions for existing businesses against personal income tax for qualified investments.
Real Property Economic Revitalization Deductions	Abatement value is a percentage of the increase in assessed valuation that results from rehabilitation or redevelopment.

Source: Data from the Department of Local Government Finance (DLGF)

(DLGF). These abatements have the clear intent of incentivizing firms to locate (or remain) within the geography in which abatements are offered. While the most often-stated purpose appears to be local job creation, the eventual increase in taxable property is often part of the consideration for offering limited-term property tax abatement. Though other reasons may exist for attracting firms to a region, the bulk of the existing analysis of the issue focuses on these two items.

In Indiana, local property tax abatement is granted for new construction or improvements to real property in an economic revitalization area (ERA), enterprise zone (EZ), or newly installed personal property in an ERA or EZ. For each of these forms of abatement, assessed value is reduced by the amount of the abatement. The value of the abatement

in lost tax revenues is the tax rate multiplied by the reduction in assessed value, which is not available in the reported data. Property tax abatements shift the property tax burden onto other property owners, including other businesses or residents. In Indiana, business property tax abatements are approved by local city and/or county councils for a maximum of 10 years for real property and personal property in ERAs, and up to four years in an EZ. Abatement that is granted for multiple years is reduced each year according to a sliding scale. For example, real property improvements receiving a 10-year abatement would be able to deduct 100 percent of the AV of the improvement in the first year, 95 percent of the AV of the improvement in the second year, 80 percent in the third year, etc. Personal property has a slightly different abatement schedule. These abatement schedules are shown in the appendix. Businesses in manufacturing and research and development industries are eligible to apply for abatement in an ERA. Newly installed manufacturing or research and development equipment are the types of personal property eligible to receive abatement.

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Businesses applying for abatement must file a statement of benefits form to apply for abatement and a compliance form for each year that abatement is received. The statement of benefits (application) form includes information on employees and salaries resulting from the project, estimates of the cost and assessed value of proposed property improvements, and estimates of solid and hazardous waste conversion. The annual compliance forms that are filed by the business include information on actual employment, salaries, project costs, assessed values, and waste conversions. The actual amounts are compared with the estimates that were provided in original application. Once granted, it is rare for a local government to adjust or revoke abatement even if there are discrepancies between the promised benefits initially stated in the application and the actual benefits shown on the annual compliance form.

## LITERATURE ON LOCAL TAX INCENTIVES

Local governments have long used property tax abatement to promote business expansion and attraction. These incentives are part of a large body of research examining the relationship between tax incentives and economic development, the most

germane of which were reviewed in Faulk and Hicks (2013). This research analyzes the role and impact of various tax incentives, and we recommend the reading of that analysis. Here we focus on reviewing those studies that focus on local property tax abatement. The existing research focuses heavily on the determinants of abatements (what leads to their use) and the impact of those abatements.

## DETERMINANTS OF PROPERTY TAX ABATEMENTS

Several studies find that locations suffering from economic distress offer higher levels of property tax abatements. Byrnes, Marvel, and Sridhar (1999) examine the determinants of the generosity of property tax abatements to businesses in Ohio's enterprise zones based on location characteristics and firm characteristics. They examine 859 EZ abatement contracts in 230 school districts in 1993 and 1994, finding that school districts that enter into more abatement contracts, districts with lower house values, and districts with higher business millage rates all offer more generous abatement. They also find that firms with higher credit ratings and firms that provide more new jobs receive more generous abatement offers from the district than firms proposing to retain jobs. Byrnes, Marvel and Sridhar (1999) conclude, "...cities do seem 'rational' in their negotiations with businesses, offering more favorable tax abatement packages to 'better' firms. ...it appears that Ohio cities that must overcome negative location characteristics offered higher abatements." (p. 817)

Anderson and Wassmer (1995) focus on the timing of abatements, analyzing when abatements are first utilized by local governments following their approval at the state level. Using a hazard model and 1974-1992 data for 112 municipalities in metropolitan Detroit, they report that the median household income and the property tax price of local public services (median house value/total property tax base) are the primary determinants of the timing of abatement offers (length of the non-abatement spell) and that first-time abatements are offered in response to offers in other jurisdictions (emulation effect). Jurisdictions with higher median household income and higher property tax price wait longer to grant abatement, which suggests that distressed areas are more likely to offer abatements.

