

# RAT-STATS v.2019 Walkthrough

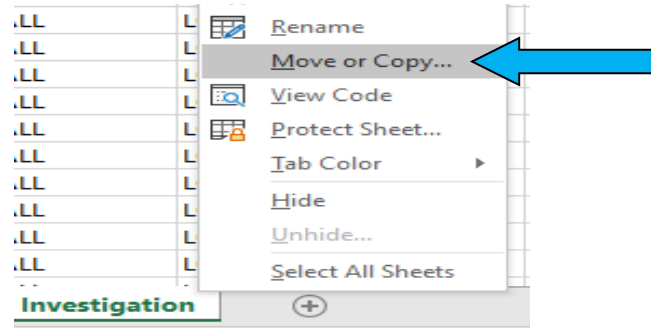
## Steps to Develop a Statistically Significant Sample

### A. Audit Preparation

#### 1. Excel - Develop the Sample:

a. Right click on the Investigation tab at the bottom of the workbook

1. Select "Move or Copy"



2. When a pop-up box appears, click the box "Create a Copy", then select "(move to end)", then click "OK"

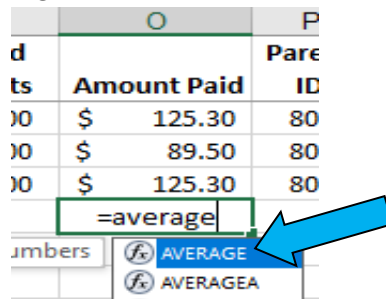
b. Right click on the "Investigation (2)" tab, click "Rename", type "Sample Prep", then press Enter key

c. **SAVE YOUR WORK\*\*\***

**\*\*\*Save location should be within folder containing all materials related to your audit\*\*\***

#### 2. Preparing Data for RAT-STATS

- i. Determine the total number of claim lines in the "Sample Prep" worksheet, excluding the "heading" line in Row 1. Document that number on the line next to "Total Number of Claim Lines in Scope (Universe Size)" in **Appendix A**.
- ii. Determine the mean of the claim line payments:
  1. Go to the first empty cell below the data in Column O (Amount Paid).
  2. Type **=average**. A function box will appear, double-click on the selection that says "AVERAGE".



3. Click on the cell above, that contains the last paid claim amount.

N	O	
<b>Paid</b>		<b>Pa</b>
<b>Units</b>	<b>Amount Paid</b>	
14.00	\$ 125.30	8
10.00	\$ 89.50	8
	\$ 125.30	8

=AVERAGE(O1445

AVERAGE(number1, [numbe

4. Press and hold the control and shift keys, then use the “up” arrow to go to the top of the column.
5. Once the column is highlighted, press the shift key and down arrow to ‘unhighlight’ the top row containing the heading. (*ensure that the last highlighted cell is now O,2*)
6. Press Enter.
7. Make sure the cell containing the mean is formatted to Number and 3 decimals, then document that number on the line next to “Mean” in **Appendix A**.
8. Once the Mean is documented in **Appendix A**, clear contents of that cell.

iii. Determine the standard deviation of the claim line payments:

1. In the empty cell where we had calculated the mean, type =*stdev*. A function box will appear, double-click on the selection that says “STDEV”

O	
<b>Amount Paid</b>	<b>Par</b>
\$ 125.30	8
\$ 89.50	8
\$ 125.30	8

=stdev

STDEV.P  
STDEV.S  
STDEVA  
STDEVPA  
STDEV

2. Click on the cell above that contains the last paid claim amount just as you had done when calculating the Mean.

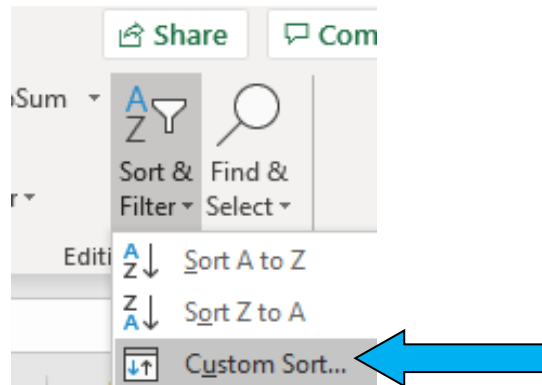
N	O	
<b>Paid</b>		<b>I</b>
<b>Units</b>	<b>Amount Paid</b>	
14.00	\$ 125.30	
10.00	\$ 89.50	
	\$ 125.30	

