

THE
FINANCIAL IMPACT
OF
INVENTORY TAX REDUCTIONS

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EXECUTIVE SUMMARY

Across the U.S. and in Ohio specifically, there has been a long-term trend to reduce inventory taxes. Only 15 states currently tax inventory property. Between 1968 and 1993, Ohio reduced the assessment rates on all classes of business tangible personal property. Am. Sub. House Bill 283 enacted a new round of assessment rate reductions, phasing out the tax on inventory property over a 25-year period beginning in tax year 2002 (or up to 30 years, due to revenue growth requirements in place during the first five tax years).

Statewide tangible personal property taxes are still projected to grow from year to year in spite of the fiscal impact caused by the annual inventory assessment rate reductions. The inventory reductions slow down the rate of tangible tax growth rather than causing an absolute decline in revenue from the prior year.

The fiscal impact of the inventory assessment rate reductions on school districts was analyzed using tax year 1997 data (due to limitations of the available inventory data, no other localities could be analyzed). On average, school districts depend on inventories for 6.5 percent of their overall (real, utility and tangible personal) property taxes, with a wide range in inventory dependence among the 611 school districts. However, less than one-fourth of the school districts depend on inventory tax for more than 10 percent of their total property taxes.

On average, the one percentage point reduction in the inventory assessment rate is expected to cause only a 0.26 percent reduction in a school district's overall property tax collections. In fact, in only four school districts (i.e., those with over 25 percent inventory tax dependence) is the revenue loss expected to exceed 1 percent.

Most districts experience overall property tax growth far above the effect of the inventory assessment rate reductions. The inventory rate reductions will only slow property tax revenue growth, not cause a reduction in revenue from the prior year. In fact, the ongoing volatility of inventory tax caused by property moving in and out of the district from year to year is typically at least as large as the impact of the inventory assessment rate reductions.

A portion of the reduced inventory valuation will be recovered through increased state basic aid due to a reduction in the charge-off. Most districts will realize an increase in basic aid from the reduction in the charge-off. About one-third of the reduced inventory tax will be recovered through the basic aid program.

In conclusion, the data and findings presented in this report suggest that most school districts will be impacted very little from revenue foregone due to the inventory assessment rate reductions. The annual one percentage point phase-out over 25 years provides sufficient protection against an unreasonable financial burden being placed on most school districts.

The Financial Impact of Ohio's Inventory Tax Reductions

I. Introduction

Purpose of Inventory Tax Study

This report is the result of a study required by Section 137 of Am. Sub. House Bill 283 of the 123rd General Assembly, as follows:

The Office of Budget and Management shall study the financial impact of the reduction of the inventory tax on school districts and local governments and shall report its findings to the finance committees of both houses of the General Assembly by July 1, 2000.

The inventory tax reduction referenced in Section 137 of Am. Sub. House Bill 283 is an amendment to section 5711.22 of the Ohio Revised Code, which reduced by one percentage point annually the assessment rate applied to the inventory property of tangible personal property taxpayers¹. The reductions begin in tax year 2002. Any business, except for a public utility, with taxable property in this state will experience a reduction in its taxable value due to the enacted inventory assessment rate reductions, to the extent that its listed value is comprised of inventory property.

Am. Sub. H.B. 283 reduces the assessment rate on inventory property from the current 25 percent of true value to 24 percent in tax year 2002, with one percentage point reductions in each succeeding tax year until the rate reaches zero. However, during the first five tax years (2002 through 2006) the assessment rate reductions will not occur *unless* statewide collections from the tangible personal property tax (excluding public utility property) in the second preceding year exceed such collections in the third preceding year. For example, the assessment rate will decrease to 24 percent in tax year 2002 if tangible personal property tax collections in tax year 2000 are greater than the collections in tax year 1999. This growth requirement is terminated beginning in tax year 2007. The result is that the personal property tax on inventory property will be completely eliminated in some as-yet unknown year ranging from tax year 2026 through tax year 2031. By tax year 2031 (if not before), inventories will be exempt from taxation (i.e., have a zero assessment rate). Based on past revenue collections, it is likely that the reductions will begin in tax year 2002 and continue through 2026.

¹ The assessment rate (also known as the "listing percentage") is a designated percentage of property's **true value**. The resulting figure is termed assessed value (also called listed value or taxable value), and the appropriate local tax rate is applied to this value to derive tax liability.

Limitation of Data/Study Focused on School Districts

There are thousands of local taxing authorities in Ohio that receive some level of financial support from property taxes. These local taxing jurisdictions include such entities as county governments, townships, villages, cities, school districts, libraries, parks, zoos, fire districts, conservation districts as well as many others. Some of these entities are highly dependent upon property tax revenue while other entities rely more heavily on alternative forms of revenue (such as fees and other taxes).

In this study, school districts were the only local entities that were examined. This is due to limitations regarding available inventory data. Inventory property data by locality from taxpayers with property in more than one county (**inter-county taxpayers**) is available because such taxpayers are small in number and file returns with the Department of Taxation. However, inventory data on **single-county taxpayers** (also called **intra-county taxpayers**) has not historically been available on a statewide basis. The tangible personal property tax levied on single-county taxpayers is almost entirely administered by the county auditor and each county auditor has its own system of administering the tax. The Department of Taxation does not ordinarily capture this data from each county auditor.

For the 1997 tax year, however, each single-county taxpayer's reported valuation by **schedule** (or class) was entered in a computer database by the Department from copies of tax returns submitted by each county. Because of the nature of the data received from county auditors and the extensive effort involved in collecting and entering the data, the valuation information was entered in our database according to school district, *not taxing district*. The single-county taxpayer data has so far been collected only for the 1997 tax year.

Lacking complete inventory data for any type of entity other than school districts, we are not able to provide an accurate depiction of the effects of the inventory tax reductions on the numerous other localities that levy and receive property taxes. Certainly, there is much variance among localities in terms of their dependence on property taxes. County governments generally rely heavily on the sales tax. Most cities and some villages use an income tax instead of the property tax as their primary tax revenue source; based on calendar year 1997 statewide averages, cities depended on property taxes for only 14 percent of their general fund revenues (Ohio Auditor of State, Ratio Analysis: Ohio Cities, 22).