Reese (1991) studied abatements in Michigan cities with populations greater than 10,000 people, asking whether more prosperous cities are more likely to grant abatements, and investigating the political factors that influence abatements. Using data from the 1970s and early 1980s, she finds that

cities with larger or growing populations, higher income levels, and more new development grant more abatements. This suggests that growing, rather than distressed, areas may offer more abatements. She also reports that "...professionalism in the economic development arena, noncompetitive mayoral elections, and reformed governments" (p. 30) are associated with lower abatement levels.

In a recent study, Cassell and Turner (2010) examine the generosity of property tax abatement offered to firms in Ohio's enterprise zones, and find that as more local jurisdictions have been authorized by the state to offer abatements, the abatements have become more generous, indicating an increased level of competition among local governments to attract and retain businesses. They also find that distressed communities offer larger incentives than affluent areas.

## EFFECTS OF PROPERTY TAX ABATEMENTS

Research on property tax incentives has examined the impact on employment, investment, property value and other indicators. Much of the analysis to date shows that abatement has limited effects. Some examples specific to Indiana include a study done by Papke (1994), which showed that EZ designation in Indiana decreased unemployment claims in the zone by 19 percent and led to increases in the value of firm inventories by 8 percent. Coffin (1982) examines whether tax abatements offered in Indianapolis have led to an increase in new investment or simply altered the location of investment to areas that qualify for tax abatements. He estimates that property tax abatement reduces the investment costs on structures by 1.88 percent to 7.85 percent, depending on use. However, he draws no firm conclusions about other impacts of tax abatement.

Much of the analysis to date shows that abatement has limited effects.

Wassmer (1994) examines the effects of five types of incentives – industrial property tax abatement, commercial property tax abatement, Downtown Development Authority (DDA), Tax Increment Financing (TIF), and industrial development bonds – for 112 cities in the Detroit metropolitan area using data at five-year intervals from the mid-1900s through the 1980s. He finds that the effect of incentives depends on how development is measured and the type of incentive used. Industrial property tax abatements "can induce an elastic

response in real manufacturing value added" if local conditions that "repel industrial firms are large enough" (p. 11). This suggests that distressed areas are more likely to offer abatement to compensate for negative local characteristics so that abatement increases manufacturing value added.

Another issue is the proposition that local governments offer abatement as a result of competitive pressure from other local governments. Wassmer and Anderson (2001) examine the effect of various economic development incentives on manufacturing property value, commercial property value, the residential employment rate, and the poverty rate using panel data (1977, 1982, 1987, 1992) for 112 cities in the Detroit metropolitan area. They report that local offers of manufacturing property tax abatements had a positive influence on manufacturing property value in 1977 – the first year examined. In other years the impact was negative or not significant, indicating that as more local governments began to offer abatement, the impact diminished. Commercial property tax abatements exerted a negative effect on commercial property values in each of the four years examined. The authors suggest that this relationship results from communities experiencing decreases in local property value offering more abatement.

Studies of enterprise zones (EZs) are of interest because one of the primary benefits of locating in an EZ is property tax abatement. The empirical literature on the effectiveness of enterprises zones is mixed. Bollinger and Ihlanfeldt (2003) examine the effect of fiscal and transportation policies on employment in enterprise zones. In particular, they examine the distribution of employment in Atlanta neighborhoods, as defined by Census tracts, that are in commercial-industrial enterprise zones, housing enterprise zones, or that qualify for job tax credits. Using panel data for the years 1985 through 1997, they find that these policies are positively related to the neighborhood's share of employment.

In contrast, Lambert and Coomes (2001) provide a detailed analysis of Louisville's enterprise zone. They use a quasi-experimental analysis comparing various socioeconomic indicators for Louisville's EZ with similar regions in the same county and find that the Louisville EZ is not particularly effective. Population, employment of zone residents, and the number of owner-occupied housing units decreased after controlling for national job growth and industrial concentrations. Employment growth did increase in the area around the airport, which experienced a major increase in federal, state, and local funding to expand the airport.

