

# Statistical Sampling

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**CAUTION**

- The information in this publication reflects the interpretations by the Wisconsin Department of Revenue of laws enacted by the Wisconsin Legislature as of December 31, 2016. Laws enacted after that date, administrative rules, and court decisions may change the interpretations in this publication.
- The examples provided are not meant to be all-inclusive. They merely set forth common examples.

**I. INTRODUCTION**

Wisconsin law authorizes the Wisconsin Department of Revenue (DOR) to use sampling in sales and use tax audits.

Sampling means selecting representative items from a total population of items, examining those selected items, and drawing a conclusion about the entire population based on that examination of selected items.

A sample conducted by DOR may be statistical or non-statistical. This publication provides information about statistical sampling. It explains:

- What a statistical sample is and why it is used
- Factors considered in determining whether to use a statistical sample
- Information needed and steps used to generate a statistical sample
- How statistical sample results are calculated and evaluated, and how they can be projected forward to subsequent periods
- Common questions and issues that relate to statistical sampling

For information about non-statistical sampling methods see DOR [Publication 515](#), *Non-Statistical Sampling*.

**II. WHAT IS STATISTICAL SAMPLING AND WHY IS IT USED?**

In a statistical sample, the sample is randomly selected and probability theory is used to evaluate the sample results.

When sampling is used, both DOR and the taxpayer can save time and resources. Statistical samples provide a number of additional benefits, including:

- All items in the population have an equal chance to be selected as a sample item, which eliminates bias
- It is possible to estimate the sample size
- The amount of error (or uncertainty) associated with the sample estimate can be calculated
- This method is approved and recommended by the AICPA (See SAS 39 – Audit Guide)

Statistical sampling is generally used in field audits when it is not efficient to review 100% of the records or to use one of the non-statistical methods (e.g., block sampling).

**Example:** Company A has approximately 10,000 purchase invoices for each year filed alphabetically by vendor name. If the audit scope includes four years, a block sample based on alphabetical vendor name would require the auditor to review 10,000 records (approximately one-fourth for each year). However, a statistical sample covering that same scope might require the auditor to review 1,000 or fewer invoices.

### III. DETERMINING WHETHER TO USE STATISTICAL SAMPLING

In many cases, if a prior audit included a statistical sample, the current audit will include a statistical sample. Otherwise, the auditor will determine whether a statistical sample is appropriate by asking questions such as:

- What is the volume of records?
- What is the nature and volume of nontaxable sales?
- Were there any significant changes in business operations during the audit period?
- What media and filing method are used for source documents?
- Are detailed sales or purchase records maintained in an electronic-readable format for the audit period?
- What type of software is used for billings and payments? Has the software changed during the audit period?

Based on the answers to these questions, it may be appropriate to conduct a statistical sample for one or more components of the audit.

Following are examples of situations where a statistical sample may be appropriate:

*Example 1:* Company A sells general factory, cleaning, and safety supplies. Sales are approximately \$5 million per month and 90% of the sales were exempt. All sales records are maintained in an electronic-readable format for the entire audit period.

*Example 2:* Company B maintains several manufacturing facilities, a research lab and a corporate headquarters in Wisconsin. There are approximately 5,000 purchase invoices per month that are kept in a scanned format by month. The taxpayer has used the same software for recording accounts payable transactions during the entire audit period.

### IV. DATA AND INFORMATION NEEDED FOR THE SAMPLE

In cases where statistical sampling may be possible, the auditor will ask to arrange a meeting or telephone conference that includes:

- Someone familiar with the taxpayer's information technology and systems (usually someone from the IT department),
- Someone supervising the audit for the taxpayer, and
- A DOR Computer Audit Specialist (CAS). A CAS is trained in both auditing and computer programming and statistics. All DOR statistical samples require CAS involvement.

At this meeting, the CAS will ask detailed questions about the data. Based on what is learned, the CAS will confirm whether a statistical sample is appropriate and, if so, specify what is needed to conduct the statistical sample.

#### A. General Requirements for a Statistical Sample

The following items are required for statistical sampling in nearly all audits:

- Detailed chart of accounts (in electronic format)
- Trial balances (in electronic format)
- Electronic detail records of sales and/or purchases, including coding information. Appendix [A-1](#) and [A-2](#) identify required fields, field formats, and accepted file formats, that will be requested from this detail. Generally, summary records are not sufficient.