In contrast, most of Ohio's villages and townships rely on property taxes as their primary local tax source. In addition to villages and townships, there are hundreds of special districts across the state that use property tax as their primary local tax revenue source. However, until the necessary information from single-county taxpayer returns is obtained, we are not able to analyze and show the extent of the inventory rate reductions on such localities.

In this report, we will begin with an overview of the background and fiscal impact of the *current* inventory tax on Ohio school districts. The study then moves to an examination

of the fiscal effects and implications of the enacted inventory tax reductions. Finally, we finish with the study's central findings and pertinent conclusions relating to the inventory tax changes.

A glossary is provided at the end of this report that defines important technical terms. Terms that are included in the glossary are shown in bold type when they first appear in the report.

II. Fiscal Impact of the Inventory Tax

Background on Tangible Personal Property Tax

The **tangible personal property tax** is one of three different property taxes, with the others being the real property tax and the public utility personal property tax. Figure 1 shows **assessed valuation** for the various types of property as of tax year 1997, including statewide inventory property. Real property accounts for 79 percent of total assessed valuation, by far the largest source of valuation. Inventory property accounts for about 6 percent of assessed valuation.

FIGURE 1

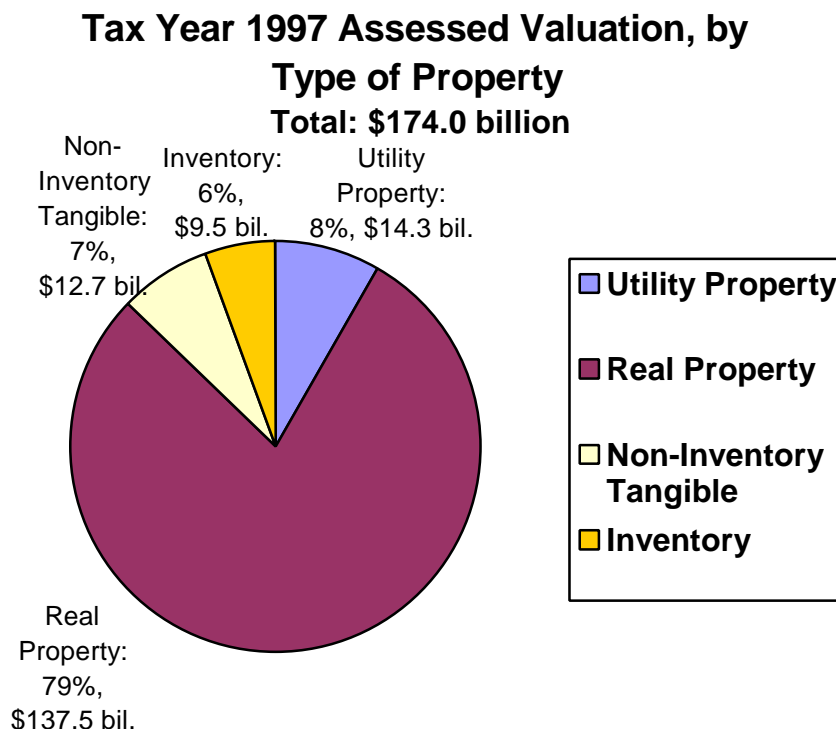


Table 1 provides tax year 1970-1998 data, showing all property taxes (real, utility and business tangible) and business tangible personal property tax revenues² (Real property taxes include the 10% and 2.5% rollback and homestead exemption reimbursements, and tangible personal property taxes include reimbursements for the \$10,000 exemption provided to taxpayers). In tax year 1998, tangible property taxes amounted to \$1.6 billion and reimbursements amounted to \$0.1 billion, together accounting for 16.27 percent of all property taxes. The figures in this table reflect taxes levied by *all* types of localities. However, school districts levy the bulk of property taxes statewide, they account for approximately 70 percent of total tangible personal property taxes.

² All figures shown in absolute dollars (i.e., not adjusted for inflation).

TABLE 1

**Tangible Personal Property Tax Revenue*
and Total Property Tax Revenue,
Tax Years 1970-1998**

(Intangible property taxes are excluded)
(Dollars in Millions)

Tax Year	Tangible Personal Property Tax	All Property Taxes	TPP Tax as % of All Property Taxes
1970	\$458.8	\$1,858.0	24.70%
1971	485.8	1,970.2	24.66
1972	498.7	2,057.6	24.24
1973	497.9	2,147.7	23.18
1974	524.8	2,301.8	22.80
1975	598.9	2,514.7	23.81
1976	628.1	2,676.2	23.47
1977	634.3	2,812.5	22.55
1978	675.0	3,045.2	22.17
1979	727.7	3,285.3	22.15
1980	765.0	3,520.5	21.73
1981	819.3	3,817.9	21.46
1982	880.0	4,052.5	21.71
1983	885.0	4,196.9	21.09
1984	876.6	4,345.6	20.17
1985	920.8	4,621.8	19.92
1986	992.2	4,990.5	19.88
1987	1,024.8	5,384.3	19.03
1988	1,070.0	5,776.9	18.52
1989	1,147.9	6,175.1	18.59
1990	1,220.5	6,613.1	18.46
1991	1,249.1	7,131.2	17.52
1992	1,277.3	7,567.2	16.88
1993	1,283.7	7,884.5	16.28
1994	1,313.6	8,356.2	15.72
1995	1,393.0	8,773.7	15.88
1996	1,509.7	9,339.4	16.16
1997	1,609.1	9,767.5	16.47
1998	1,667.8	10,253.3	16.27

*Includes reimbursements by the state to localities since 1984 to defray the cost of the \$10,000 exemption.

The tangible personal property tax is paid by businesses with greatly varying sizes and types of business activity. In tax year 1998, there were about 10,000 inter-county taxpayers, with total assessed tangible personal property value amounting to \$14.4

billion. In addition, there were approximately 57,000 single-county taxpayers with taxable value, and their total assessed personal property value was \$7.3 billion.

The tangible personal property tax is applied to property used in business. The tax is based on values and locations disclosed by taxpayers on tax returns filed annually with either the county auditor (single-county taxpayers) or the Department of Taxation (inter-county taxpayers). Taxpayer liabilities are determined by the county auditor based on multiplying the taxpayer's assessed value of property located in a specific taxing district by the tax rate in effect in that taxing district.

