

## **Technical appendix on differences between Competitiveness Report and Anderson Report on average state and local business taxes in Michigan vs. the United States**

On average state and local business taxes in Michigan vs. the United States, the Competitiveness Report and the Anderson Report reach conclusions that are somewhat different quantitatively, although not so different qualitatively. The Competitiveness Report concludes that average state and local business taxes in Michigan are 12 percent below the national average, whereas the Anderson Report concludes that average state and local business taxes in Michigan are 5 percent above the national average. In both reports, Michigan is close to being an average tax state.

However, there is a 17 percent difference between the two reports. What causes this 17 percent difference? In this appendix, we show that this difference is caused by three factors: 1) whether the business portion of the sales tax is included, 2) whether the analysis looks at Fiscal Year 2004 or Fiscal Year 2005, and 3) what calendar year is used in the denominator for calculating state and local business taxes as a percentage of gross state product.

Table 1 shows the impact of including the business portion of the sales tax. The main text of the Anderson Report does not include the business portion of the sales tax, whereas the Competitiveness Report does include the business portion of the sales tax. Adding in the sales tax to the Anderson numbers reduces the ratio of Michigan to U.S. average business taxes by 1–7 percent, from the original 1.05 to a range of 0.98–1.04. The range of results occurs because the appendix to the Anderson Report considers four different methods of allocating the sales tax between businesses and households. Subtracting the sales tax from the Competitiveness Report numbers increases the ratio of Michigan to U.S. average business taxes by 6 percent, from the original 0.88 to 0.94. Therefore, of the 17 percent overall differential between the Anderson Report and the Competitiveness Report, from 1 to 7 percent is due to whether the business sales tax is included.

**Table 1: Anderson Report vs. Competitiveness Report: Effects of Including vs. Excluding Business Portion of Sales Taxes**

	Original Anderson numbers for FY 2004	Anderson numbers with sales tax	CR numbers without sales tax	Original CR numbers for FY 2005
Michigan business taxes, % of GSP	3.69	4.24–4.68	3.54	4.26
Average U.S. state and local business taxes, % of GSP	3.52	4.30–4.50	3.75	4.84
Ratio of Michigan to U.S. (=Michigan row divided by U.S. row)	1.05	0.98–1.04	0.94	0.88

NOTE: The second column presents range of Anderson results from four different methods of calculating business portion of sales tax. All numbers come directly either from reported Anderson numbers for business taxes and business sales taxes, or from Ernst and Young numbers used in competitiveness report for overall business taxes and business portion of sales taxes.

The Anderson Report does not include the sales tax on business inputs for various reasons, including the argument that businesses may be unaware of this tax burden on their costs, and also including concerns that current methods for allocating sales taxes between the household sector and the business sector are not robust to alternative assumptions. However, ideally one would like to include the business portion of the sales tax.

The sales tax on business taxes is a large business tax, constituting, as a national average, at least 18 percent of overall state and local business taxes. The analysis in Table 1, as well as other information, suggests that including the sales tax on business inputs tends to make Michigan appear more competitive in overall business taxes with other states. Michigan’s sales tax, which is only applied at the state level, is lower than the overall state and local sales tax rates that prevail in many states. (According to the Federation of Tax Administrators, as of 2004, 32 states had a higher maximum combined state and local sales tax rate than Michigan, and seven states had the same rate. See [http://www.taxadmin.org/fta/rate/sl\\_sales.html](http://www.taxadmin.org/fta/rate/sl_sales.html) .) Furthermore, Michigan’s sales tax does not cover many services and other inputs used by business. (According to the Federation of Tax Administrators, in 2004 Michigan imposed a sales tax on only 26 out of a possible 168 services, which ranks Michigan as thirteenth from the top in fewest services taxed under the sales tax. See <http://www.taxadmin.org/fta/pub/services/services.html> .) Therefore, a comprehensive analysis of all state and local business taxes, which should ideally include the sales tax on business inputs, will show that Michigan is more competitive than an analysis that does not include the sales tax on business inputs.

Another difference between the Anderson Report and the Competitiveness Report is the fiscal year considered when characterizing Michigan’s “current” tax environment. The Anderson Report uses data from Fiscal Year 2004, whereas the data analyzed in the Competitiveness Report is from Fiscal Year 2005. As shown in Table 2, if the Competitiveness Report’s data for Fiscal Year 2004 is used, this increases the ratio of Michigan to average U.S. taxes by 5 percent, from 0.88 to 0.93.

**Table 2: Anderson Report vs. Competitiveness Report: Effect of FY 2004 vs. FY 2005**

	Original Anderson numbers for FY 2004	Original CR numbers for FY 2004	Original CR numbers for FY 2005
Michigan business taxes, % of GSP	3.69	4.35	4.26
Average U.S. state and local business taxes, % of GSP	3.52	4.66	4.84
Ratio of Michigan to U.S. (=Michigan row divided by U.S. row)	1.05	0.93	0.88

The relative decline in the ratio of Michigan to U.S. business taxes from Fiscal Year 2004 to Fiscal Year 2005 is probably due both to tax policy changes and to the effects of U.S. economic growth on states with corporate profits taxes. Michigan’s average state and local business tax rate declined a bit from Fiscal Year 2004 to Fiscal Year 2005, dropping from 4.35 percent of private gross state product (GSP) to 4.26 percent. This may reflect in part some tax policy

changes. More importantly, average business taxes in other states went up between these two years, from a U.S. average of 4.66 percent in Fiscal Year 2004 to 4.84 percent in Fiscal Year 2005. This is probably due in part to significant economic growth in these states and these states' reliance on corporate profits taxes. State economic growth tends to drive up business profits as a share of state business activity, and hence drive up business taxes on profits as a share of state business activity.