- Documentation of use tax self-assessed and how taxpayer determines whether a transaction is taxable

Usually the sample is drawn from the computer-readable detail records. Each computer record is an individual element from which the sample is drawn (called a "sampling unit").

However, reversal entries and accounting adjustments should not be included in the sample. If included, the CAS will need information to filter those out of the detail records.

### **B. Importance of Detailed Records**

Upon receipt of the above information, the CAS and the auditor will pre-screen the data to identify types of transactions that do not need to be examined.

To help with this pre-screening, it is important that the taxpayer provide the most detailed version available of the items in [A.](#) above.

Detailed records are important. The more information the auditor and CAS have up front, the better they can identify ways to reduce the number of transactions in the sample.

### **C. Ensuring the Data Is Complete**

The auditor will request the taxpayer to verify that data extracted is complete. For example:

- Does it include the entire audit period?
- Does it include all business units and locations requested?
- Does it include all accounts requested?
- Does it include all products requested?

The data extract should be tied to a control figure to verify completeness.

### **D. Other Details to Address**

There are other details that need to be worked out between the CAS and the person extracting the data file. These include:

- Number of files (one file per year is generally preferred)
- Format of the data (e.g., Excel, Access, delimited or fixed length text file are acceptable formats)
- Record layout of the files
- What method the taxpayer prefers to use for transferring the data
- Providing a test file of records
- A tentative timeline for completion of the data file

## **V. STEPS TO GENERATE A STATISTICAL SAMPLE**

After the taxpayer, auditor, and CAS agree to the data specifications needed for the sample, the taxpayer will extract and transfer the data to the CAS using the agreed method. By law, DOR is prohibited from disclosing this information to others.

The CAS performs a number of processing steps to generate the sample and will involve the auditor and taxpayer as needed. The processing is done using DOR's computer programs, which have been tested to make sure they provide accurate results.

The basic processing steps are:

- A. Data Cleansing
- B. Defining the Population
- C. Stratifying the Population
- D. Defining the Sample
- E. Selecting the Sample

### **A. Data Cleansing**

Data cleansing (also called data scrubbing) ensures that the data is correct, accurate, formatted correctly and does not contain unnecessary records. The CAS analyzes the data to verify that it conforms to what was requested.

### **B. Defining the Population**

Defining the sample population includes pre-screening, considering taxpayer's requests to include items, and evaluating alternatives to review of source documents.

#### ***Pre-Screening***

From the data available, the auditor and CAS pre-screen the data to identify transactions that do not need to be included in the sample population. For example, they might identify certain accounts or vendors that are unlikely to have taxable sales; or they might identify transactions that did not take place in Wisconsin.

In the pre-screening process, the auditor and CAS may ask the taxpayer specific questions about a particular account or transaction type to determine if it can be excluded from sample the population.

The more transactions that are pre-screened, the smaller the sample population. This generally results in a smaller sample size, less time needed for examining source documentation, and a shorter duration of audit.

Communication between the auditor, CAS and taxpayer in the pre-screening process will likely result in a more efficient sample that can shorten the duration of the audit.

Groups of transactions that are excluded from the sample population are referred to as "Class X" transactions. Sometimes the CAS will generate a 100% listing of Class X transactions for reference purposes, such as to test a specific type of transaction or to quantify a particular issue.

#### ***Taxpayer's Requests to Include Items***

While the auditor and CAS will try to limit the sample population as much as possible, there may be situations where the taxpayer feels certain types of transactions should be included because of the possibility these items are being taxed in error. The auditor and CAS will work with the taxpayer to include them as appropriate.

#### ***Alternatives to Review of Source Documents***

Generally, the sample represents the group of transactions for which the auditor will review source documentation. However, some types of transactions can be more efficiently reviewed by means other than looking at the source document. The auditor and CAS will consider alternative approaches where appropriate.

*Example:* The auditor notes that thousands of charges appear in the Stores account. The taxpayer did a study five years ago of these disbursements and is self-assessing based on the study. Instead of including invoices from the Stores account in the sample, the auditor decides to look at several months of disbursements during the current audit cycle to determine if the percentages in the study need to be updated.