Tangible personal property is distinguished according to four separate classifications. Fixed assets comprise two of the tangible personal property classifications, with one class consisting of manufacturing machinery and equipment, and the other class consisting of furniture, fixtures and other depreciable property. The two remaining classifications consist of inventories. One class is comprised of **manufacturers' inventories** and the other is comprised of **merchants' inventories**. (In this report, all data on manufacturers' and merchants' inventories is combined to reflect total inventories).

Tax **exemptions** exist for various types and uses of tangible personal property. For example, the following items are exempt from tax: patterns, jigs, dies and drawings; licensed motor vehicles and aircraft; the first \$10,000 of each taxpayer's assessed valuation; machinery and equipment under construction or installation and not capable of operation; and personal property used in agriculture. Local tax incentives allowing local governments to abate taxes on tangible personal property also exist under Ohio law, and are briefly discussed in this report.

Ohio provides an "in-transit" tax exemption for inventory shipped from out-of-state, held in this state for storage only, and subsequently shipped outside this state. However, the state does not have a full-fledged "freeport" exemption for goods that are produced in-state and subsequently shipped out-of-state. Ohio's in-transit exemption is targeted to inter-state goods distribution, and is not provided for goods manufactured in Ohio. In contrast, many other states exempt goods that originate (are manufactured) in the state and which are subsequently shipped out of state (Collins and Kozub, 1997, 13-4).

Inventory Taxation by State

Nationally, inventories have been a declining source of property tax revenue. In 1966, 44 states taxed inventories (Ohio Tax Study Commission 1967, 145). By 1999, only 15 states continued to subject at least some inventory property to taxation (RIA Checkpoint, State Tax Explanations). See Table 2 for a listing of these 15 states. It should be noted that three of Ohio's surrounding states (Indiana, Kentucky, and West Virginia) continue to tax inventory property.

Even though inventory property remains taxable in Ohio, some important developments have occurred over the last several decades that have had an impact on inventory taxation in this state. These developments are discussed briefly below.

TABLE 2

States Subjecting Inventory Property to Taxation

State	
1	Alaska
2	Arkansas
3	Georgia
4	Indiana
5	Kentucky
6	Louisiana
7	Maryland
8	Massachusetts
9	Mississippi
10	Ohio
11	Oklahoma
12	Rhode Island
13	Texas
14	Vermont
15	West Virginia

Reductions in Inventory Assessment Rates

In Ohio, there has been a long-term reduction in tangible property assessment rates over the last 33 years. These rates are shown in Table 3. As of the mid-1960's, different assessment rates were applied to different classes of tangible property (50 percent on manufacturing inventory and machinery & equipment, and 70 percent on other tangible property). Beginning in tax year 1968, the assessment rate on non-manufacturing inventories was reduced by a designated amount in each year, until it reached 45 percent in 1974. From tax years 1972 through 1974, the assessment rate on manufacturing inventories was reduced, reaching a plateau of 45 percent in 1974.

Additional Ohio assessment rate reductions began in the late 1970's. From 1977 through 1981, the assessment rate for all inventories was reduced by two percentage points each year, leveling off at 35 percent in 1981. From 1981 through 1983 the rate on inventory property remained at 35 percent while the rate on all other tangible personal property (manufacturing machinery and equipment, and furniture and fixtures) continued to decline. In 1984, the inventory rate was cut to 34 percent and from that year onward the rate on inventory and non-inventory tangible personal property was identical. From 1985 through 1993, the assessment rate on all classes of tangible personal property was reduced by one percentage point in each year. Since 1993, the assessment rate has been 25 percent.

TABLE 3

**Tangible Personal Property Assessment Rates*, by Class,
Tax Years 1967-2001**

Tax Year	Manufacturing Machinery & Equipment	Manufacturing Inventories	Merchants Inventories	Furniture, Fixtures & Other Property
1967	50%	50%	70%	70%
1968	50	50	63	70
1969	50	50	57	70
1970	50	50	52	70
1971	50	50	50	70
1972	50	49	49	66
1973	50	47	47	62
1974	50	45	45	58
1975	50	45	45	54
1976	50	45	45	50
1977	48	43	43	48
1978	46	41	41	46
1979	44	39	39	44
1980	42	37	37	42
1981	40	35	35	40
1982	38	35	35	38
1983	36	35	35	36
1984	34	34	34	34
1985	33	33	33	33
1986	32	32	32	32
1987	31	31	31	31
1988	30	30	30	30
1989	29	29	29	29
1990	28	28	28	28
1991	27	27	27	27
1992	26	26	26	26
1993-2001	25	25	25	25

*Agricultural property became exempt in 1973 and is not reflected in this table. Non-retail and non-manufacturing inventories were assessed at 70% in 1968. Restaurant furniture and fixtures were assessed at the same rate as merchants inventories until 1972 when they became assessed at the same rate as manufacturing machinery and equipment.

Enterprise Zone Abatements

In addition to the historical reductions in assessment rates, the **enterprise zone** program has become an increasingly common device for reducing inventory taxes. Local governments may reach agreements with companies that are locating new business investments in the enterprise zone, providing property tax abatements to such companies for a period of up to 10 years. In most enterprise zone agreements, a negotiated percentage of inventory property value is abated from taxation. As of December 31, 1998 there were 342 enterprise zones certified by the Ohio Department of Development, with nearly 3,000 agreements in effect between local enterprise zone authorities and business firms located in such zones (1998 Enterprise Zone Annual Report, Ohio Dept. of Development web site, March 2000). We are not able to estimate the amount of inventory taxes that have been foregone through enterprise zone agreements but it is undoubtedly substantial.

Presentation of Inventory Tax Data

In this report, the property tax data is not identified by school district. This is because the data could be a distraction from the findings and conclusions contained in this report. The report was simply judged not to be an appropriate forum for providing such detailed information. Note that the data continues to be available to those desiring it.³

Additionally, a major concern relating to the district-by-district data is subsequent changes in inventory property. Inventory valuation for a particular district may now be dramatically different than it was in tax year 1997 in many districts inventory valuation can change substantially in a single year. This is because inventory property is transitory by its very nature and therefore subject to extreme fluctuations. (This volatility will be demonstrated below using multi-year *inter-county* taxpayer data). Because inventory property is essentially a “moving target”, showing a single year of district-by-district inventory data may imply an artificial sense of stability and draw inordinate attention to older figures.