TABLE 2: INDIANA'S ABATEMENT HISTORY

Year	Assessed Value of Abated Business Property		Reduction in Property Tax Revenue Due to Abatement		Abatement as a Share of the Net Tax Levy		ETR	Net Levy (\$M)
	5% Lower Bound (\$M)	100% Upper Bound (\$M)	Lower Bound (\$M)	Upper Bound (\$M)	Lower Bound (%)	Upper Bound (%)		
2002	316.6	6,331	9.6	191.9	0.2%	3.6%	0.030	5,334.3
2003	506.1	10,123	9.7	193.7	0.2%	3.8%	0.019	5,139.9
2004	373.5	7,471	7.5	150.6	0.1%	2.8%	0.020	5,398.7
2005	360.9	7,218	7.6	152.0	0.1%	2.7%	0.021	5,695.9
2006	357.8	7,155	7.9	157.4	0.1%	2.6%	0.022	6,028.8
2007	425.2	8,503	8.9	178.7	0.1%	2.8%	0.021	6,387.5
2008	441.6	8,833	8.1	162.8	0.1%	2.8%	0.018	5,773.7
2009	435.8	8,717	9.5	189.1	0.2%	3.3%	0.022	5,763.9
2010	419.8	8,396	9.4	187.5	0.2%	3.2%	0.022	5,947.9
2011	414.2	8,284	8.6	171.2	0.2%	3.2%	0.021	5,410.6

Source: Data from the Department of Local Government Finance (DLGF)

Papke (2000) uses annual data for 1981–1982 through 1991–1992 for zones and nonzones before and after EZ designation to analyze the effect of EZs on inventory, machinery and equipment, and real estate values. Using a fixed effects model, she finds that EZs have no significant effect on the value of real estate, while the value of inventories increased, and the value of machinery and equipment decreased. Her estimates suggest that inventory investments may have substituted for investment in machinery and equipment. Another point that she makes is that the EZ inventory tax credit is the most valuable incentive. In 2000, Indiana began a 10-year phase-out of the tax on inventories.

In a series of studies, Engberg and Greenbaum examine the effects of enterprise zones on various economic indicators. Engberg and Greenbaum (1999) conclude that zones do not increase housing values on average, but in tight housing markets they do have a positive impact. Greenbaum and Engberg (2004) determine that, on average, zones have little effect on employment, number of business establishments, shipments, payroll, or capital spending. However, analysis of gross and net changes shows that zones have a positive effect on new establishments and a negative effect on previously existing establishments.

## INCENTIVE USE IN INDIANA

The research discussed above addresses several questions of interest for Indiana taxpayers. Among them are the size and scope, geographic variability, and potential impact of incentives. The data available for this analysis does not provide an unambiguous accounting of the size and value of abatements. The best that is possible is an estimate of the scale of

abatements at the county level. The major impediment to a full accounting of abatements is that they are persistent, lasting for as many as 10 years. Because our data is only available from 2002 onwards, we do not have a lengthy period from which to assess the full size of abatements. The data available from DLGF is the assessed value (AV) of property that has been approved to receive real or personal property tax abatement. The value of the abatement depends on where each property is on the abatement schedule, the share of real and personal property that is abated and the property tax rate of the business. We don't have data on any of these, and therefore provide two estimates that represent the upper and lower bounds for the level of property tax abated during the study period.

*Table 2* illustrates the estimated value of abatements during our sample period. We provide two estimates that are the lower and upper bounds based on the extremes in the sliding scale abatement schedules. These schedules are listed in *Appendix A*. The upper bound estimate is calculated under the assumption that 100 percent of AV is abated, and the lower bound is calculated under the assumption that 5 percent of AV is abated. The actual level of abatement is between these two extremes. Based on the data available, we believe that actual abatement is in the middle of these extremes because the aggregate level of AV eligible for abatement in the state has decreased since 2008. This suggests more business property is coming off of the abatement schedule than is being added, though this varies considerably by county. *Appendix Figures A1 and A2* show the distribution of assessed value for abated business property in Indiana counties in 2002 and 2011.