### **C. Stratifying the Population**

After the auditor, CAS and taxpayer have defined the sample population, the CAS stratifies the population. Stratification means grouping data with similar characteristics into separate groups. This method is used to reduce the variability within each group.

The CAS often determines that separate classes of transactions should be defined and stratified separately into dollar ranges to make the sample more representative.

For example, a review of Wisconsin sales might include the following classes:

- Class A: Non-Taxed Sales;
- Class B: Taxed Sales (tax rates of 5%, 5.1%, 5.5% and 5.6%)
- Class C: All other sales

When the CAS stratifies the records, a random number is assigned to each record and a stratification report is created that contains the number and dollar value of transactions by class, range, and year.

### **D. Defining the Sample**

The CAS determines the sample size from the stratified population. The CAS analyzes the stratification report using software designed to conduct "what if" tests on various sample sizes among the strata.

Sample size varies from taxpayer to taxpayer. General quantitative guidelines the CAS will follow are:

- Based on dollar ranges, a maximum of fifteen sampled strata are defined for each class
- At least 100 items are selected for each sampled stratum

The CAS must consider several additional factors in determining sample size. The flexibility of these factors has provided better sample results than could be achieved by using rigorous guidelines. These additional factors include:

- The nature of the items sampled. For example, advertising expenses might be sampled at a higher dollar amount when only a small percentage is taxable to Wisconsin.
- Sampling rate relative to dollar value of the range. Sampling rate should increase as the dollar value of the range increases.
- Examining the highest dollar range at 100%
- Not sampling the lowest positive dollar range (presuming it to be correct)

### **E. Selecting the Sample**

Once the size and parameters of the sample have been determined, the CAS does the following (unless otherwise specified):

- Assigns a sequence number to each sampled record that links it to the data provided by the taxpayer
- Creates the list of transactions for which the auditor needs to review source documentation. This is called the "pull list" (or "clerk's list") of sample transactions.

- Places the pull list into an Excel workbook and adds a column for "tax effect," which shows the approximate dollar effect of the sampled item if the taxpayer owes tax on that item (the tax effect column is based on the 5% state tax rate; it doesn't include county, stadium, or other local taxes)
- Generates and provides a report which presents specifications of the sample relative to the population; for example, how many records are in each class and what the sampling rate is for each stratum
- Auditor provides the taxpayer with the pull list and report of the sample specifications

## **VI. RETRIEVING AND REVIEWING SAMPLE RECORDS**

After the CAS generates the sample, the auditor will work with the taxpayer to ensure the examination is done as efficiently as possible.

### **A. Issues to Discuss Before Auditor's Review**

Before the auditor begins his or her review of the documents pulled, he or she will have a discussion with the taxpayer to determine timelines for the taxpayer to retrieve the documents and for the auditor to review them. The auditor and taxpayer should also discuss how missing documents will be handled. See Part [VIII.E](#) for alternative approaches.

### **B. Auditor's Review**

The auditor will review the source documents within the timeline agreed upon with the taxpayer.

The amount of time that this review will take depends on the size of the sample and type of issues involved. However, the amount of time can be greatly reduced by ongoing communication between the auditor and taxpayer about potential issues found.

The most efficient audits are those where the auditor and taxpayer have a continuing dialogue about potential issues as they are encountered so questions are answered as early in the process as possible.

When the auditor has completed the review, he or she will provide the exceptions list to the taxpayer and allow the taxpayer time to gather any additional information about those items that would determine whether audit adjustments are necessary.

After the auditor has allowed sufficient time for the taxpayer to review the exceptions list (as agreed to between the auditor and taxpayer), the auditor prepares a proposed audit report. The report computes the additional tax due based on evaluation of the sample results.

## **VII. COMPUTATION AND EVALUATION OF SAMPLE RESULTS**

The CAS computes the sample results by projecting the errors found in the sample to the entire sample population. The errors projected are either underpayments or overpayments. Any sampled stratum that contains at least one error is projected.

To accomplish the projection, DOR uses a difference estimator and the midpoint of a two-sided 90% confidence interval. Following is an explanation of these concepts:



### A. Difference Estimator

In using the difference estimator, the amount of error equals the tax owed minus the tax paid. This measure of error is called the "difference," or net adjustment.

The net adjustment for any sample transaction is:

- zero (indicating correct tax treatment),
- positive (indicating underpayment of tax), or
- negative (indicating overpayment of tax)

The net adjustments for all transactions in the sample are used to estimate the net adjustment for the population.

