



## ***Detailed Fiscal Analysis***

The bill reduces the assessment percentages on tangible personal property classified as inventory by two percentage points per year beginning in calendar year 2000. The reductions continue until the year 2004, when the assessment rate will be 15 percent.

### Background

The tangible personal property tax is a tax levied on personal property used in business in Ohio. It is a local tax levied at the local level to support local services. Approximately 70 percent of the revenues go to school districts to support education services. The tax is levied on the assessed (or "taxable") value of personal property. The taxable value is found by multiplying the "true value" of personal property (generally the depreciated book value of machinery and fixtures and the acquisition cost of inventories) by an assessment percentage that is given in section 5711.22 of the Ohio Revised Code.

The assessment percentage reductions will mainly affect local governments and school districts. However, to the extent that the assessment percentage reductions reduce the value of taxable property, the policy will also result in higher state aid to local school districts. Essentially, schools receive some State GRF money via the foundation formula. The foundation formula provides funding to school districts based on the extent to which the value of taxable property in each district falls short of the amount that would be required to provide an adequate level of funding per pupil in that district. About 95 percent of the districts have property valued at less than the state support level. Since the assessment percentage reductions will further reduce the value of taxable property, lower taxable values will enter into the equation for these school districts, necessitating higher levels of state aid.

**Table 1**  
**Revenue Generated from Inventory Tax - Before and After H.B. 143 Reductions**  
*dollars in millions*

| Calendar year | Projected millage rate | Under current law       |                   | Under proposed law       |                   | Difference<br>(Cost to all local governments) |
|---------------|------------------------|-------------------------|-------------------|--------------------------|-------------------|---|
|               |                        | Current assessment rate | Projected revenue | Proposed assessment rate | Projected revenue |   |
| 2000          | 74.3                   | 25%                     | \$841.0           | 23%                      | \$773.8           | (\$67.3)                                      |
| 2001          | 75.4                   | 25%                     | \$879.0           | 21%                      | \$738.4           | (\$140.6)                                     |
| 2002          | 76.5                   | 25%                     | \$929.5           | 19%                      | \$706.4           | (\$223.1)                                     |
| 2003          | 77.6                   | 25%                     | \$967.6           | 17%                      | \$657.9           | (\$309.6)                                     |
| 2004          | 78.7                   | 25%                     | \$1,002.5         | 15%                      | \$601.5           | (\$401.0)                                     |
| 2005          | 79.8                   | 25%                     | \$1,029.6         | 15%                      | \$617.8           | (\$411.9)                                     |
| 2006          | 80.9                   | 25%                     | \$1,090.5         | 15%                      | \$654.3           | (\$436.2)                                     |

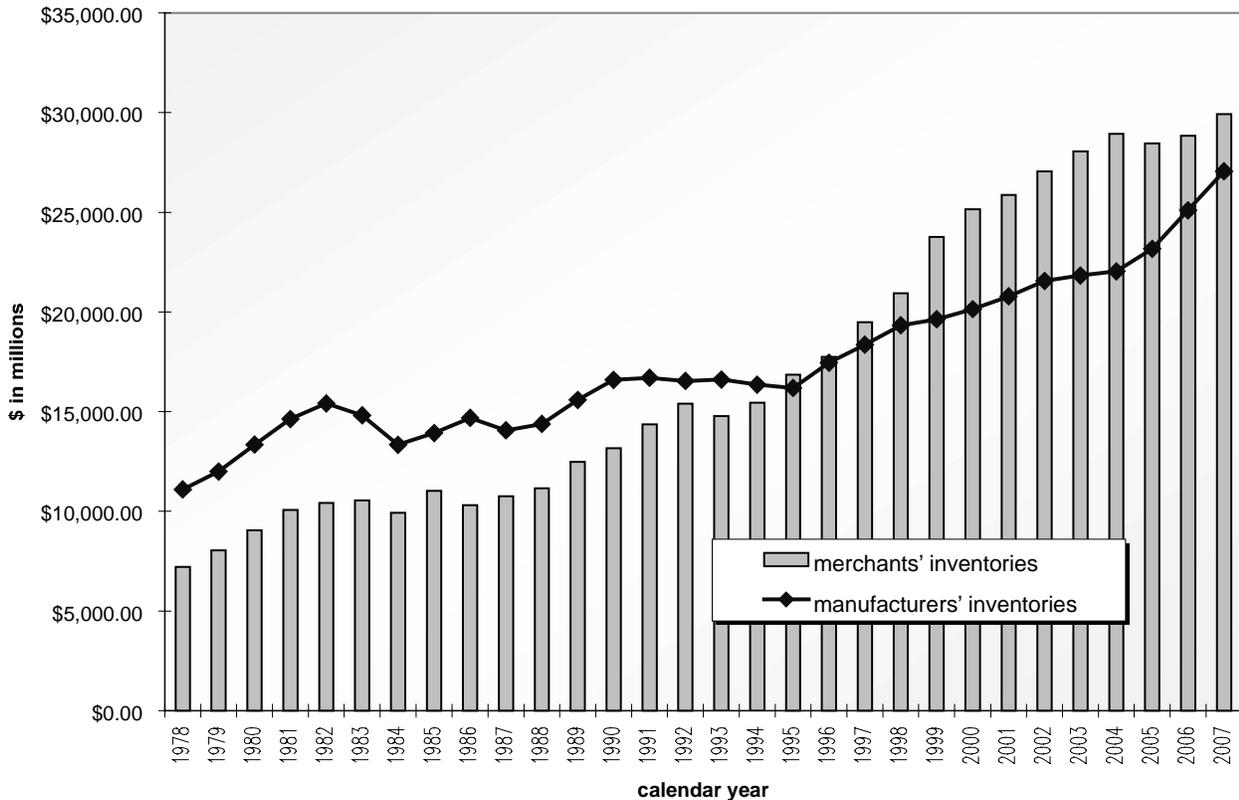
For the purpose of calculating the fiscal impact of this bill, it is assumed that changes in the assessment percentage do not affect the total amount of tangible property in the state. It also assumes that changes in the assessment percentage do not affect the average tax rate on tangible property. These assumptions are briefly addressed at the end of this note.