A third difference between the two reports is which calendar year for gross state product is used in the denominator in the calculation for state and local business taxes as a percentage of GSP. The Anderson Report uses the same calendar year as the fiscal year. The Competitiveness Report uses the previous calendar year from the fiscal year.

All but four states use a fiscal year that ends June 30. Therefore, the fiscal year is half in the previous calendar year and half in the current calendar year. If revenues are collected with no lag, it is arbitrary whether to use the current calendar year or the previous calendar year. If revenues are collected with some lag, using the previous calendar year is preferable. The business tax rate should equal how much state and local business tax revenues total as a percentage of economic activity as the taxes are collected.

Because the average state has been growing faster than Michigan since 2000, the calendar year used in the denominator matters. Using the previous calendar year tends to reduce the denominator more in the United States than in Michigan, which will reduce Michigan's relative tax rates.

As shown in Table 3, switching the denominator of the Anderson Report tax rates to the previous calendar year, which makes it comparable to the original Competitiveness Report tax rates, reduces the ratio of Michigan to average U.S. taxes by 4 percent, from 1.05 to 1.01. Similarly, switching the denominator of the Competitiveness Report tax rates to the current calendar year, which makes them comparable to the original Anderson Report tax rates, increases the ratio of Michigan to average U.S. tax rates by 3 percent, from 0.93 to 0.96.

One further complication is that Michigan's state government fiscal year ends September 30. Because Michigan's fiscal year is later than the state government fiscal year of the average state, the economic base denominator that should be used for Michigan should be a somewhat later base. Using the same calendar year as the base for both the average U.S. state and for Michigan tends to make Michigan look worse than it should since Michigan's taxes are collected later than is true for the average U.S. state.

To look at the impact of Michigan's later fiscal year, suppose we assume that all state and local tax revenues are collected with no lag. Suppose further that we assume that economic growth occurs evenly between calendar year 2003 and 2004 in all states. Then the proper economic base for the average state for Fiscal Year 2004, with a fiscal year half in calendar year 2003 and half in calendar year 2004, is a simple average of the gross state product for the two years. On the other hand, the proper economic base for Michigan for Fiscal Year 2004, with a fiscal year that is three-quarters in calendar year 2004 and one-quarter in calendar year 2003, is a weighted average of the two calendar years with three-quarters of the weight on calendar year 2004.

**Table 3: Anderson Report vs. Competitiveness Report: Effect of GSP Year Used in Denominator**

	Original Anderson numbers for FY 2004 (uses GSP for calendar year 2004 in denominator)	Anderson numbers for FY 2004, but using calendar year 2003 in denominator, as done in original CR numbers	CR numbers for FY 2004, but using calendar year 2004 in denominator, as done in original Anderson numbers	Original CR numbers for FY 2004 (uses GSP for calendar year 2003 in denominator)
Michigan business taxes, % of GSP	3.69	3.82	4.20	4.35
Average U.S. state and local business taxes, % of GSP	3.52	3.77	4.35	4.66
Ratio of Michigan to U.S. (= Michigan row divided by U.S. row)	1.05	1.01	0.96	0.93

NOTE: Original Anderson and CR numbers used different calendar years. The second Anderson column switches to using same calendar year as used by original CR. The third column takes CR numbers and uses same calendar year used by original Anderson numbers.

Table 4 presents these calculations. When calculated on the appropriately weighted average base, the ratio of Michigan to U.S. taxes declines by 3 percent with the Anderson numbers, and it increases by 1 percent with the Competitiveness Report's numbers. The overall change from shifting to the same basis for the tax rates is a shift of 4 percent in the ratios. It appears that the Competitiveness Report use of the previous calendar year is somewhat closer to what is obtained from using a weighted base than is the Anderson Report's use of the same calendar year as the fiscal year.

**Table 4: Anderson Report vs. Competitiveness Report: Effect of Switching to Common Weighted Calendar Year in Denominator**

	Original Anderson numbers for FY 2004 (uses GSP for calendar year 2004 in denominator)	Anderson numbers for FY 2004, but using weighted calendar year in denominator (comparable to column to right)	CR numbers for FY 2004, but using weighted calendar year in denominator (comparable to column to left)	Original CR numbers for FY 2004 (uses GSP for calendar year 2003 in denominator)
Michigan business taxes, % of GSP	3.69	3.72	4.24	4.35
Average U.S. state and local business taxes, % of GSP	3.52	3.64	4.50	4.66
Ratio of Michigan to U.S. (= Michigan row divided by U.S. row)	1.05	1.02	0.94	0.93

NOTE: Weighted calendar year is based upon fiscal year. As all but four states have a fiscal year ending June 30, the weighted calendar year for U.S. average is one-half previous year, one half same year as fiscal year. As Michigan fiscal year ends September 30, weighted calendar year for Michigan is one-fourth previous year, three-fourths same year as fiscal year.

Therefore, the choice of a calendar base explains 3 to 4 percent of the difference between the two reports' results.

Overall, of the 17 percent difference between the two reports, 1 to 7 percent is explained by whether the sales tax is included, 5 percent by the use of Fiscal Year 2004 vs. 2005, and 3 to 4 percent by which calendar year base is used. Summing up, these three factors explain from 9 to 16 percent of the overall 17 percent differential.