### B. Computation of the Midpoint

To determine the midpoint of the estimate (also called a point estimate) for total net adjustment in the entire population, the CAS projects net adjustment separately for each sampled class and range.

For any class/range of transactions reviewed at 100%, no projection is needed since the amount found in the examination represents the net adjustment.

The example below illustrates how the net adjustments for each stratum of a statistical sample are projected and summed together to arrive at the midpoint of the estimate:

Class/Range	Items Sampled	Net Adjustments	Error Rate per Item	Items in Sample Population*	Additional Measure of Tax from Sample
A/03	200	\$2,000	$\$2,000 / 200 = \$10$	10,000	\$100,000
A/04	250	\$10,500	$\$10,500 / 250 = \$42$	5,000	\$210,000
A/05	205	\$10,250	$\$10,250 / 205 = \$50$	2,025	\$101,250
A/06	(100% Review)	\$288,750	N/A	N/A	\$288,750
<b>Total</b> (represents midpoint of estimate for entire sample population)					<b>\$700,000</b>

\*This column does not include transactions that have been pre-screened out of the sample population as described in Part [V.B.](#)

### C. Two-Sided 90% Confidence Interval

In the example above, the midpoint of the estimate for total net error in the sample population is \$700,000. Once the dollar value of errors in the sample is known, the CAS can compute sample precision using a statistical formula for the difference estimation method.

Assume that the CAS computes the precision of this sample to be \$63,000. Interpreting this data using a two-sided 90% confidence interval means that there is a 90% probability that the true additional measure of tax from the sample is between \$637,000 and \$763,000. This range is called the "confidence interval."

The relative precision of the sample is computed by dividing the sample precision by the point estimate. In this case, the relative precision is 9% ( $=\$63,000/\$700,000$ ).

#### **D. Precision Standards**

Under DOR standards, the CAS strives for a relative precision of 10% or better. However, a relative precision of up to 20% is generally acceptable.

If the sample precision exceeds 20%, the CAS analyzes the reasons why. In many cases the sample is less precise because there are a significant number of overpayments in the sample. This is not a reason to modify the sample results. The sample can still be acceptable even if relative precision exceeds 20%.

A taxpayer may be willing to accept a less precise sample in order to reduce the sample size and expedite the audit. A taxpayer may enter a binding agreement with DOR in order to reduce the sample size. See [Part VIII.A.](#) for more details.

#### **E. Proposed Audit Report**

Once the additional measure of tax from the sample has been projected to the sample population, the auditor and CAS will develop schedules which compute the additional amount of tax (or refund) based on that measure. Depending on the jurisdictions where the taxpayer has sales/purchases, separate projections may be necessary for state, county, stadium, or other sales-based taxes.

The auditor incorporates the projection schedules into a proposed audit report which shows the additional tax (or refund) due. The proposed audit report includes the detail listing of errors.

### **VIII. COMMON QUESTIONS AND ISSUES**

Some of the most common statistical sampling questions and issues relate to:

- A. Modifying sample size
- B. Removing items after sample is pulled
- C. Claims for refund
- D. Reversal entries or adjustments
- E. Missing invoices
- F. Availability of data

Each of these topics is addressed below.

#### **A. Modifying Sample Size**

In general, larger sample sizes provide more precise results. However, to improve relative precision of the sample, the sample size has to increase exponentially.

To improve the relative precision by 50% (e.g., 20% to 10%), you would have to quadruple the sample size.

If the taxpayer believes the sample size is too large, the auditor and CAS work with the taxpayer to evaluate alternatives, such as:

- Pre-screen the sample population as explained in [Part V.B.](#)
- Raise the limit on the highest dollar stratum so that the group of transactions reviewed at 100% is smaller
- Enter a binding agreement with DOR which sets forth an agreed-upon sample size. Under the agreement, the taxpayer and DOR agree to accept the results even if the relative precision exceeds 20%.

## B. Removing Items after Sample Is Pulled

Once the pull list has been created, sometimes the taxpayer requests that certain transactions or groups of transactions be removed from the sample because they aren't relevant. The auditor and CAS work with the taxpayer to identify these items up front, but occasionally these transactions become apparent after the sample has been pulled.