³ The 1997 data on inventory by school district is available from the Ohio Department of Taxation, Tax Analysis Division, P.O. Box 530, Columbus, OH 43266; telephone number (614) 466-3960. This information is also expected to be made available on the Department of Taxation web site. The web address is: www.state.oh.us/tax/

School District Inventory Tax Dependency

In tax year 1998 (the most recent year for which data are available), school districts levied a total of \$6.3 billion in real, public utility, and tangible personal property taxes⁴. In tax year 1997, total school district property taxes were \$6.1 billion. Of this amount, \$467 million was generated from inventory property, or 7.7 percent of total property taxes⁵.

As might be assumed, there is tremendous disparity in terms both the amount of inventory tax generated among school districts and the extent to which they depend on inventory tax. In this report, we will not review total or gross dollars generated by school districts from inventory property taxes because such figures do not by themselves generally possess comparative fiscal significance. We shall focus instead on **inventory tax dependence**, as the term is defined in comparison to total property tax revenues.

Even though the inventory data is now three years old, we can still examine the fiscal aspects of inventory taxation. Table 4 provides summary statistics on inventory tax dependence, indicating that inventories accounted for an average of 6.45 percent of total school district property taxes (see footnote five). In Table 5, school district inventory tax is categorized according to level of inventory tax dependence. In Figure 2, the number of school districts grouped by inventory tax dependence is shown graphically.

School districts range from zero to 31.74 percent in inventory dependence. It is obvious that school districts with 1 to 15 percent inventory tax dependence account for the vast majority of districts and inventory tax. The group with the single largest share of inventory tax consists of those districts with 5-10 percent inventory tax dependence.

In order to determine the amount of dispersion (or variation) of inventory dependence among school districts, we computed the coefficient of variation (COV). A coefficient equal to zero indicates no variation among districts, with a higher coefficient indicating higher variation (up to a maximum of 1). The COV was calculated to be 0.77, indicating rather wide dispersion in inventory dependence.

⁴ Taxes charged from current operating levies, including emergency and joint vocational school operating levies. Inventory taxes reflect the same levies. Capital improvements and debt levies are excluded. Inventory tax data previously provided by the Department was slightly different than the data used here because it excluded emergency levies but included capital improvement levies. The levies included in this report are those contained in table SD-1.

⁵ A 7.7% weighted mean (average) dependency level is derived from dividing the sum of inventory taxes across all school districts by the sum of school district property taxes across all school districts. However, for the remainder of this report the *unweighted* mean dependency level is used. With an *unweighted* mean, a value (in this case, inventory as a percentage of total property tax) is computed for each district, summed across all districts and then divided by the number of districts. By so doing, an equal weight is provided to every district. Since we are analyzing the distribution of inventory tax dependence among school districts, a neutral (*unweighted*) measurement of district dependence was desired; the *unweighted* mean, rather than the weighted mean, was judged to be the more suitable measure for our purposes. Finally, it also should be noted that one small school district was excluded from our analysis due to data anomalies.

TABLE 4

**School District Inventory Tax Dependence in Tax Year 1997:
Summary Statistics**

Type of Statistic	Value
Unweighted Mean*	6.45%
Median	5.42%
Minimum	0.00%
Maximum	31.74%
Coefficient of Variation	0.77

*See footnote 5.

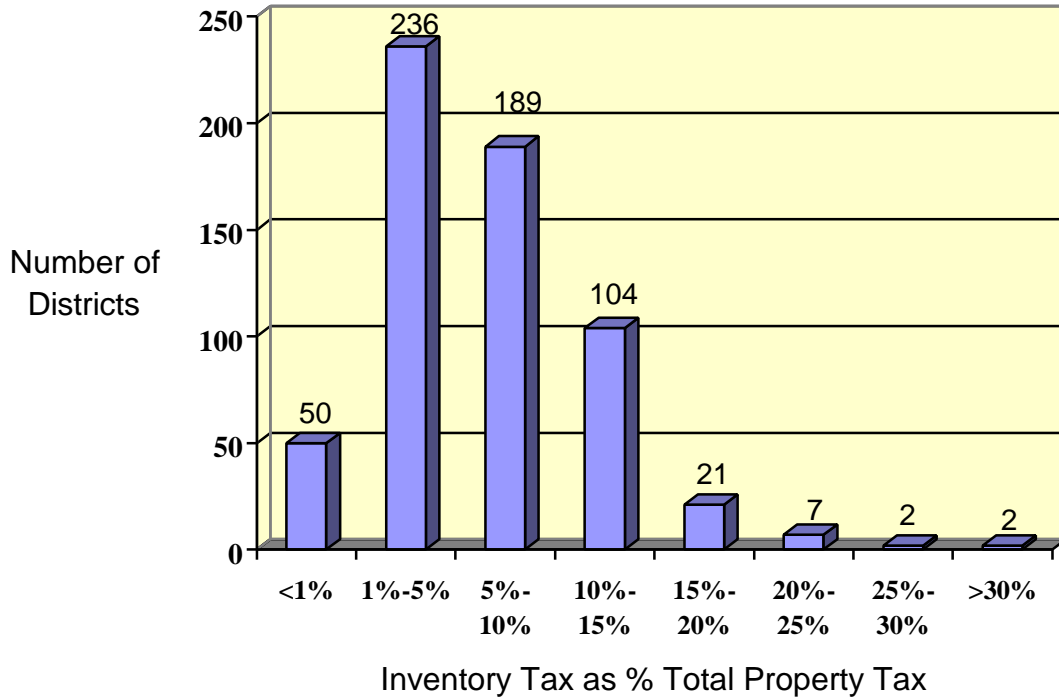
TABLE 5

**School Districts Grouped by Tax Year 1997 Inventory Tax Dependence:
Number of Districts and Inventory Tax Revenue Generated**

Level of Inventory Dependence	Number of Districts	Total Inventory Tax (millions)	Percent of Total Inventory Tax
Below 1%	50	\$1.0	0.2%
1% - 5%	236	49.4	10.6
5% - 10%	189	216.5	46.4
10% - 15%	104	145.1	31.1
15% - 20%	21	40.4	8.6
20% - 25%	7	8.9	1.9
25% - 30%	2	2.7	0.6
30% and above	2	3.0	0.6
Total	611	\$467.0	100.0%

FIGURE 2

School Districts Grouped by Dependence on Inventory Tax - Tax Year 1997



We attempted to frame our analysis in terms of a specific inventory dependency “threshold”, an identifiable point above which a district could be considered to have high inventory dependency. The threshold could be based on either a recognized public finance indicator, or on some figure that possesses intrinsic appeal and recognition. Unfortunately, we are not aware of a public finance benchmark that would indicate high inventory tax dependence. Thus, we made the judgement to select an arbitrary level to indicate relatively high dependence; we chose 10 percent as the indicator of high inventory dependence.