=STDEV(O1445

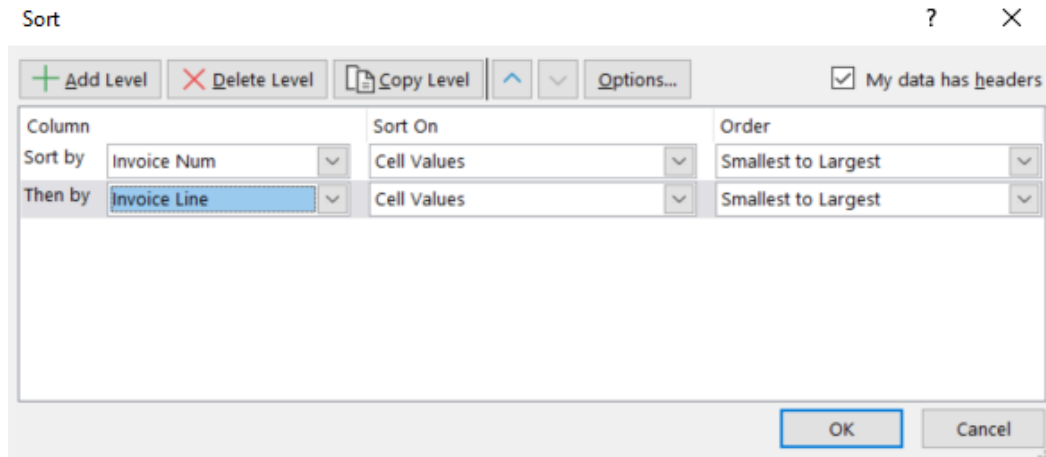
STDEV(number1, [number

3. Press and hold the control and shift keys, then use the “up” arrow to go to the top of the Column.

4. Once the column is highlighted, press the shift key and down arrow to 'unhighlight' the top row containing the heading. *(ensure that the last highlighted cell is now O,2)*
  5. Press Enter.
  6. Make sure the cell containing the Standard Deviation is formatted to Number and 3 decimals then document that number on the line next to "Standard Deviation" in **Appendix A**.
  7. Once the Standard Deviation is documented in **Appendix A**, clear contents of the cell.
- iv. Sort the "Sample Prep" worksheet by "Invoice Number" (Column G) then "Invoice Line" (Column H) and from smallest to largest:
1. Highlight sheet by clicking on the box with the arrow between Column A and Row 1
  2. Click on the "Sort & Filter" button located on the far right of the Home tab, then select "Custom Sort"

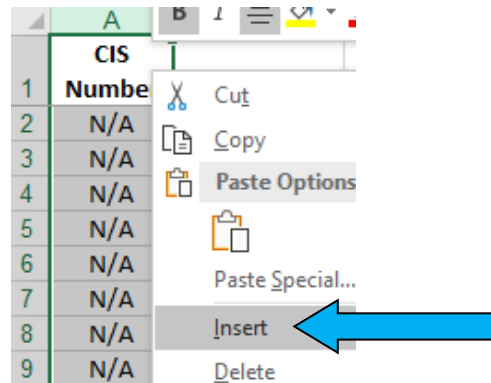


3. In the drop down box next to "Sort By" select "Invoice Num", then select "Add Level"
4. In the new drop down next to "Then By" select "Invoice Line"

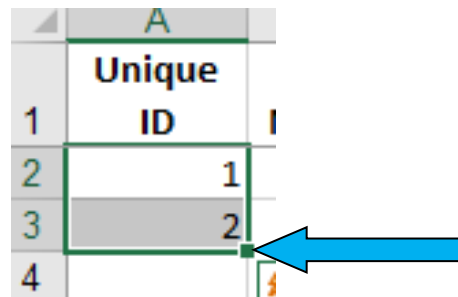


5. Once your window looks like the example above, Click OK.
6. **SAVE YOUR WORK!**

- v. Add a blank column on left of Column A.
  1. Right click on Column A and select "Insert"



2. Type "Unique ID" in Cell A,1
3. Number each line below the heading "Unique ID" in Column A



**Shortcut:** In the first empty cell below "Unique ID", type the number 1, then move to cell below and type 2. Highlight the two cells and move your cursor to the lower right corner of the selection, when your cursor changes to the "+" symbol, double click your mouse. The rows below should populate in numerical order.