Method of Calculating Cost

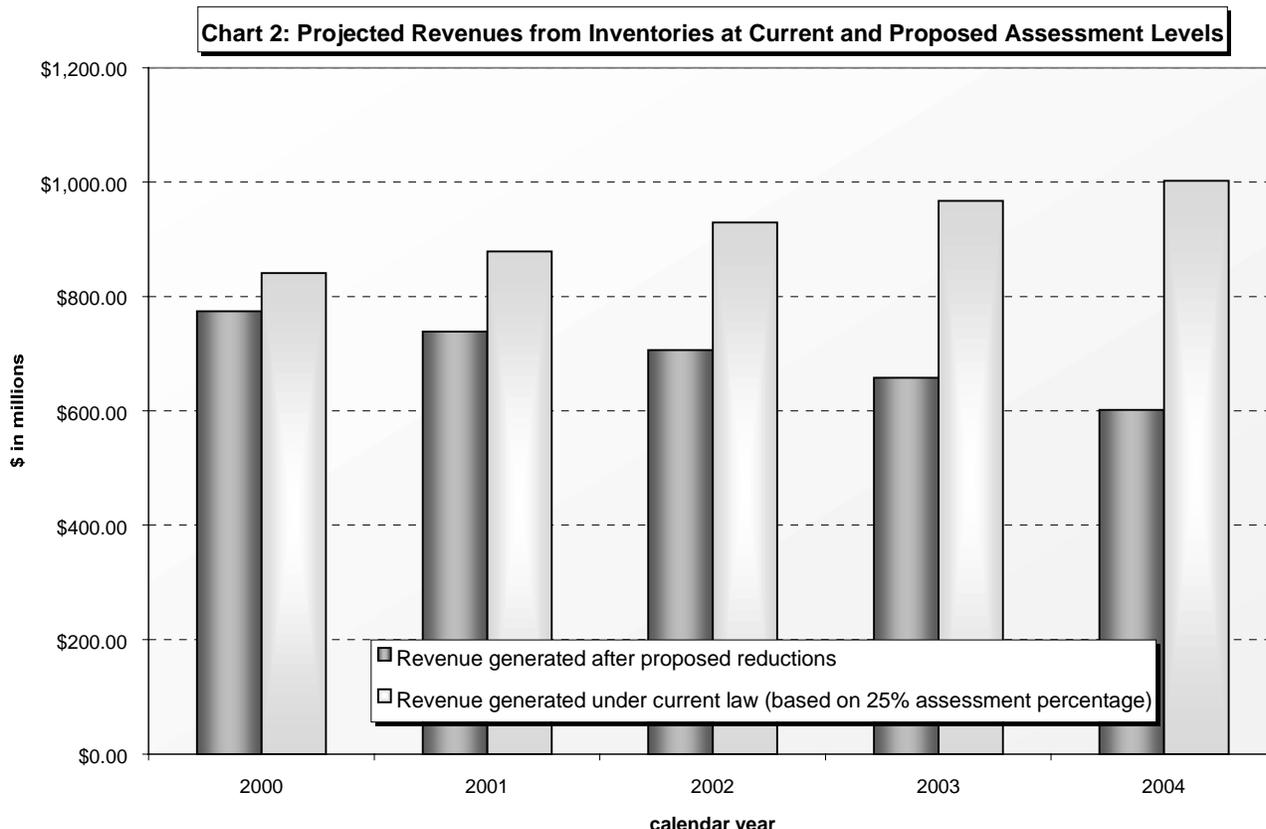
The cost is calculated as the reduction in taxes due in any given year when the same statewide average tax rate is applied to the same tangible property; the only variation in the calculations being the proportion of the property’s true value that is assessed for taxation. The annual (cumulative) costs are summarized in **Table 1**. "Total cost" here is equal to the difference between the projected revenues at a 25 percent assessment rate and the projected revenues at the new lower rate as set forth in the bill (and given in column B of the table). As indicated in column D, the total cost (i.e., revenue loss) of this bill is estimated at \$67.3 million in CY 2000, increasing to \$401.0 million in CY 2004 and continuing annually, thereafter.