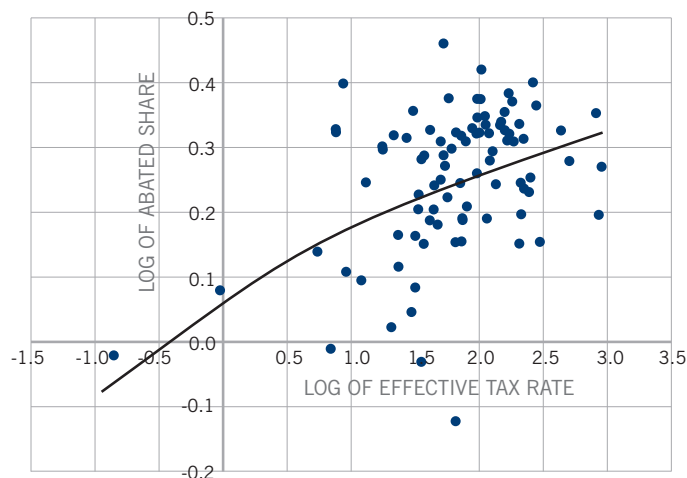


To calculate the reduction in property tax revenue due to abatement, we multiply the assessed value of the abated property by the effective (average) property tax rate in each county. This is an imperfect measure of the taxable value of the abated property for several reasons. First, the new property growth may, in some years, have exceeded budget growth restrictions and so would have simply reduced the rate for existing property tax payers. Second, some of this property would not have been constructed without the abatement. Third, the actual rate for each piece of property will vary depending on the location of the property within the county, so the effective tax rate for the county would not be a fair representation of the actual tax rate on a piece of property. However, we believe this would most likely understate the tax rate since the effective tax rate calculation involves all property classes. For these reasons, this measure of potential tax losses associated with abatements is an imperfect measure of the actual lost taxes, which would otherwise be available to a community. Nonetheless, the magnitude of the value of the abated property provides an estimate of the level of economic activity that local governments have exempted from taxes.

Given the peculiarities of Indiana's local property tax calculation methods, along with a significant change in assessment procedures and property tax caps, it is not directly clear whether the abatement had any effect on overall tax rates for existing residents. Moreover, at least in some instances, the business receiving the tax abatement would alter its investment decision. This could have resulted in choosing an alternative location or a reduced level of investment. In such circumstances, the abatement would not be highly correlated with lost local tax revenue. So, a simple accounting of abated property and effective tax rates cannot provide a direct estimate of fiscal impacts.

In order to understand how abatements may have influenced non-abated taxpayers, it is necessary to measure the sensitivity of effective tax rates to abatement activity. If effective tax rates are uncorrelated with abatement levels, then we can confidently conclude that abatement activity has not influenced overall tax burdens in a county. However, if abatements and tax rates are correlated, then we can potentially draw two different inferences regarding abatements and taxes. Either abatements increase local tax rates, or local governments with higher effective tax rates must engage in more abatement to lure businesses to their community. To conduct this analysis, we place both the effective tax rate and the total abated share of assessed valuation in each county into the same scale through a logarithmic transformation. These are plotted with the best fitting statistical line in *Figure 1*.

FIGURE 1: LOG OF ABATED SHARE OF ASSESSED VALUE (UPPER BOUND) VS. LOG OF 2011 EFFECTIVE TAX RATE



Source: Authors' calculations using data from the Department of Local Government Finance

This graphic strongly suggests that there is a relationship between effective tax rates and the level of abatements within a county. A fitted statistical line reveals more detail on this relationship. A simple regression analysis of this type finds that each doubling of the abated share of assessed valuation increases the effective tax rate by more than 12 percent. As expected, this effect is non-linear, in that the impact on tax rates dampens as total abated share rises. This is expected because property tax caps may limit effective tax rates in many locations.