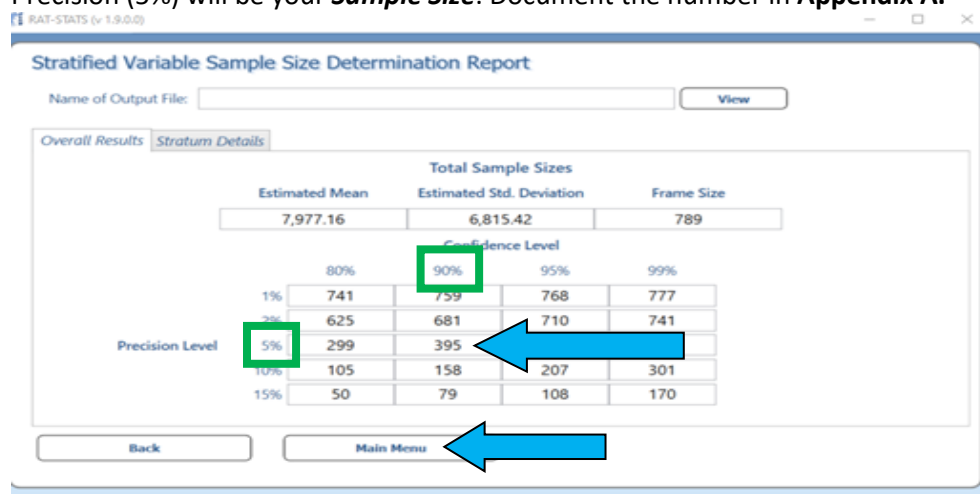
4. **SAVE YOUR WORK!**

3. **RAT-STATS - Determine Sample Size:**
  - a. Go to Heading "Sample Size Determination"
    - i. Click "Stratified Variable Sample Size"



- b. Fill in the following information:
  - i. "Number of strata" = 1
  - ii. Check "Total Sample Size Unknown"
  - iii. "Stratum Name" = Provider and Program or Case #
  - iv. Enter the estimated Mean documented in **Appendix A**
  - v. Enter the estimated Standard Deviation documented in **Appendix A**.
  - vi. Estimated Frame Size = Total # of claim lines in scope (universe) in **Appendix A**.

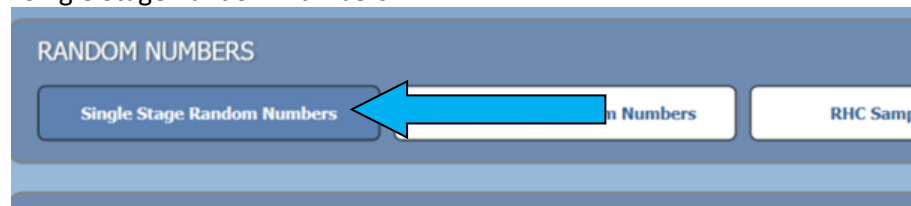
- vii. Make sure all “Confidence Levels” and “Precision Options” have been checked (Do not check the box next to “Custom”)
- viii. Check the box next to “Text File” under File Output Options
- ix. Rat-Stats will prompt you, via a pop-up window, to save the document. Select the corresponding audit folder.
- x. Finally, click “Process” at the bottom of the RAT-STATS window.
- xi. The number that is identified in the box corresponding to Confidence Level (90%) and Sample Precision (5%) will be your **Sample Size**. Document the number in **Appendix A**.



c. Click on “Main Menu” to return to the RAT-STATS home screen.

#### 4. RAT-STATS - Randomizing the Sample:

- a. Go to Heading “Random Numbers”
  - i. “Single Stage Random Numbers”