The first step in determining the cost was to obtain estimates of the true value of inventories for 1998 through 2004. True value estimates for manufacturers’ and merchants’ inventories for prior years were constructed from data provided by the Ohio Department of Taxation, based on data the department obtained from county auditors and tax filers. True value estimates of manufacturers’ inventories for the years 1998 and beyond were based on forecasts of changes in manufacturing inventories for the U.S., and true value estimates for merchants' inventories were based on projections of changes in U.S. non-farm, non-manufacturing inventories. The forecast variables were obtained from the WEFA Group's U.S., Long-term Economic Outlook, Vol. 2, Fourth Quarter 1998, "Cyclical Scenario." The true value projections are summarized in **Chart 1**.

**Chart 1: True Value of Inventories History and Projections to 2007**



Next, assessed value figures were calculated for both current law and proposed assessment percentages for each year by multiplying the true value figure for the year by an assessment rate of 25 percent and by the lower proposed rate for that year. The expected revenues for each year and each assessment rate were then found by multiplying each of the assessed value figures by a statewide average tax rate for the respective year. (The average tax rate was assumed to increase by 1.1 mills per year.) **Chart 2** shows the projected revenues from personal property taxes on inventories at both the current law and proposed assessment percentages.



**Table 2** shows - on a calendar year basis - how the total cost of the assessment percentage reductions is divided among three main groups: school districts, other local government units, and the State General Revenue Fund (GRF). Since school districts typically receive approximately 70 percent of tangible property tax revenues, approximately 70 percent of the lost revenue was attributable to them. This figure, \$47.1 million in 2000 and \$98.5 million in 2001, etc., is given in column C. (These numbers in column C differ from those presented at the front of this note under “Local Fiscal Highlights School Districts,” since those are presented on a fiscal year basis, which for school districts is the same as that for the state.) The remaining 30 percent, given in column D (\$20.2 million in CY 2000), is a cost to other local taxing districts (counties, municipalities, townships, and special districts). Columns E and F divide the cost to school districts between the added GRF expenditures (column E) and net revenue losses to school districts (column F) after added GRF payments are taken into account, i.e., column F = column C - column E. (Again, the figures in column E differ from those given at the front of this note under State Fiscal Highlights, since those are presented on a fiscal year basis.) In CY 2001, the \$98.5 million revenue loss to school districts would be partially offset by up to \$10.4 million in State Foundation Aid (resulting from the CY 2000 assessment percentage reductions), bringing the net loss to school districts to about \$88 million in CY 2001. The effect of the assessment percentage reductions on school districts is discussed in some detail in the next section.

