MONETARY-UNIT SAMPLING: AN INVESTIGATION

by

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APPENDIX A

Estimators of the Line Item Error Rate

Weighted Estimators of the Line Item Error Rate

The population of size N is divided into k strata of sizes N_1, N_2, ... N_k respectively and a simple random sample of size n_h is drawn from the h^{th} stratum, 1 <= h <= k.

This gives a total sample size of $n = \sum_{h=1}^{k} n_h$

$p_{st} = \sum_{h=1}^{k} W_h p_h$ *where* p_h = *the error rate in the* h^{th} *stratum.*

W_h = *weight of the* h^{th} *stratum.*

i.e. $W_h = N_h/N$

$$V(p_{st}) = \sum_{h=1}^{k} W_h^2 \frac{N_h - n_n}{N_h - 1} \frac{p_h (1-p_h)}{n_h}$$

$$SE\ (p_{st}) = \sqrt{V(p_{st})}$$

APPENDIX B

The Truncated Exponential Distribution

The Truncated Exponential Distribution

In general, a distribution truncated at a and b has a frequency function

$$f_T(x) = \frac{f(x)}{F(b) - F(a)}, \quad a < x < b$$

$$= 0, \quad x \leq a \quad or \quad x \geq b$$

where f(x) and F(x) are the frequency and distribution functions respectively of x.

The exponential distribution, with mean $\mu = 1/\lambda$, truncated at 1 will therefore have a frequency function

$$f_T(x) = \frac{\lambda \exp(-\lambda x)}{F(1) - F(0)}$$

where

$$F(x) = 1 - \exp(-\lambda x)$$

Therefore

$$F(0) = 0 \text{ and } F(1) = 1 - \exp(-\lambda)$$

The frequency function then becomes

$$f_T(x) = \frac{\lambda \exp(-\lambda x)}{1 - \exp(-\lambda)}$$

$$= 0, \quad \text{otherwise}$$

The mean of this distribution is

$$E(x) = \frac{1}{1 - \exp(-\lambda)} \left[\frac{1}{\lambda} - \exp(-\lambda) - \frac{\exp(-\lambda)}{\lambda} \right]$$

APPENDIX C

Characteristics of the Accounting and Audit Populations with High Value Items Eliminated

Table C 1 Book Value Characteristics of the Accounting Populations when High Value Items are Eliminated

	Population 1	Population 2
Total Book Value Amount	2,833,039.0	3,621,349.4
Mean Book Value	763.4	6179.8
Standard Deviation	1801.1	8220.7
Skewness	6.7	1.9
Kurtosis	64.2	2.8
Minimum	2.0	1.0
First Quartile	87.0	552.8
Median	239.0	2535.0
Second Quartile	640.0	6727.1
Maximum	28,000.0	36213.0
Number of Line Items	3711	586

Table C 1.1 Characteristics of the Audit Populations created from Population 1 with Error Rate 1

Error Rate 1 (1.83%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	2,807,731.6	2,806,808.3	2,801,776.9
Mean Book Value	756.7	756.4	755.0
Standard Deviation	1800.5	1800.0	1797.0
Skewness	6.7	6.7	6.7
Kurtosis	64.4	64.4	64.8
Total Error Amount	25,307.4	26,230.7	31,262.1
Mean Error Amount per Line Item	6.82	7.07	8.42
Number of Line Items	3711	3711	3711

Table C 1.2 Characteristics of the Audit Populations created from Population 1 with Error Rate 2

Error Rate 2 (3.69%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	2,778,861.6	2,776,805.8	2,764,859.7
Mean Book Value	748.8	748.3	745.0
Standard Deviation	1799.6	1798.0	1786.3
Skewness	6.7	6.7	6.7
Kurtosis	64.6	64.6	65.0
Total Error Amount	54.177.4	56,233.2	68,179.3
Mean Error Amount per Line Item	14.6	15.2	18.4
Total Number of Line Items	3711	3711	3711

Table C 1.3 Characteristics of the Audit Populations created from Population 1 with Error Rate 3

Error Rate 3 (5.5%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	2,750,331.6	2,747,227.4	2,729,092.0
Mean Book Value	741.1	740.3	735.4
Standard Deviation	1798.2	1795.7	1778.2
Skewness	6.8	6.8	6.8
Kurtosis	64.9	65.0	65.4
Total Error Amount	82,707.4	85,814.6	103,947.0
Mean Error Amount per Line Item	22.29	23.12	28.01
Total Number of Line Items	3711	3711	3711

Table C 1.4 Characteristics of the Audit Populations created from Population 1 with Error Rate 4