The auditor and CAS generally cannot remove a single item from a sample. However, they may be able to remove a whole group of items from the sample (and sample population) depending on the circumstances.

For example, assume 25% of the taxpayer's sales are to the U.S. Government, and it becomes apparent that these sales are included in the sample. The taxpayer requests that U.S. Government sales be removed from the sample, but does not want the sample redone since invoices and exemption certificates have already been pulled.

The CAS will change the sample specifications and generate a new report to reflect that U.S. government sales are eliminated from *both* the sample and the sample population. Making these modifications to the sample is time-consuming and typically does not significantly impact the projection.

## C. Claims for Refund

If the taxpayer believes that tax was paid in error on certain transactions included in the sample population, the taxpayer can choose to either:

- Compile a claim for refund on a specific basis, or
- Include the transactions in the sample so the refund can be projected along with the other adjustments.

If the taxpayer chooses to compile the claim for refund on a specific basis, the auditor will generally review the claim, and any adjustments to the claim would be done on a 100% basis rather than through sampling.

If any overpayment items reflected in the claim are also included in the sample, the items in the sample will be treated as zero error since specific adjustments are being made in the refund claim.

If the taxpayer intends to file a claim for refund, the taxpayer should inform the auditor and CAS as early in the audit as possible so the refund claim can be verified and processed as efficiently as possible.

## D. Reversal Entries or Adjustments

Usually, the taxpayer's sales or purchases data includes reversal transactions such as credit memos, reclassifications between general ledger accounts, corrections to data entry errors, voided invoices and returned items. These are sometimes called "negative items."

Ideally, negative items should be matched against the corresponding positive transaction prior to drawing the sample. However, in many cases the electronic records involved will not permit such a match.

Reversal entries or adjustments should not be included in the sample population because they would create multiple occurrences of the same purchase or sale and increase the probability of selecting that purchase or sale in the sample.

## E. Missing Invoices

If a source document selected in the sample is missing, the auditor may determine whether an adjustment is necessary using alternative methods. For example, in a purchases sample, the auditor may:

- Look at other invoices from the same vendor that are charged to the same account
- Consider charges that are made to the account from other vendors
- Look to a prior audit to see if conclusions were made about similar purchases from that vendor
- Investigate the nature of the product the vendor sells and its history of charging tax
- Consider the taxpayer's procedures for self-assessing tax

If these alternative approaches don't apply to the situation or provide sufficient information, the auditor will treat the missing invoice as an error.

#### **F. Availability of Data**

Although data should be available for the entire audit period (generally four years), it may only be available for a shorter time frame. This might happen in cases where a taxpayer converted to a new system.

In these cases, DOR may do a statistical sample for a portion of the audit period and then extrapolate the results to the entire audit period using a non-statistical method.

For example, assume that for the first year of the audit period the taxpayer used a legacy system, but switched to a new system which provides more detailed information and is much easier to access. The CAS could draw the statistical sample from the three years of data in the new system. The results of the sample may be projected into the first year based on a ratio of net adjustment to business activity.

### **IX. PROJECTING SAMPLE RESULTS FORWARD**

In some cases, DOR can take the audit results from the current audit period and project them forward to subsequent periods. The projection is non-statistical and is generally done using a ratio of net adjustment to business activity.

Benefits of projecting an audit forward include:

- Time saved by not having to prepare amended returns or go through another audit for those years
- Less interest since tax due is paid sooner

A field audit can be projected forward whether it is an assessment or a refund, provided that the taxpayer and DOR agree to the computations.

Since projecting an audit forward can benefit both the taxpayer and DOR, the auditor and taxpayer should discuss and consider it where possible.
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Whether an audit can be projected forward depends on the facts and circumstances of each case. Following are some factors that may indicate an audit is *not* a good prospect for projection forward:

- Changes in the taxpayer's business operations
- Changes in the method of, or person responsible for, reporting taxes
- Tax law changes that affect the taxpayer
- Unagreed issues in the audit

However, these factors do not automatically preclude a projection forward, and since projection forward can benefit both the taxpayer and DOR, it should be discussed and considered where appropriate.

In most cases, only one cycle (up to 4 years) of projection forward will be considered.

## **X. REFERENCES**

As part of providing excellent customer service, DOR's goal is to ensure the taxpayer understands the methodology and interpretation of samples conducted in audits.