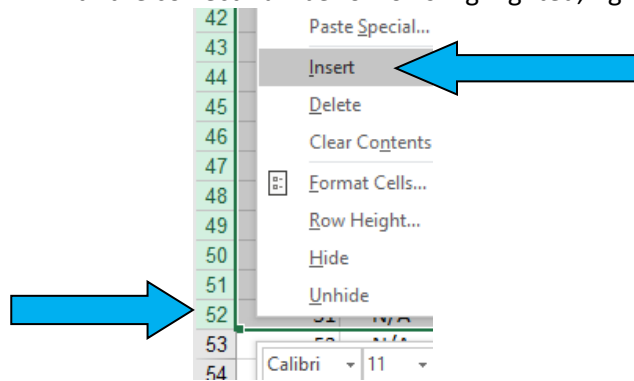


- b. Check Yes and enter the seed number provided by CBH
- c. Enter the name of the audit
- d. Quantity of number to be generated in Sequential Order = Sample Size
- e. Quantity of Spare numbers to be generated = 10.
- f. Enter sampling frame: Low = 1 and High = Universe Size (See **Appendix A**)
- g. Output to Excel File
  - i. Click on “File Name”
  - ii. Name the file “RNG Provider Name Case #” and save it in the Provider’s audit folder
- h. Click “Process”

#### 5. Excel – Develop Sample

- a. Go to the audit folder and open the Excel document that you just created.
- b. Click the “Values” worksheet tab at the bottom
- c. The “Value” column contains the random numbers you will use. (The total number of random numbers is equal to the number of your sample size.)
- d. Go back to your “Sample Prep” sheet

- i. Highlight the row numbers on the left, up to the number that equals the number of your sample size +2. (i.e. if you have a sample size of 50, highlight row numbers beginning with 1 and going up to and including 52)
- ii. With the correct number of rows highlighted, right click and hit “insert rows”.



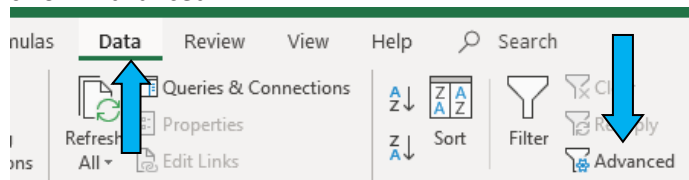
- iii. Ensure that both sections have the complete row of headings that begins with the header “Unique ID” in Column A.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Unique ID	CIS Number	Last Name	First Name	Birth Date	Authorization Number	NPI	Invoice Num	Invoice Line	Service Group	Service Code	Service
2												

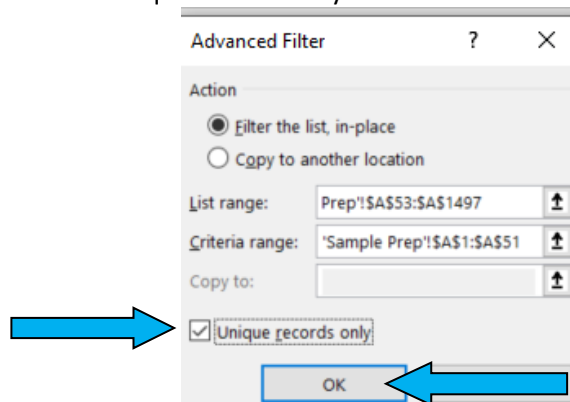
- e. Go back to the Excel document containing the “Value” numbers. Highlight and copy the Value numbers.
- f. Go back to your “Sample Prep” sheet and Paste the “Value” numbers in the blank cells starting in Column A, Row 2 under the header “Unique ID”

*(There should be a single blank line in between your Value numbers and claims data. Delete any excess rows that have been inserted and leave only one blank row.)*

- g. Go to Data tab (at top of spreadsheet)
  - i. Click on “Advanced”



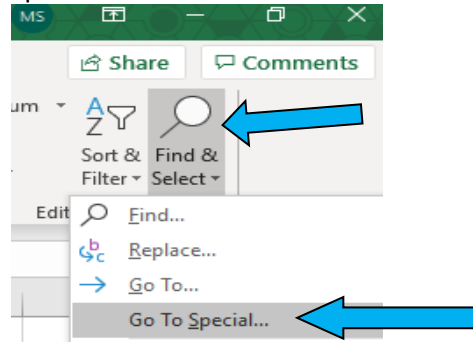
- ii. Go to “List Range” and highlight the original claim line numbers in column A under the header “Unique ID.” Make sure you also highlight the title “Unique ID.”
- iii. Go to “Criteria Range” box and highlight the “Value” numbers beginning with the title “Unique ID” in Row 1.
- iv. Check “Unique records only” and OK.



- v. If done correctly, the original claim lines (the 2<sup>nd</sup> group of numbers) will turn “Blue” on the left side of the sheet by the row numbers. The blue claims will be your sample.