Another issue with local tax abatements is the frequency or consistency of their application. Counties that use abatements sparingly may have a single, large project, examples of which may include a large automobile assembly plant or wind turbine site. Other communities may abate a nearly constant level each year. The question of interest with respect to the frequency or 'lumpiness' of the use of abatements is whether or not they are correlated with the effective property tax rate in a county. If the frequency of abatements is positively correlated with effective tax rates, then we have further evidence that the use of abatements increases the tax rate paid by the remaining residents and businesses of a county.

We use the coefficient of variation in abatements for each county from 2002 through 2011 to measure the frequency or 'lumpiness' of abatement use. The coefficient of variation is a measure of variability that can be compared across counties. A low coefficient of variation implies a fairly uniform use of abatements, while a high coefficient of variation means that there are fewer, larger abatements – an occurrence that might be thought of as 'lumpy.' For example, a county that had a one-time abatement for a new wind turbine farm would have

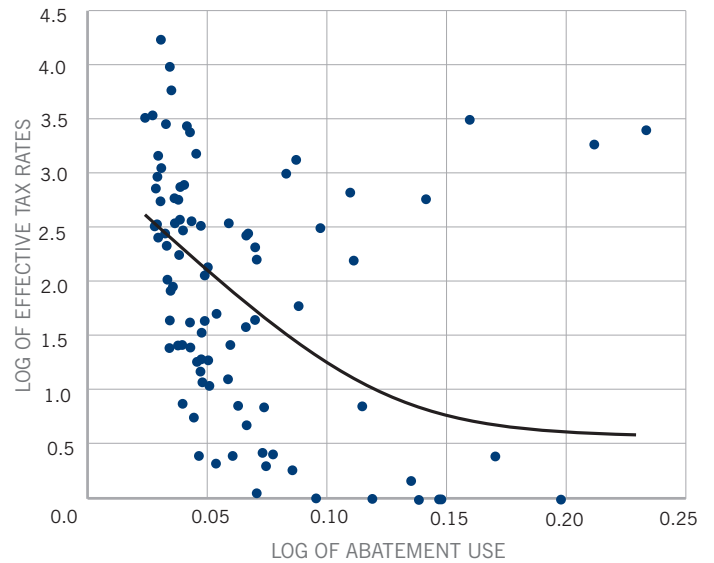
a high coefficient of variation, while a county that abated \$3 million to \$5 million each year would have a low coefficient of variation. Both of these examples are drawn from actual experience in Indiana's counties. To perform this analysis, we plot each of Indiana counties' effective tax rates (vertical axis) against the coefficient of variation in abatement use (horizontal axis) in *Figure 2*, and perform traditional statistical analysis evaluating the correlation between tax rates and the application of abatements. The graphic portrays a very strong correlation between these two factors. The relationship suggests that infrequent use of abatements is strongly correlated with lower effective tax rates, and high use (a low coefficient of variation) is correlated with higher effective tax rates. Counties that regularly use abatement have higher tax rates. Again, we are not able to distinguish whether these counties with higher rates offer more abatement to attract businesses, or if the use of property tax abatement is causing rates to increase.

The data on tax abatements in Indiana from 2002-2011 provides some insight into the use and effect of abatements on tax rates. In particular, there is compelling evidence that the size and uniformity of tax abatement use has a negative impact on property tax rates in Indiana counties. To test this further, we also perform a joint statistical test, where effective tax rates in 2011 are a function of past abatement (UPPER BOUND), the coefficient of variation of abatement, and the interaction of these two measures of abatement use. That test supports what we report in *Figure 1* and *Figure 2*, but suffers the same problem of having an unclear direction of causation. So, it may be that places with higher taxes find that the use of abatements offsets some of the negative consequences of higher rates, a finding reminiscent of Byrnes, Marvel, and Sridhar (1999).

In our recent study, (Faulk and Hicks 2013) we report that in a model of the impact of abatements at the state and local level, local tax abatements contributed to roughly one job for every \$30,000 in abated taxes (UPPER BOUND). This type of modeling is useful because it permits us to isolate the effect of local tax abatements from other confounding effects such as existing industrial structure, existing tax rates, changes to state tax abatements, or recession-related activity. This level of impact on local employment is much lower than most contemporary estimates of tax incentive effects.