To facilitate statistical samples in audits, DOR has developed a checklist that the auditor, CAS, and taxpayer can use to develop the framework for conducting the sample as the audit progresses. The checklist, shown in [Appendix B](#), provides an overview of the steps detailed in this publication.

If you have any questions relating to statistical sampling, the auditor and CAS can assist you.

## Appendix A-1: Data File Standards – Sales Records

Requested File Formats: .xlsx or .csv		Other Supported File Formats: .txt, .accb, & .mdb		
Field	Field Name	Description	Format	Required (Yes/No)
1	Customer Name		Alpha/Numeric	Yes
2	Customer Number		Alpha/Numeric	No
3	Transaction Number	Invoice or other number required to identify the transaction source document.	Alpha/Numeric	Yes
4	Transaction Line Item	Transaction Number.	Alpha/Numeric	No
5	Transaction Date	Year, month, and day of transaction.	Date	Yes
6	Invoice Amount	Includes taxable and exempt amounts.	Numeric	Yes
7	Line Item Amount	Includes taxable and exempt amounts.	Numeric	No
8	Invoice Exempt Amount	Exempt amount per transaction line item.	Numeric	Yes
9	Invoice Tax Amount	Sum of all jurisdictional tax amounts.	Numeric	Yes
10	Invoice Freight Amount		Numeric	Yes
11	Tax Rate	Includes state, county, stadium, and other jurisdictional	Numeric	Yes
12	Tax Code	Reasons for exemption.	Alpha/Numeric	Yes
13	Product description of item sold.	Invoice description of item sold or purchased.	Alpha/Numeric	Yes
14	Product Code		Alpha/Numeric	No
15	Ship to Customer Name	Required for drop shipments.	Alpha/Numeric	No
16	Ship to Customer Number	Required for drop shipments.	Alpha/Numeric	No
17	Ship to Address 1	Address line 1	Alpha/Numeric	Yes
18	Ship to Address 2	Address line 2	Alpha/Numeric	Yes
19	Ship to City	Name of city.	Alpha	Yes
20	Ship to State	State abbreviation (2 character)	Alpha	Yes
21	Ship to Zip Code	Zip code (9 character)	Alpha/Numeric	Yes
22	Bill to Name		Alpha/Numeric	No
23	GEO/Juris Codes		Alpha/Numeric	No
24	Job Number		Alpha/Numeric	No
25	Job Description		Alpha/Numeric	No

## Appendix A-2: Data File Standards – Purchase Records

Requested File Formats: .xlsx or .csv		Other Supported File Formats: .txt, .accb, & .mdb		
Field	Field Name	Description	Format	Required (Yes/No)
1	Vendor Name		Alpha/Numeric	Yes
2	Vendor Number		Alpha/Numeric	No
3	Document Number	Number that will lead back to source document.	Alpha/Numeric	Yes
4	Document Date	Batch date or postdate.	Date	Yes
5	Document Type	Includes vendor invoice and vendor credit memo.	Alpha	Yes
6	Account Number		Alpha/Numeric	Yes
7	Account Description		Alpha	Yes
8	Distribution Amount	Amount charged to account	Numeric	Yes
9	Department or Cost Center		Alpha/Numeric	Yes
10	Other Accounting Information	Includes location, plant, division, etc.	Alpha	No
11	Transaction Number	Invoice or other number required to identify the transaction source document.	Alpha/Numeric	Yes
12	Transaction Line Item	Individual line number to be used in conjunction with the Transaction Number.	Alpha/Numeric	No
13	Transaction Date	Year, month, and day of transaction.	Date	Yes
14	Invoice Amount	Includes taxable and exempt amounts.	Numeric	Yes
15	Amount Field Sign	If amount field is not signed.	Alpha	No
16	Line Item Amount	Includes taxable and exempt amounts.	Numeric	Yes
17	Purchase Order Number		Alpha/Numeric	No
18	Invoice Tax Amount	Sum of all jurisdictional tax amounts paid to vendor.	Numeric	Yes
19	Tax Accrued	Tax self-assessed.	Numeric	Yes
20	Tax Code		Alpha/Numeric	Yes
21	Product description of item purchased.	Invoice description of item purchased.	Alpha/Numeric	Yes