52		
53	Unique	
	ID	
54		1
57		4
58		5

- vi. From the “Home” tab in Excel, select the “Find and Select” at the end of the home ribbon.
- vii. Select “Go To Special”



- viii. When the pop-up window appears, check the box next to “Visible Cells Only” and click “OK”

- h. Copy claim lines that are visible into a new sheet
  - i. Click on the “Unique ID” header above the first claim line with a BLUE row number. Press and hold the control and shift keys, then use the “down” arrow to go to the bottom of claim data, then use the “right” arrow to go to the last column of claim data. Right Click and select Copy.
  - ii. Go to new sheet in workbook, with cursor in Cell A1, right click and select Paste.
  - iii. Entitle sheet “Audit Sample”
  - iv. **Save your work.**

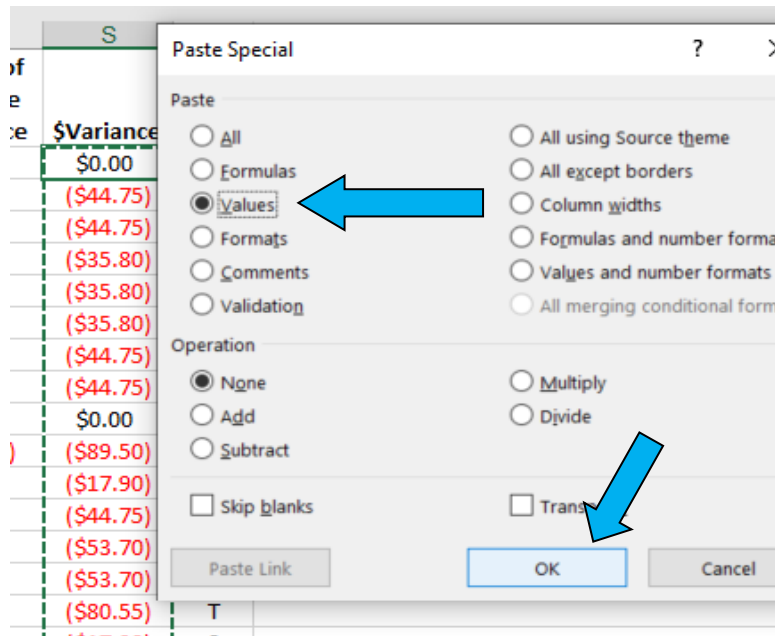
**7. Make a copy of the “Audit Sample” worksheet to use during auditing**

- a. Copy “Audit Sample” worksheet into a new Excel file to work from during the audit
  - i. Right click on the “Audit Sample” tab at the bottom of the workbook, then select “Move or Copy”
  - ii. When a pop-up box appears, check the box “Create a Copy”, and from the drop down, select “(new book)”, then click “OK”
  - iii. Save the new workbook as “Provider Name / Audit Type / Case #”

## B. Determining Extrapolation After the Audit is Complete

### 1. Prepping Audit Results Data for Extrapolation:

- a. Using the Audit Sample worksheet you used during the audit:
  - i. Calculate the total \$ amount for Column P (Amount Paid), as well as the total \$ amount for Column S (Variance)
  - ii. Document these amounts in **Appendix A**
  - iii. Now calculate the error rate to 2 decimals - this is determined by using following formula:  $(\text{Variance Total} / \text{Amount Paid Total}) * 100$ .  
*\*Note: if you calculated the amounts in the worksheet, clear those cells once you have the amounts documented in **Appendix A** as it will impact your results moving forward.*
- b. Copy "Audit Sample" worksheet into a new Excel file to work from during the audit
  - i. Right click on the "Audit Sample" tab at the bottom of the workbook, then select "Move or Copy"
  - ii. When a pop-up box appears, check the box "Create a Copy", and from the drop down, select "(new book)", then click "OK"
  - iii. Save the new workbook as "Provider Name / Audit Results / Case #"
- c. In the Excel file you just created
  - i. Highlight all line in the \$variance column (Column S) beginning with Cell S2
  - ii. With all lines in Column S highlighted, right click and select "Copy"
  - iii. Right Click on Cell S2 and select "Paste Special"
  - iv. In the pop-up window that appears, select the button for "Values" in the 'paste' section, then click "OK". (No other selections in the pop-up window are needed)