Error Rate 4 (10.97%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	2,673,450.0	2,667,540.8	2,633,882.8
Mean Book Value	720.4	718.8	709.8
Standard Deviation	1796.0	1791.9	1762.7
Skewness	6.8	6.8	6.8
Kurtosis	65.5	65.7	67.0
Total Error Amount	159,588.2	165,496.2	199,156.2
Mean Error Amount per Line Item	43.0	44.6	53.7
Total Number of Line Items	3711	3711	3711

Table C 1.5 Characteristics of the Audit Populations created from Population 1 with Error Rate 5

Error Rate 5 (16.49%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	2,597,621.4	2,588,541.0	2,536,310.1
Mean Book Value	699.8	697.5	683.5
Standard Deviation	1793.8	1786.6	1734.4
Skewness	6.8	6.8	6.7
Kurtosis	66.0	65.8	63.9
Total Error Amount	235,417.6	244,498.0	296,728.9
Mean Error Amount per Line Item	63.44	65.89	79.96
Total Number of Line Items	3711	3711	3711

Table C 2.1 Characteristics of the Audit Populations created from Population 2 with Error Rate 1

Error Rate 1 (3.07%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	3,545,720.4	3,543,550.8	3,541,834.8
Mean Book Value	6050.7	6047.0	6044.1
Standard Deviation	8160.8	8162.7	8163.7
Skewness	1.9	1.9	1.9
Kurtosis	2.9	2.9	2.9
Total Error Amount	75,630.0	77,798.6	79,514.6
Mean Error Amount per Line Item	129.1	132.8	135.7
Total Number of Line Items	586	586	586

Table C 2.2 Characteristics of the Audit Populations created from Population 2 with Error Rate 2

Error Rate 2 (5.46%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	3,521,788.9	3,519,431.8	3,517,362.0
Mean Book Value	6009.9	6005.9	6002.3
Standard Deviation	8177.3	8179.5	8180.9
Skewness	1.9	1.9	1.9
Kurtosis	2.9	2.9	2.9
Total Error Amount	99,560.9	101,917.6	103,987.4
Mean Error Amount per Line Item	169.9	173.9	177.5
Total Number of Line Items	586	586	586

Table C 2.3 Characteristics of the Audit Populations created from Population 2 with Error Rate 3

Error Rate 3 (8.19%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	3,481,740.8	3,473,755.6	3,465,160.5
Mean Book Value	5941.5	5927.9	5913.2
Standard Deviation	8199.8	8189.6	8203.9
Skewness	1.9	1.9	1.9
Kurtosis	2.9	3.0	3.0
Total Error Amount	139,608.6	147,593.8	156,188.9
Mean Error Amount per Line Item	238.2	251.9	266.5
Total Number of Line Items	586	586	586

Table C 2.4 Characteristics of the Audit Populations created from Population 2 with Error Rate 4

Error Rate 4 (15.87%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	3,342,173.1	3,338,681.0	3,334,176.1
Mean Book Value	5703.4	5697.4	5689.7
Standard Deviation	8111.5	8114.5	8117.7
Skewness	1.9	1.9	1.9
Kurtosis	3.1	3.1	3.1
Total Error Amount	279,176.3	282,668.3	287,173.3
Mean Error Amount per Line Item	476.4	482.4	490.1
Total Number of Line Items	586	586	586

Table C 2.5 Characteristics of the Audit Populations created from Population 2 with Error Rate 5

Error Rate 4 (24.23%)			
	Taint 1	Taint 2	Taint 3
Total Book Value Amount	3,209,385.9	3,197,825.7	3,174,697.2
Mean Book Value	5,476.8	5,457.0	5,417.6
Standard Deviation	8183.3	8134.3	8143.7
Skewness	1.9	2.0	2.0
Kurtosis	3.2	3.2	3.3
Total Error Amount	411,963.5	423,523.7	446,652.0
Mean Error Amount per Line Item	703.0	722.7	762.2
Total Number of Line Items	586	586	586

APPENDIX D

Analysis of Variance Models

Simple Random, Systematic, Cell and Sieve Sampling

Reliability Dependent Variable at the 95% Nominal Confidence Level with the Taint Error Assignment