## Appendix B: Checklist for Statistical Sample in a Sales/Use Tax Audit

### 1. Conference with Auditor, Computer Audit Specialist (CAS), and Taxpayer

A	C	T	← A = Auditor; C = CAS; T = Taxpayer	Done ✓
x			<b>A.</b> Give taxpayer DOR publication on statistical sampling	
x	x		<b>B.</b> Describe roles of auditor and CAS	
		x	<b>C.</b> Explain type of computer system used and any changes during audit period	
x			<b>D.</b> Explain audit scope, including periods to be audited and entities involved	
x	x	x	<b>E.</b> Identify records and fields needed for statistical sampling purposes	
x	x	x	<b>F.</b> Discuss possible claims for refund	
x	x	x	<b>G.</b> Identify who should be included in any communications about the data or sample	
x			<b>H.</b> Provide supervisor's contact information	
x	x	x	<b>I.</b> Discuss tentative timeline	

### 2. Information that Auditor and CAS Will Need to Define Sample Population

A	C	T	← A = Auditor; C = CAS; T = Taxpayer	Done ✓
		x	<b>A.</b> Provide detailed chart of accounts – detail helps limit sample size	
		x	<b>B.</b> Provide use tax self-assessment documentation	
		x	<b>C.</b> Provide coding information (e.g., tax status, product, location)	
		x	<b>D.</b> Provide trial balances	

### 3. Producing Sample Population

A	C	T	← A = Auditor; C = CAS; T = Taxpayer	Done ✓
x			<b>A.</b> Define transactions to be included in/excluded from population	
x		x	<b>B.</b> Identify areas that could be more efficiently reviewed outside of sample	
		x	<b>C.</b> Establish what date (e.g., invoice date, accounting date, etc.) should be used to determine the year associated with the record (e.g., cutoff date)	
x		x	<b>D.</b> Verify that extract includes detail records for entire <b>audit period</b> requested	
x		x	<b>E.</b> Verify that extract includes detail records for all <b>business units &amp; locations</b> requested	
x		x	<b>F.</b> Verify that extract includes detail records for all <b>document types</b> requested	
x		x	<b>G.</b> Verify that extract includes the fields requested (if available), especially the amount field	
x		x	<b>H.</b> Tie extract data to general ledger or other control figures to verify completeness	



#### 4. Data Transfer

A	C	T	← A = Auditor; C = CAS; T = Taxpayer	Done ✓
	x	x	<b>A.</b> Provide test file and obtain approval from CAS for file transfer	
	x	x	<b>B.</b> Reach agreement on how the data is to be divided into files (e.g., one-file-per-year)	
	x	x	<b>C.</b> Establish file transfer method and acknowledge data was received	
		x	<b>D.</b> Provide record layout (if needed)	

#### 5. Draw Sample from Population

A	C	T	← A = Auditor; C = CAS; T = Taxpayer	Done ✓
x		x	<b>A.</b> Review and discuss accounts in sample population	
x	x	x	<b>B.</b> Reach agreement to sample size and definition	
	x		<b>C.</b> Generate sample of transactions ("pull list") and provide to auditor	
x			<b>D.</b> Provide pull list and explain parameters of the sample strata to the taxpayer – for each stratum, explain dollar range, number and rate sampled, and projection factor	

#### 6. Retrieve Documents

A	C	T	← A = Auditor; C = CAS; T = Taxpayer	Done ✓
		x	<b>A.</b> Explain how to identify purchases where use tax was self-assessed	
		x	<b>B.</b> Provide source documents to the auditor, in electronic format when possible	
x	x	x	<b>C.</b> Discuss how to treat missing invoices	

#### 7. Review of Documents and Sample Outcome

A	C	T	← A = Auditor; C = CAS; T = Taxpayer	Done ✓
x			<b>A.</b> If patterns are found in the questioned transactions, communicate with taxpayer as soon as those patterns are identified – the taxpayer may be able to answer the questions early in the process and save time later	
x		x	<b>B.</b> Discuss exceptions list with taxpayer	
	x		<b>C.</b> Compute the sample projection	
x			<b>D.</b> Prepare proposed audit report and present to taxpayer	
x			<b>E.</b> Send taxpayer data file of transactions adjusted in the proposed report	
x	x	x	<b>F.</b> Discuss possibility of projecting sample results forward to subsequent years	