The role of tax abatements in affecting future total assessed property value may also affect assessed value in a county. For example, a county may abate taxes for an assembly plant with the expectation that a number of suppliers will locate regionally, and therefore add to the countywide property tax base.

FIGURE 2: 2011 EFFECTIVE PROPERTY TAX RATES AND USE OF ABATEMENTS (UPPER BOUND)



Source: Authors' calculations using data from the Department of Local Government Finance

To test this, we performed a very basic statistical test comparing the growth of total assessed value to the growth of abated property value from 2001 through 2011. We find that for every 1 percent increase in abatements in a county, the property tax base rose by 0.2 percent, which is a small impact. We have encountered no other research on the role of abatements in affecting property tax growth, but it appears that this growth is largely the result of the actual abated property, and not the additional assessed value from other businesses.

Our findings are consistent with those studies performed by Engberg and Greenbaum. This interpretation would be consistent with our findings regarding the effect of abatements on property tax rates. These findings of higher tax rates associated with more liberal use of abatements, along with the relatively expensive job creation effects, argue for considerable scrutiny of Indiana's local tax abatement policies and practices.

## SUMMARY AND RECOMMENDATIONS

The research presented in this study and in our much more detailed analysis of state tax incentives finds that local tax abatement use tends to be correlated with higher effective tax rates on existing households and businesses within a county. These correlations exist in both the absolute size of abated property relative to the existing assessed value of property taxes and in the frequency of use of tax abatements.

We report findings that suggest that, as a job creation tool, local tax incentives in Indiana appear to be minimally

effective. We also report that there is not a strong relationship between abatements and the growth of assessed value over time. The implication is that, on average, the use of abatements as a tool for growing a property tax base is not particularly effective in the short to intermediate term.

These findings cast significant doubt on the efficacy of Indiana's system of property tax abatements in creating jobs, increasing the tax base, or controlling property tax rates. Consequently, we recommend several actions to be undertaken by various stakeholders in Indiana.

We recommend that a comprehensive review of data on local tax abatements be undertaken. In particular, more detailed data on the size and focus of these incentives should be made publicly available in a centralized location, such as on county-specific websites. The state (DLGF) should aggregate and report this information in an electronically readable form along with other local tax information. As noted above, the abatement information currently available is not sufficient to perform more detailed analysis of sub-county effects.

We recommend that a significant study of local tax abatements be undertaken, which involves not only the types of aggregate estimates provided or reviewed in this study, but also case studies of individual counties and projects in order to assess their effectiveness. This study should also involve the full gamut of efforts to better understand abatements, from county experience and anecdote, to a more involved technical analysis of local abatements and their effect on Indiana communities, businesses, and taxpayers.

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# Appendix: Local Tax Abatement