- v. Delete all columns except for Unique ID and \$Variance
- vi. Unique ID should remain in Column A with \$Variance now occupying Column B.
- vii. In the \$Variance column, there should either be a \$0.00 or a take-back amount
- viii. **Save As** with the new title being the "Provider Name / Audit / Ingest"



**2. RAT-STATS – Determine Extrapolation Amount:**

- a. Under the heading “Estimation” select the “Unrestricted Variable” option

The screenshot shows the 'ESTIMATION' section of the RAT-STATS software. It contains several buttons: 'Unrestricted Attribute', 'Stratified Attribute', 'Unrestricted Variable' (highlighted with a blue arrow), 'Two-Stage Unrestricted', 'Stratified Cluster', and 'Stratified Multistage'. Above this section is the 'RANDOM NUMBERS' section with buttons for 'Single Stage Random Numbers', 'Multiple Step Random Numbers', and 'RHC Sample Selection'. Below is the 'SAMPLE DESIGN DETERMINATION' section.

- b. A pop-up window will appear
  - i. Enter the Name of the Audit/Review.
  - ii. Enter the Frame Size = Total Number of Claim Lines in Scope
  - iii. Make sure the “Include All Rows” has been checked
  - iv. Under Data File Format - Select “Difference Values”
  - v. Next to “Data File” click the “Select” button
  - vi. Choose the Excel file “Provider Name / Audit / Ingest”
  - vii. Difference Cell = B2
  - viii. Check the box next to “Text File” under File Output Options
    - 1. Save the file as “Provider Name / Audit / Case # / Extrapolation Results” in the audit folder
  - ix. Click “Process”

The screenshot shows the 'Unrestricted Variable Appraisals' window. The 'Name of the Audit/Review' is 'Walkthrough Practice'. The 'Frame Size' is 1,444 and 'Sample Size' is 0. The 'Include All Rows' checkbox is checked. Under 'Data File Format', 'Difference Values' is selected. The 'Data File' field is empty, and the 'Select' button is visible. Under 'Data File Option(s)', the 'Spreadsheet' is 'Ingest' and the 'Difference Cell' is 'B2' (highlighted with a blue arrow). Under 'Alternative Confidence Interval', 'Difference Values' is selected and the 'Two-Sided Confidence Level' is 90.00%. Under 'File Output Options', the 'Text File' checkbox is checked. At the bottom, the 'Process' button is highlighted with a blue arrow, along with 'Clear Fields' and 'Main Menu' buttons.

**Data Excel File Preview**

Row #	A	B
1	Unique ID	\$Variance
2	641	0
3	96	44.75

- x. A final window will appear that gives the details of the audit and extrapolation amount ----- CBH will utilize the amounts displayed in the 90% confidence level column to determine the total financial impact of the audit.

### Unrestricted Variable Appraisal Report

Name of Audit/Review:

Name of Input File:

Name of Output File:

Frame Size  Sample Size

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[Difference Values](#) [Data File Summary](#)

#### Summary for Difference Values

Mean  Standard Deviation  Standard Error(Mean)  Point Estimate

Skewness  Kurtosis  Standard Error(Total)

#### Standard RAT-STATS Confidence Interval

	80% Confidence Level	90% Confidence Level	95% Confidence Level
Lower Limit	81,044	79,110	77,422
Upper Limit	94,555	96,489	98,178
Precision Amount	6,756	8,689	10,378
Precision Percent	7.69%	9.90%	11.82%
t-Value Used	1.288360913268	1.657135178203	1.979124109424

#### Alternative Confidence Interval Calculated Using the Empirical Likelihood Approach

	90.00% Confidence Level	Target Chi-Square	Obtained Chi-Square
Lower Limit	78,762	2.705543	2.705596
Upper Limit	96,712	2.705543	2.705584
Point Estimate	87,800		

## Appendix A

Name of Audit		
Total Number of Claim Lines in Scope (Universe Size)		
Mean		
Standard Deviation		
Seed Number		
Sample Size (Confidence Level 90%/Sample Precision 5%)		
Total \$ Amount of Claims in Sample		
<b>***For Use in Extrapolation Only***</b>		
Total \$ Variance Amount		
Error Rate (%)		
<b>Extrapolation Amount</b> (Confidence Level 90%)		
Lower Limit	Upper Limit	Point Estimate