Over 3 out of 4 school districts depended on inventory taxes for less than 10 percent of their total property tax revenue. The 475 districts that depended on inventory taxes for less than 10 percent of their overall property tax revenue accounted for 57 percent of total inventory taxes. In comparison, the 136 districts with over 10 percent inventory tax dependence accounted for 43 percent of total inventory taxes.

As shown Table 6, we have examined inventory dependency data with regard to the share of inventory from inter-county versus single-county taxpayers in 1997. One might assume that in districts more heavily dependent on inventory tax, inter-county taxpayers would account for a higher share of total inventory. This is because the value of inventories owned by inter-county taxpayers tend to be much higher than inventories

owned by single-county taxpayers. The table does indeed indicate that inter-county taxpayer inventories comprise a higher proportion of total inventory value in districts with larger inventory tax dependence.

TABLE 6

Average Share of Inventory Property Attributable to Inter-County Taxpayers, by Level of School District Inventory Dependence, Tax Year 1997

Level of Inventory Dependence	Number of School Districts	% of inventory attributable to inter-county taxpayers
Below 1%	50	38.3%
1% - 5%	236	43.7%
5% - 10%	189	51.9%
10% - 15%	104	60.3%
15% - 20%	21	61.7%
20% - 25%	7	76.3%
25% - 30%	2	68.8%
30% - 35%	2	89.2%
Average – All Districts	611	49.8%

Volatility of Inventory Taxes

Inter-county taxpayer valuation data from tax years 1996 through 1999 was analyzed to determine the relative stability of inter-county inventory valuation among school districts⁶. The results are shown in Table 7.

Nearly three-fourths of the school districts experienced a larger than 10 percent change (increase or decrease) in their inter-county inventory valuation during at least one year of the three-year change period. This volatility is not limited to one specific year; in each year of change (i.e., from 1996 to 1997, 1997 to 1998, and 1998 to 1999), over 50 percent of the districts had percentage changes (increases or decreases) exceeding 10 percent.

Districts experiencing less than 4 percent annual growth or decline in revenue are in the distinct minority. In each year, such districts accounted for less than 20 percent of the total. It should also be noted that only 2 percent of all districts experienced less than a 4 percent change (growth or decrease) in valuation during *each year* of the 1996 through 1999 period. The 4 percent growth threshold is notable because it is equal to the percentage change in the inventory assessment rate (from 25% to 24%) that will occur

⁶ The data is collected by the Ohio Department of Taxation from returns filed by inter-county taxpayers for the respective tax years.

during the first year of the rate reductions. *This data suggests that inventory valuation typically changes at a rate exceeding 4 percent, making the change in the assessment rate look no greater than or at least comparable to the year-to-year changes in inventory valuation that schools traditionally experience.*

TABLE 7

**Summary of Changes in Inter-County Inventory Valuation,
By School District, Tax Years 1996-1999**

School Districts Categorized According to Changes in Inter-County Inventory Valuation, 1996-1999	1996-99 Number of Districts	1996-99 Percent of All Districts
Districts with more than 10% change in at least one year	447	73%
All Other Districts (< 10% change in every year; between -10% and +10%)	164	27%
Total School Districts	611	100%
Districts with less than 4% change in each year (between -4% and +4%)	10	2%

Another aspect of the changes in inter-county inventory deals with the consistency of the magnitude and direction of changes among districts. That is, are districts likely to maintain a similar level and/or direction of change from one year to the next? For example, is a district with 10 percent inventory growth in 1997 likely to experience similar growth in 1998? Our analysis reveals that there is virtually no predictability from one year to the next⁷.

An additional examination was made of the inter-county inventory change patterns shown by those 136 districts highly dependent (i.e., with over 10 percent dependence) on inventory property during tax year 1997. We found that 83 percent of them experienced more than a 10 percent change (growth or reduction) in their inter-county inventory valuation during at least one year of the 1996-1999 time span. We also found that in any given year, about one-half of the districts experienced a larger than 10 percent change in their inventory valuation. This simply confirms that districts with high inventory dependence experienced growth patterns that were just as volatile as those found across all school districts.

⁷ To measure the extent of any association between change in one year with change in the following year correlation coefficients were computed. The change in valuation from 1996 to 1997 had a negative, extremely weak association with change in valuation from 1997 to 1998 (a -0.041 coefficient). The 1997 to 1998 change in valuation was compared to the 1998 to 1999 change in valuation and a similarly weak, negative coefficient was derived (-0.016). We conclude that change in value from one year to the next essentially has no connection with changes occurring in other years.

The substantial year-to-year changes in inventory valuation have little or nothing to do with assessment rate reductions, since the rate on almost all tangible property has remained at 25 percent since 1993⁸. Rather, the changes in assessed valuation are almost entirely a function of changes in true value, the net impact of the continual changes in taxpayers' business inventories.

In summary, the data demonstrate the rather volatile inter-county inventory changes within districts. If it is assumed that single-county taxpayer inventory displays roughly the same type of volatility as inter-county inventory (and there is little reason not to assume so), the inventory tax should be viewed if not as an unreliable, then surely as an unpredictable, source of revenue. Despite this unpredictability and even when faced with a decrease in inventory valuation, it appears that school districts adjust to and cope with this aspect of their local property taxes.

⁸ Since tax year 1993, the only notable general tangible personal property tax assessment rate changes that have occurred pertain to inventories shipped into Ohio, stored in a private warehouse, and shipped to an out of state customer (so-called "for-storage only" property). Beginning in tax year 1995, the assessment rate on such property declined by five percentage points each year until becoming fully exempt in tax year 1999. Such property accounts for only a small portion of total inventory property.

