

SALES AND USE TAX AUDIT SAMPLING PROCEDURES

Sampling Methods, Techniques and Evaluation of Results

On June 22, 2009, the Michigan Department of Treasury (Department) issued INTERNAL POLICY DIRECTIVE 2009 – 2 (IPD-2009-2) titled SALES AND USE TAX – AUDIT SAMPLING PROCEDURES. An IPD is an internal document to be used by Department personnel in the administration of the tax laws. An IPD does not have the force and effect of law and is not binding on taxpayers. The Department provides and makes the IPDs available to taxpayers and others in the spirit of greater understanding in the administration of tax laws.

A copy of IPD-2009-2 can be accessed from the Department of treasury website with a control and click (Ctrl + Click) on the following web address:

www.michigan.gov/documents/taxes/IPD_2009-2_283488_7.pdf

An EHTC White Paper titled Sales and Use Tax Audit Sampling Procedures is available on the EHTC State and Local Tax webpage. The entire 12 page document can be accessed with a control and click (Ctrl + Click) on the following web address:

www.ehtc.com/ehtc/brochures/saltwhitepapers&u/sales-usetaxauditsamplingprocedures.pdf

In a perfect world all sales and use tax audits would result in a detail examination of each and every transaction occurring during the audit period. However, in the real world, the large volume of transactions may preclude a detail examination of all transactions. Therefore, some sort of sampling method must be used in the examination of transactions.

Sampling carries with it a degree of risk. There is a risk that the sampling projection overstates the tax liability. This risk shall be called the alpha risk. There is a risk that the sampling projection understates the tax liability. This risk shall be called the beta risk. For these reasons it is very important that due care be taken in selecting the method used and sampling techniques employed.

Extremely important is how the sample results are projected against the entire population. The auditor and the taxpayer must evaluate the results of the sample and sample projection.

The Department should be commended for adopting scientifically acceptable sampling methods and training their auditors on implementation procedures. Making the methods and techniques available to taxpayers will result in greater understanding and consequently better, more efficient and accurate sales and use tax audits.

IPD-2009-2 states that electronic statistical sampling, manual random sampling and judgmental block sampling are the sampling methods that conform with generally recognized sampling techniques and auditing standards which will yield accurate and defensible results and consequently may be used in the Department's sales and use tax audits. The Department

states that one of the three sampling methods listed above and discussed below may be used to conduct a sale or use tax audit. [IPD 2009-02, P-1]

Of the three methods identified by the Department, electronic statistical sampling is the most preferred method. Electronic statistical sampling, when properly employed, will result in the most efficient and accurate result. An additional benefit is the sample results can be statistically evaluated.

Manual random sampling should be used only when electronic statistical sampling absolutely cannot be done. If electronic records are not maintained or are not available, manual random sampling provides an efficient alternative.

Both electronic statistical sampling and manual random sampling are predicated on the statistical and mathematical theory of random numbers. Specifically, if a series of numbers, a sample, are selected at random from the entire population, then, a projection of the sample results should represent the entire population.

There are two important requirements which must exist in order to make the sample projection valid. First, the sample must be selected at random. Second, the sample must be selected from the entire population. Every item in the population must have an equal chance or probability of being selected.

Statistical sampling is based on scientific number theory and the theory of probability. It is only valid if done properly. The auditor should first perform a diagnostic investigation of the business and a complete evaluation of the taxpayer's sales and use tax compliance system.

If the taxpayer is attentive to their sales and use tax obligations and responsibility and has in place a compliance system that, if operable, would result in the correct amount of tax paid, then the auditor may perform a random test of transactions to determine compliance with the taxpayer's tax system. However, if the taxpayer does not have a tax compliance system, or if the taxpayer has a tax compliance system, but it is not operable; then the auditor should prepare a sample plan for monetary errors.

The auditor should study and become familiar with the specific characteristics of the population. Ordinarily this would include the size of the population in number of items as well as total dollar amount. A test of variability is the calculation of the standard deviation. If records are available electronically, this calculation can be done electronically. In manual random sampling, a test sample may be pulled to determine the standard deviation. The next step is to determine the desired reliability level and the desired precision level.

Reliability is a measure of confidence. The higher the reliability, the greater the level of confidence. A reliability level of 90% means that if 100 samples were randomly drawn and evaluated, 90 of the samples would fall within the precision intervals.

In IPD 2009-2, the Department stated: "The confidence level will be 90% in most cases, which will result in a sample that is both accurate and efficient. If the general characteristics of the population cannot, in the auditor's judgment, reasonably be determined, a higher confidence level may be necessary." [IPD 2009-02, P-2]

Uncertainty in the population or of the population will normally require a higher confidence level and a higher reliability level.

Precision is a measure of accuracy. The lower the precision, the greater the level of accuracy. A precision level of $\pm 10\%$ means that the monetary amount determined from the random sample is within 10%, above or below, of the actual result.

In IPD 2009-2, the Department stated: "The precision level will be 10% in most cases, which will result in a sample that is both accurate and efficient. If the general characteristics of the population cannot, in the auditor's judgment, reasonably be determined, a lower precision level may be necessary." [IPD 2009-02, P-2]

If the sample projection may result in a substantial tax deficiency, a tighter precision interval may be required.

The determination of the reliability level and precision interval are very important because they, along with the standard deviation, will determine the sample size. The determination of the reliability level and precision interval are a function of the taxpayer's system of tax compliance. If the taxpayer's tax compliance system is operable, then a reliability level of 90% and precision level of $\pm 10\%$ may be sufficient. However, if the taxpayer has no tax compliance system and the audit is expected to result in a substantial tax deficiency, then a higher reliability level (95%) and tighter precision interval ($\pm 5\%$) may be appropriate.

The higher reliability level (95%) and tighter precision interval ($\pm 5\%$) will result in a larger sample. A very large sample size could impose an administrative burden on the taxpayer and require the auditor to spend more time in the examination and review of transactions. IPD 2009-2 states: "It is recommended that the taxpayer retrieve all documentation needed to support the review of individual sample items." [IPD 2009-02, P-4] All of the above factors must be considered.

IPD 2009-2 specifies that "Ratio estimation is the preferred method of projection for both electronic and manual sampling audits. The ratio is the total error divided by the sample base. The error ratio is then multiplied by the projection base to arrive at the estimated audit adjustment." [IPD 2009-02, P-5]

The EHTC State and Local Tax Group is available to assist taxpayers in audit sampling planning as well as evaluation of sample results.

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www.ehtc.com/ehtc/salt.htm

www.MichiganStateAndLocalTax.com (Blog)

[The Michigan Business Tax 2009 Desktop Reference Manual](#)

[The Control Test For A Michigan Business Tax Unitary Business Group](#)

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