**Table 2**  
**Cost of H.B. 143 Assessment Percentage Reductions by Source and Destination of Funds**  
*dollars in millions*

| A             | B  | C               | D                              | E  | F                   |
|---------------|--|-----------------|--------------------------------|--|---------------------|
| Calendar year | Personal Property Tax Revenue Loss<br>Total Cost | Cost to Schools | Cost to Other Taxing Districts | Added GRF Expenditures/<br>Foundation Aid Payments | Net Cost to Schools |
| 2000          | (\$67.3)   | (\$47.1)        | (\$20.2)                       | \$0.0  | (\$47.1)            |
| 2001          | (\$140.6)  | (\$98.5)        | (\$42.2)                       | \$10.4   | (\$88.0)            |
| 2002          | (\$223.1)  | (\$156.1)       | (\$66.9)                       | \$31.9   | (\$124.3)           |
| 2003          | (\$309.6)  | (\$216.7)       | (\$92.9)                       | \$55.0   | (\$161.7)           |
| 2004          | (\$401.0)  | (\$280.7)       | (\$120.3)                      | \$79.5   | (\$201.2)           |
| 2005          | (\$411.9)  | (\$288.3)       | (\$123.6)                      | \$104.5  | (\$183.8)           |
| 2006          | (\$436.2)  | (\$305.3)       | (\$130.9)                      | \$118.0  | (\$187.3)           |

Effects of Assessment Percentage Reductions on School Districts and the State Formula

In Ohio, school districts are guaranteed a certain per pupil amount, known as the "formula." To the extent that a 23-mill rate on taxable property in any school district fails to generate this guaranteed "formula" amount, the state's School Foundation Basic Allowance program will make up the difference. Total payments for this program come from the state GRF and are referred to as "State Foundation Aid." Legislation passed in the 122<sup>nd</sup> General Assembly (such as H.B. 650) added some wrinkles to this process, but basically the procedure remains the same.

State aid to education may be based on either the "foundation formula" or a "guaranteed" amount. The guaranteed amount is equal to at least the level of state aid that the school district received in FY 1996. In any year, school districts will receive the greater of the two amounts. Although many districts go on the guarantee temporarily due to reappraisal, a high percentage of districts and students have their long-term aid level determined by the formula.

Reduced assessment percentages on tangible personal property reduce the taxable value of tangible property, thereby reducing the total amount of taxes generated by a 23 mill levy and necessitating an increase in State Foundation Aid payments to reach the guaranteed formula amount. The cost to the GRF is calculated by, first, finding out what proportion 23 mills is of the total school district tax rate, and then by multiplying the forgone tangible personal property tax receipts attributable to school districts by this proportion. This calculation gives the amount of revenues lost for the first 23 mills of school district taxes due to the assessment rate reductions. For example, in 2000, for the state as a whole, 23 mills would represent approximately 44 percent of the average school district tax rate. Multiplying the lost revenue attributable to school districts in CY 2000 (\$47.1 million) by this proportion yields a revenue loss for the first 23 mills of \$20.8 million. Assuming that in that year the total taxable valuation of all school districts in Ohio fell below the value needed to generate the foundation formula per pupil amount, the state would essentially be required to "reimburse" this level of lost revenues, implying a cost to the General Revenue Fund of \$20.8 million in FY 2000. The remaining \$26.3 million (\$47.1 million - \$20.8 million) represents

the school districts' net loss for the same year. However, the timing of the GRF payments complicates this calculation, somewhat.

The reimbursements generally lag the property tax collections by a year and a half. Property tax returns are filed between February 15 and April 30 in any calendar year. All firms owing taxes other than intercounty corporations must pay one-half of their liability at this time, as well. The second half of their liability, along with the total liability of intercounty corporations, must be paid by September 20 of the same calendar year. Intercounty corporations owe approximately 70 percent of the liability, with the remaining 30 percent owed by all other businesses. Therefore, 15 percent of tangible property taxes is paid in February through April, and 85 percent is paid in September and October.

For the purposes of calculating state aid payments for a given fiscal year, the Tax Department certifies in the preceding June the taxable value of property in each school district for the previous calendar year. Consequently, the value of tangible property in CY 2000 is used (in June 2001) to calculate foundation aid payments for FY 2002. Therefore, the \$10.4 million cost to the GRF resulting from the assessment percentage reductions in CY 2000 would be incurred in FY 2002. (See State Fiscal Impact at the top of this note. As shown in **Table 2**, half would be incurred in CY 2001 and half in CY 2002). Since not all school districts receive funds based on the formula, the costs to the GRF are overstated by this method. The total costs to school districts are, however, understated by the same amount. The cost figures in the table should, therefore, be regarded as upper limits for increased GRF expenditures and lower limits for local school district revenue losses.

Reductions in taxable values, in any case, reduce local tax collections to school districts. To the extent that these losses are covered, in part, by increased state aid, the net cost to the district is reduced; but in cases where state aid does not increase as a result of the revenue loss, the school district incurs a greater part of the loss. Overall, the cost to the local school districts of the assessment percentage reduction increases relative to the cost to the GRF because of statewide increases in local property tax rates. Twenty-three mills - the GRF portion of school district costs for FY 1997 and beyond - is a smaller and smaller proportion of the rising average tax rate.