III. Effects of the Inventory Assessment Rate Reductions Enacted by Am. Sub. H.B. 283

In the preceding sections of this report, we have reviewed background information regarding the inventory property tax. This section of the report will explore the potential financial effects of the inventory assessment rate reductions enacted by Am. Sub. House Bill 283.

In Table 8, the most current estimates of the total and school district revenue impact of the annual one percentage point inventory property reductions are shown. The table covers the first five years of assessment rate reductions, and assumes the reductions would occur in each of the first five years (tax years 2002-2006). The year-to-year marginal revenue loss is shown, which is based on the revenue impact caused by going from the prior year's assessment rate to the following year's assessment rate. We have also shown the revenue loss estimate which is based on comparing revenue generated under HB 283 to the revenue generated from the current 25 percent assessment rate.

TABLE 8

**Tangible Personal Property Tax Foregone
Due to Annual One Percentage Point Assessment Rate Reductions
on Inventory Property, During First Five Tax Years (2002-2006)**
(Millions of dollars)

Tax Year	Projected Tangible Tax Revenue, reflecting Am. Sub. HB 283	Tax Loss Based on Comparison to Prior Year's Assessment Rate	Tax Loss Based on Comparison to 25% Assessment Rate	Tax Loss Based on Comparison to Prior Year's Assessment Rate	Tax Loss Based on Comparison to 25% Assessment Rate
	<i>Schools & other locals</i>	<i>Schools & other locals</i>	<i>Schools & other locals</i>	<i>Schools only</i>	<i>Schools only</i>
2002	\$1,834.8	\$32.0	\$32.0	\$22.4	\$22.4
2003	1,882.4	33.3	66.6	23.3	46.6
2004	1,930.7	34.7	104.1	24.3	72.9
2005	1,979.9	36.2	144.6	25.3	101.2
2006	2,029.9	37.7	188.5	26.4	132.0

The fact that the assessment rate on inventory is being phased out by one percentage point each year is an implicit sign that the General Assembly recognizes the fiscal difficulties that would be posed by an immediate, full exemption for such property. A phase-out strategy over 25 years buffers the impact of the change.

In the ensuing discussion we interpret the revenue loss in the context of a consecutive year-to-year comparison (i.e., comparison to the prior year's assessment rate). Admittedly, if the loss were evaluated according to a comparison with the original "baseline" (i.e., at the 25% rate), the loss would be seen in a far more dramatic light. We chose to depict the loss in terms of a rolling year-to-year comparison since it reflects the conditions under which schools (and all local entities, for that manner) deal with their operating costs and revenues. Each year, school districts experience a higher level of property tax revenue, which provides a new base upon which the district will then establish the next year's revenue forecast and needs. As will be discussed below, the reduction in inventory tax will have only a marginal impact on a district's overall year-to-year growth in property tax revenue. The district will experience *almost* the same level of change in overall property tax revenue after an inventory rate reduction as it would without an inventory rate reduction.

Modest Year-to-Year Reduction in Revenue Due to the Inventory Tax Phase-Down

At first appearance, the percentage reduction of the inventory tax appears to be rather modest in its early years but grows to what might look like startling levels in its later years. For example, moving from the current 25 percent rate to a 24 percent rate represents a four percent reduction. In contrast, moving from a 5 percent rate to a 4 percent rate equals a 20 percent reduction in the rate.

However, the assessment rate percentage reductions are misleading if not put into their proper financial context. By adjusting the inventory tax reductions to reflect the weight of the inventory tax in comparison to total property taxes, the assessment rate reductions will be barely perceptible for most districts. The average inventory dependence across all school districts in 1997 was 6.5 percent. If we assume the average dependence level to be 6.50 percent in tax year 2001 and if we assume the percentage of total taxes attributable to inventory (before any reduction in the assessment rate) would not change in 2002, then the average first-year revenue reduction caused by the inventory rate reduction would only be 0.26 percent (6.50% dependence x 4.0% reduction in value = 0.26% revenue reduction). The impact, given the assumptions stated above, is shown for all 25 years in Table 9.

Later in the life of the inventory tax, the reduction in the rate will continue to have a similar impact. This is because the inventory tax will account for a much smaller share of a school district's total property tax. For example, we assumed the inventory assessment rate to be 5 percent in 2021 and assumed no underlying change in the relative shares of investment among classes of tangible property. We computed that inventories would account for an average estimated 1.30 percent of total revenue [6.50% reliance ratio in 1997 x (5%/25%) ratio of the new assessment rate to the current assessment rate]⁹. If the 1.30% dependence ratio for tax year 2021 is applied to the 20% reduction caused by moving from a 5% assessment rate to a 4% assessment rate in tax year 2022, a 0.26

⁹ The figure is computed as follows. The 6.5% reliance ratio for 1997 was based on a 25% assessment rate. The 2021 reliance ratio reflects a 5% assessment rate, so the 2021 ratio will be 5/25th, or 20%, of the 1997 ratio. Thus, the following calculation: 6.5% x 20% = 1.3%

percent reduction in overall property tax revenue would result (1.30% dependence ratio x 20% change in assessment rate = 0.26% reduction in revenue).

TABLE 9

**Average Reduction in Overall Property Taxes
Due to One Percent Reduction in Inventory Assessment Rate
From Prior Year's Inventory Assessment Rate*,
Tax Years 2002-2026**

Tax Year	New inventory assessment rate	% decrease from prior year's inventory assessment rate x	Inventory as % of total property tax, <i>before</i> imposition of new inventory assessment rate =	% decrease in total property tax due to reduction from prior year's inventory assessment rate
2002	24%	4.00%	6.50%	0.26%
2003	23%	4.17%	6.24%	0.26%
2004	22%	4.35%	5.98%	0.26%
2005	21%	4.55%	5.72%	0.26%
2006	20%	4.76%	5.46%	0.26%
2007	19%	5.00%	5.20%	0.26%
2008	18%	5.26%	4.94%	0.26%
2009	17%	5.56%	4.68%	0.26%
2010	16%	5.88%	4.42%	0.26%
2011	15%	6.25%	4.16%	0.26%
2012	14%	6.67%	3.90%	0.26%
2013	13%	7.14%	3.64%	0.26%
2014	12%	7.69%	3.38%	0.26%
2015	11%	8.33%	3.12%	0.26%
2016	10%	9.09%	2.86%	0.26%
2017	9%	10.00%	2.60%	0.26%
2018	8%	11.11%	2.34%	0.26%
2019	7%	12.50%	2.08%	0.26%
2020	6%	14.29%	1.82%	0.26%
2021	5%	16.67%	1.56%	0.26%
2022	4%	20.00%	1.30%	0.26%
2023	3%	25.00%	1.04%	0.26%
2024	2%	33.33%	0.78%	0.26%
2025	1%	50.00%	0.52%	0.26%
2026	0	100.00%	0.26%	0.26%

*Assumes that inventories represent 6.50% of total property taxes in tax year 2001. Also assumes for each year that inventory would retain the same share of property taxes *if* assessment rates did not change.