FIGURE A1. ASSESSED VALUE OF ABATED BUSINESS PROPERTY (\$ MILLIONS, UPPER BOUND), 2002

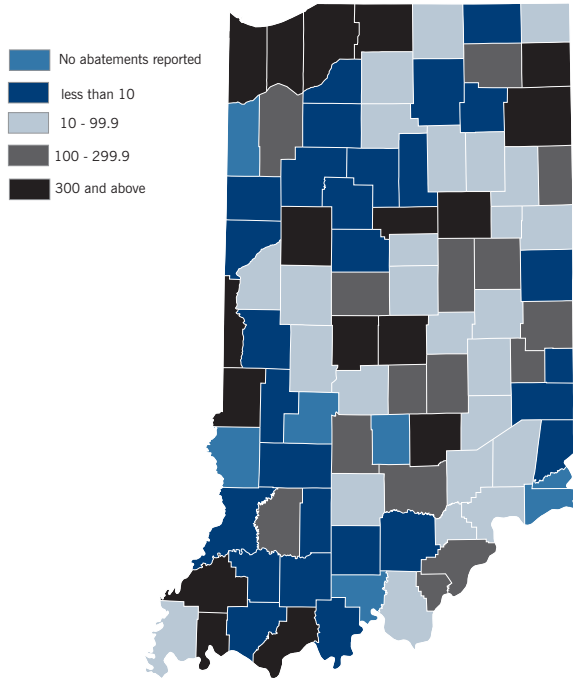


FIGURE A2. ASSESSED VALUE OF ABATED BUSINESS PROPERTY (\$ MILLIONS, UPPER BOUND), 2011

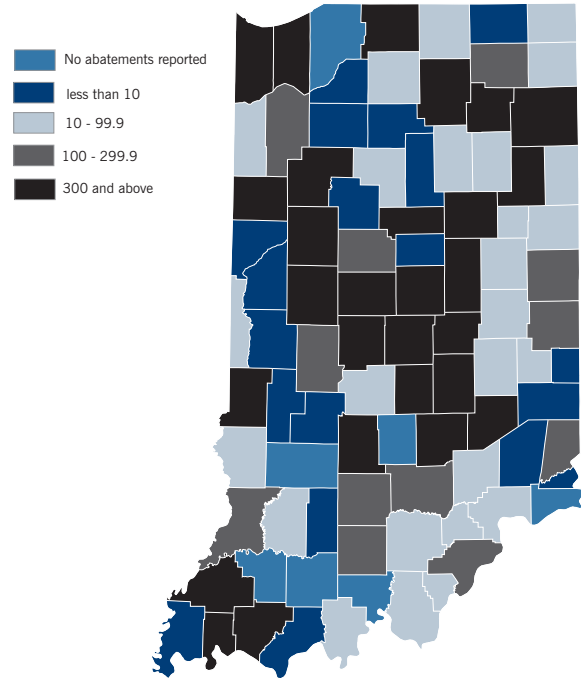


TABLE A1. ECONOMIC REVITALIZATION AREA DEDUCTION (ABATEMENT) FOR REAL PROPERTY

Year	1	2	3	4	5	6	7	8	9	10
1st	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2nd	0%	50%	66%	75%	80%	85%	85%	88%	88%	95%
3rd		0%	33%	50%	60%	66%	71%	75%	77%	80%
4th			0%	25%	40%	50%	57%	63%	66%	65%
5th				0%	20%	34%	43%	50%	55%	50%
6th					0%	17%	29%	38%	44%	40%
7th						0%	14%	25%	33%	30%
8th							0%	13%	22%	20%
9th								0%	11%	10%
10th									0%	5%
11th										0%

TABLE A2. ECONOMIC REVITALIZATION AREA DEDUCTION (ABATEMENT) FOR PERSONAL PROPERTY

Year	1	2	3	4	5	6	7	8	9	10
1st	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2nd	0%	50%	66%	75%	80%	85%	85%	88%	88%	95%
3rd		0%	33%	50%	60%	66%	71%	75%	77%	80%
4th			0%	25%	40%	50%	57%	63%	66%	70%
5th				0%	20%	34%	43%	50%	55%	60%
6th					0%	25%	29%	38%	44%	50%
7th						0%	14%	25%	33%	40%
8th							0%	13%	22%	30%
9th								0%	11%	20%
10th									0%	10%
11th										0%

# About the Authors

## Michael Hicks

Michael J. Hicks, Ph.D., is the director of the Center for Business and Economic Research and an associate professor of economics in the Miller College of Business at Ball State University. Hicks' research has focused on issues affecting local and state economics. His work on the effects of federal regulation of energy and mining industries has resulted in testimony in state and federal courts and the U.S. Senate. His work in modeling flood and hurricane damages has been heavily reported and has received a number of awards. His research has been highlighted in such outlets as the *Wall Street Journal*, *New York Times*, and *Washington Post*.

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# About the Center

## Center for Business and Economic Research

The Center for Business and Economic Research (CBER) is an economic policy and forecasting research center at Ball State University. CBER research encompasses public finance, regional economics, manufacturing, transportation, and energy sector studies.

The Center produces the CBER Data Center and the Indiana Business Bulletin, a weekly newsletter with commentary on current issues and data on dozens of economic indicators.

In addition to research and data delivery, the Center serves as a business forecasting authority in Indiana's east-central region—holding the annual Indiana Economic Outlook luncheon and quarterly meetings of the Ball State University Business Roundtable.

**BALL STATE UNIVERSITY CENTER FOR BUSINESS AND ECONOMIC RESEARCH**



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