#### Impact of Assessment Percentage reductions on tax rates and inventories

This analysis assumed that assessment percentage reductions would not affect either tax rates or the amount of tangible personal property. It is possible, however, that the assessment percentage reductions could affect either. It is certainly likely that past assessment percentage reductions have contributed to both higher property tax rates, as well as to greater investment in tangible property.

The higher property taxes are a result of real property tax laws, specifically the H.B. 920 reductions, which appear as credits on real property tax bills. As a result of H.B. 920 of the 111th General Assembly, total tax collections on real property remain constant in any district in the absence of either voted tax increases or new construction of or additions to real property. Consequently, as real property appreciates in value, the effective tax rate on it falls. At the same time, as the costs of government services (specifically schools) increase, real property tax revenues do not similarly increase. In order to cover these increasing costs, voters are regularly asked to support property tax increases. The tax rate applied to tangible property in any district (including that applied to public utility tangible property) is the same that is applied to real property before credits and rollbacks. While the H.B. 920 reductions or "credits" do not apply to tangible personal property, any voted tax increase does apply to it.

For new and old debt service levies and for emergency levies, the proposed tax rates are driven by the total dollars required. Thus, with no assessment percentage reductions on tangible property, the property would have had a higher valuation; lower tax rates would have been required. On operating

levies, the same principle generally applies: A particular revenue production is selected. If tangible valuation were higher, a lower tax rate would result. Thus, the higher tax rates compensate, in part, for the lower assessments. The lower assessment on business tangible property essentially shifts the tax to other taxpayers - e.g., public utilities.

It is also unlikely that the true value of tangible personal property has been unaffected by previous assessment percentage reductions. The assessment percentage may be regarded as part of the "price" of Ohio tangible personal property. A reduction in assessment percentages would therefore have an impact similar to that of a price reduction: it would increase the net incomes of businesses and could lead to increased purchases of tangible personal property, causing an increase in the true value of tangible personal property, over and above the increase resulting from economic growth factors. The increase in tangible property could result both from existing companies increasing their investment in Ohio and from more companies forming in the state. Both of these scenarios would increase the aggregate value of all types of both real and tangible property in the state.

The more "sensitive" or "responsive" that expenditures on tangible personal property are to changes in the assessment percentage, the lower is the relative cost of the assessment percentage reduction. While all categories of tangible property experienced the same reductions in assessment percentage between 1984 and 1993 and all are currently assessed at the same percentage of true value, the analysis to date suggests that some are more sensitive to changes in the assessment percentages than others. In other words, reductions in the assessment percentage lead to greater percentage increases in some types of property than others. Inventories, for example, are generally more responsive to lowered assessment rates than are furniture and fixtures. Therefore, the "cost" of a given reduction of the assessment rate on inventories may not have been as great as similar reduction applied to furniture and fixtures. However, it is also possible that this same rate reduction on inventories, while substantial in the 1970's or 1980's, will be relatively unimportant with respect to future assessment rate reductions. "Responsiveness" tends to fall as the price - in this case the assessment rate - falls.

LBO has investigated taxpayer reaction to prior assessment rate reductions on all classes of tangible personal property. Preliminary results suggest that the tax revenue loss may have been offset somewhat by additional investment. In particular, LBO has run numerous regression models to determine the impact of tax rates and assessment percentages on taxpayer holdings of inventory. The data available to LBO for these analyses is limited to statewide data; so the models have been somewhat limited. Nevertheless, LBO finds that the assessment percentages and tax rates have the expected negative impact on holdings of manufacturers' inventories, all else held constant. However, the results with respect to merchants' inventories are not significant.

With respect to manufacturers' inventories, over the 1973 to 1997 period, the models indicate that for every one- percent decrease in the assessment rate, the true value of manufacturers' inventories increases by about \$330 million. If this estimate is correct (and if it holds for future reductions), this would reduce the estimated revenue losses from cutting the assessment rate on at least manufacturers' inventories. The behavioral response would reduce the revenue loss from manufacturers' inventories by as much as 38 percent in the first year (from a loss of \$29.9 million on manufacturers' inventories to a loss of \$18.6 million). This rate would decline rapidly, however; so that the response would only reduce the loss by 4 percent by 2004, when the assessment rate would equal 15 percent. In this case the revenue loss on manufacturers' inventories would decrease from \$173.3 million to \$165.5 million.

*□ LBO staff Doris Mahaffey, Senior Economist*

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