Obviously, the magnitude of the inventory assessment rate reduction will vary across school districts. For the great majority of school districts, however, the impact on a year to year basis will be less than one-half percent. Even if a district depends on inventory for a relatively large 10% of its property tax revenue, the percentage loss in total property tax caused by going from a 25% rate to a 24% rate would only be 0.4% (10% reliance x 4% reduction in value).

The 1997 data show that only four school districts would experience an annual loss of over one percent of their total property tax revenue as the result of the first-year reduction in the assessment rate (going from 25% to 24%). This amounts to a total loss of \$200,000 for the four districts. A district must depend on inventories for over 25% of its property tax revenue in order to experience a revenue loss exceeding 1%.

In addition, there are 134 districts whose annual revenue loss would range between 0.4% (10% inventory dependence) and 1% (under 25% inventory dependence). The combined revenue loss for these 134 districts would be \$7.8 million.(See Table 10 in the “School basic aid” section below).

Changes in Overall Property Tax Outweigh Impact of the Inventory Tax Reductions

We have already shown that the average annual reduction in property tax revenue caused by the inventory valuation reductions will be about 0.3 percent. It is useful to compare this figure with changes in overall school district property tax revenue as a way of determining how well districts will be able to absorb the inventory rate reductions. From 1994 through 1997, the average annual growth in overall property taxes across all districts was 5.1 percent.

In order to put the inventory rate reduction into perspective, let us assume that if the inventory tax rate is not reduced in tax year 2002, then overall property taxes would grow by 5.1 percent in that year. If the one percentage point inventory rate reduction (from 25% to 24%) were to occur in 2002, it is estimated to decrease overall property tax growth by an average 0.3 percentage points, thus dropping the average overall property tax growth rate from 5.1 percent to 4.8 percent. This suggests that, in most districts, overall property taxes will grow sufficiently to outweigh (or, to phrase it another way, “grow out of”) the inventory assessment rate reductions.

Property tax data also suggest that even most districts with relatively high inventory tax dependence will experience enough growth in their overall property taxes to outweigh the effects of the inventory reductions. For example, from 1996 to 1997, the 136 districts with more than 10 percent inventory tax dependence experienced average overall property tax growth of 5.7 percent. These districts would have experienced a 0.6 percent point decrease in their overall property tax growth rate if the inventory tax rate in tax year 1997 were 24 percent rather than 25 percent. Thus, the average overall property tax growth from 1996 to 1997 would have been 5.1 percent rather than the actual 5.7 percent.

The high growth in tangible property taxes occurring over the past few years cannot be expected to occur in perpetuity. Prior experience shows that significant dampening in

tangible tax growth (or outright declines) can occur when economic conditions are relatively weak. It is recognized that in some districts there may be declines in underlying tangible personal property value (i.e., true value) such that the overall property tax revenue growth will be substantially affected. In such districts and during such downturns, it may appear the districts will not be in a position to afford further reduction in the inventory assessment rate. However, in such cases the influence of the assessment rate reductions is still extremely small compared to the other changes that are occurring to the district's revenues (such as reductions in business tangible investment and stagnation of real property values). These other changes will have a far larger influence on the district's financial condition than the inventory reductions.

Recovery of the Inventory Tax Reduction through the School Basic Aid Formula

Most of the school districts will be able to recover at least a portion of their foregone inventory tax revenue through the state's school foundation aid program. The basic aid formula includes a deduction for the school districts' share of the total cost of educating public school pupils. This deduction equals 23 mills of the district's assessed valuation (the charge-off). As the result of the enacted reduction in inventory assessment rates, there will be a decline in the charge-off, thus increasing the amount of basic aid to school districts. Only those districts receiving basicaid, and not those receiving guaranteed aid, will benefit from the reduced charge-off.

In order to estimate the revenue impact of the reduced charge-off, we began by identifying those districts currently receiving guaranteed aid and leaving them out of the calculations.¹⁰ The next step was to compute the reduced inventory valuation resulting from the one percentage point reduction in the assessment rate. The first-year reduction in the assessment rate was used (i.e., from 25% rate to 24% rate). Each district's reduced valuation figure was multiplied by 23 mills to derive the estimated charge-off reduction (districts receiving guaranteed aid were excluded from this calculation).

For an individual school district, the net impact of the decline in the charge-off depends on the difference between the district's gross tax rate and 23 mills. The smaller the difference between the district's tax rate and the charge-off rate, the more the district will be able to recover its property tax loss through the basic aid formula.

The results of the computations are shown in Table 10. The table categorizes districts by the amount of inventory tax reliance, comparing the estimated loss in property tax revenue due to the inventory assessment reduction with the increased aid from the reduced charge-off.

¹⁰ Based on FY 2000 aid data supplied by the Ohio Department of Education.

TABLE 10

Effects of the First-Year Inventory Assessment Rate Reductions on School Districts: Additional Basic Aid and Foregone Tangible Property Tax, Categorized by Level of Tax Year 1997 Inventory Tax Reliance^(a)
(Dollars in millions)

Level of Inventory Reliance	Tangible Tax Foregone	Increase in Basic Aid	Net Revenue Impact
Below 1%	(b)	(b)	(b)
1% - 5%	-\$2.0	\$0.7	-\$1.3
5% - 10%	-8.7	3.1	-5.6
10% - 15%	-5.8	1.8	-4.0
15% - 20%	-1.6	0.5	-1.1
20% - 25%	-0.4	0.1	-0.3
25% - 30%	-0.1	0.0	-0.1
30% and above	-0.1	(b)	-0.1
Total	-\$18.7	\$6.2	-\$12.5

(a) The tangible tax foregone in this table is based on 1997 data, whereas the first-year loss shown in Table 8 is for tax year 2002.

(b) Indicates the amount is less than \$100,000.

TABLE 11

Effects of the First-Year Inventory Assessment Rate Reductions on School Districts: Additional Basic Aid and Foregone Tangible Property Tax, Districts Categorized by Net Impact of Additional Basic Aid^(a)
(Dollars in millions)

	Tangible Tax Foregone	Additional Basic Aid	Net Revenue Impact	Number of Districts
Districts recovering some, but not all, of their TPP tax loss through basic aid formula	-\$13.6	\$6.2	-\$7.4	442
Districts recovering their full TPP tax loss through basic aid formula	(b)	(b)	(b)	13
Districts <i>not</i> receiving basic aid (recover none of their TPP tax loss)	-5.1	0.0	-5.1	156
Total: All Districts	-\$18.7	\$6.2	-\$12.5	611

(a) The tangible tax foregone in this table is based on 1997 data, whereas the first-year loss shown in Table 8 is for tax year 2002.

(b) Indicates the amount is less than \$100,000.

Table 11 summarizes the estimated effects of the charge-off reduction according to categories of net revenue loss. Additional aid will be provided to many districts. Of the total 611 districts analyzed, 455 would recover at least a portion of their reduced tangible property tax as the result of additional basic aid.

Tables 10 and 11 indicate that about 1/3 of the total tangible tax foregone due to the reduced inventory property assessment rate would be recovered through increased basic aid. Note that these figures are based on the tax year 1997 inventory tax data, and were not projected to reflect possible increases in aggregate valuation and taxmillage rates. Furthermore, the increased basic aid will not be experienced in the same year as the reduced tangible taxes. For example, the reduced inventory taxable valuation expected to occur in tax year 2002 will be used in the fiscal year 2004 basic aid calculations.

HB 283 Changes Are Smaller Than Historic Tangible Assessment Rate Reductions

Brief mention should be made of the inventory assessment rate reductions enacted by HB 283 compared to the historic tangible personal property assessment rate phase-downs that have occurred from the mid-1960's through 1993. Some attention has been paid recently to the effects of the past Ohio assessment rate reductions.

The assessment rate reductions occurring from 1983-1993 affected *all* classes of general tangible personal property. The inventory property rate reductions contained in Am. Sub. HB 283 account for less than *one-half* of the revenue impact that would be caused by the type of assessment rate reduction (i.e., reduction on all classes of tangible property) that occurred during the 1983-1993 period.

It has not been demonstrated that the reductions in tangible personal property assessment rates *caused* either financial hardships or tax rate increases. Although millage rate increases did help to ameliorate the reductions in tangible value, there is no evidence indicating whether or not the rate increases were spurred by tangible rate reductions. There were many other influences on school finances besides the tangible property assessment reductions, such as plant closings, changes in school aid, changes in enrollment, program enhancements, and other spending changes.

IV. Inventory Property Assessment Rate Reductions: Findings and Conclusions

This report has examined various aspects of Ohio's inventory. Following are the major findings and conclusions we have reached in the course of this study.

- The magnitude of the inventory tax reductions is not significant for the vast majority of school districts. Based on 1997 data, a one percentage point inventory rate reduction equals a mere 0.26 percent average reduction in total property tax revenue, with only four districts experiencing a greater than 1.0 percent reduction in total property tax.
- There are many influences on local property taxes, and their combined effects marginalize the effects of the assessment rate reductions. Most districts experience total property tax growth far above the effect of the inventory assessment rate reductions. The inventory rate reductions will only slow property tax revenue growth, not cause a reduction in revenue from the prior year. In fact, the ongoing volatility of inventory tax caused by property moving in and out of the district is typically at least as large as the impact of the inventory assessment rate reductions.
- A significant portion of the reduced inventory valuation will be recovered through increased state basic aid due to a reduction in the charge-off. Most districts will realize an increase in basic aid; about 1/3 of the reduced inventory tax will be recovered through the basic aid program.
- For the large majority of school districts, it is difficult to demonstrate any compelling financial need for reimbursement of the cost of the inventory assessment rate reductions. The data and findings presented in this report show that for most schools the amount of foregone revenue compared to total property tax collections is small. The annual one percentage point phase-out provides sufficient protection against an unreasonable financial burden being placed on most school districts.

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GLOSSARY OF TERMS

Assessed Value – or “**listed value**” is a percentage of the property “true value” which is multiplied by the tax rate to compute tax liability.

Enterprise Zone – a designated geographic area meeting the criteria of Revised Code Sections 5709.61-5709.69 in which the granting authority may enter into agreements with businesses, in which tax exemptions are granted in consideration of agreed-upon business investment, and levels of employment at the specified location.

Exemption – a statutory nontaxable status.

Inter-County Taxpayer – An inter-county taxpayer has taxable personal property in more than a single Ohio county. Inter-county taxpayers file their annual return with the Tax Commissioner.

Inventory Tax Dependence – rate derived from dividing inventory tax into total (real, utility and tangible) property tax.

Manufacturing (Manufacturers) Inventory – are items acquired for the purpose of being changed for the purpose of adding value Examples of manufacturing inventory are raw materials such as coal and iron ore used in making steel, and crude oil that is to be refined for gasoline and other fuel products.

Merchandising (Merchants) Inventory – are items acquired for the purpose of marketing for resale in the form acquired Examples are steel purchased by a wholesaler for resale to contractors, and gasoline purchased from a refining company for resale to motorists.

Schedule – is one of four sections of the tangible personal property tax form on which the taxpayer lists its tangible personal property. Each schedule pertains to a different property classification. Schedule 2 contains machinery, equipment and other prescribed assets used in manufacturing. Schedule 3 contains manufacturing inventories. Schedule 3-A contains merchandising inventories. Schedule 4 contains all depreciable assets not used in manufacturing, and inventories of taxpayers other than manufacturers or merchants.

Single-County Taxpayer – or “**intra-county taxpayer**”, has taxable personal property in one Ohio county. Single-county taxpayers file their annual return with the respective county auditor.

Tangible Personal Property – is all tangible property that is not defined as real property. Tangible properties are considered those properties that one can see, feel, and of substance, as contrasted to intangible personal property.