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	1.81	460		
METHOD	.08	3	7.04	.000
RATE	4.94	4	313.54	.000
TAINT	.20	2	25.40	.000
SAMSIZE	1.47	2	186.40	.000
BOUND	.54	2	68.98	.000
METHOD BY RATE	.08	12	1.64	.076
METHOD BY SAMSIZE	.05	6	2.21	.041
METHOD BY	.00	6	.17	.984
METHOD BY TAINT	.00	6	.12	.993
RATE BY BOUND	.41	8	13.02	.000
RATE BY TAINT	.09	8	3.00	.003
RATE BY SAMSIZE	1.05	8	33.28	.000
TAINT BY SAMSIZE	.01	4	.85	.492
TAINT BY BOUND	.30	4	18.83	.000
SAMSIZE BY BOUND	.23	4	14.70	.000
(Model)	9.47	79	30.42	.000
(Total)	11.28	539	.02	

Adjusted R-Squared = .812

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	1.90	460		
METHOD	.39	3	31.42	.000
RATE	4.76	4	287.37	.000
TAINT	.00	2	.59	.554
SAMSIZE	.70	2	84.72	.000
BOUND	.38	2	45.57	.000
METHOD BY RATE	.21	12	4.26	.000
METHOD BY SAMSIZE	.19	6	7.78	.000
METHOD BY BOUND	.03	6	1.21	.299
METHOD BY TAINT	.00	6	.06	.999
RATE BY BOUND	.79	8	23.95	.000
RATE BY TAINT	.01	8	.40	.919
RATE BY SAMSIZE	.66	8	19.82	.000
TAINT BY SAMSIZE	.01	4	.47	.756
TAINT BY BOUND	.01	4	.32	.867
SAMSIZE BY BOUND	.34	4	20.45	.000
(Model)	8.49	79	25.94	.000
(Total)	10.39	539		

Adjusted R-Squared = .785

Simple Random, Systematic, Cell and Sieve Sampling

Reliability Dependent Variable with the AON Error Assignment at the 95% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.80	460		
METHOD	.07	3	12.84	.000
RATE	3.02	4	432.33	.000
TAINT	.15	2	43.20	.000
SAMSIZE	.87	2	250.16	.000
BOUND	.00	2	.20	.821
METHOD BY RATE	.07	12	3.27	.000
METHOD BY SAMSIZE	.04	6	4.27	.000
METHOD BY BOUND	.00	6	.00	1.000
METHOD BY TAINT	.00	6	.40	.877
RATE BY BOUND	.02	8	1.28	.254
RATE BY TAINT	.38	8	27.42	.000
RATE BY SAMSIZE	1.17	8	83.86	.000
TAINT BY SAMSIZE	.09	4	12.28	.000
TAINT BY BOUND	.00	4	.20	.940
SAMSIZE BY BOUND	.01	4	1.49	.203
(Model)	5.91	79	42.77	.000
(Total)	6.71	539		

Adjusted R-Squared = .860

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.74	460		
METHOD	.26	3	53.70	.000
RATE	2.84	4	438.82	.000
TAINT	.00	2	.44	.647
SAMSIZE	.20	2	61.09	.000
BOUND	.01	2	4.29	.014
METHOD BY RATE	.23	12	11.87	.000
METHOD BY SAMSIZE	.12	6	11.92	.000
METHOD BY BOUND	.00	6	.13	.993
METHOD BY TAINT	.00	6	.14	.991
RATE BY BOUND	.03	8	2.16	.029
RATE BY TAINT	.01	8	.50	.859
RATE BY SAMSIZE	1.46	8	112.81	.000
TAINT BY SAMSIZE	.01	4	2.11	.079
TAINT BY BOUND	.01	4	2.05	.087
SAMSIZE BY BOUND	.01	4	1.08	.364
(Model)	5.20	79	40.61	.000
(Total)	5.94	539		

Adjusted R-Squared = .853

Simple Random, Systematic, Cell and Sieve Sampling

Reliability Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	2.85	460		
METHOD	.17	3	9.16	.000
RATE	16.36	4	660.20	.000
TAINT	.49	2	39.86	.000
SAMSIZE	5.69	2	458.86	.000
BOUND	1.76	2	142.28	.000
METHOD BY RATE	.09	12	1.21	.275
METHOD BY SAMSIZE	.10	6	2.77	.012
METHOD BY BOUND	.00	6	.08	.998
METHOD BY TAINT	.00	6	.02	1.000
RATE BY BOUND	.87	8	17.49	.000
RATE BY TAINT	.25	8	5.11	.000
RATE BY SAMSIZE	2.53	8	51.07	.000
TAINT BY SAMSIZE	.08	4	3.22	.013
TAINT BY BOUND	.31	4	12.64	.000
SAMSIZE BY BOUND	.39	4	15.92	.000
(Model)	29.11	79	59.48	.000
(Total)	31.96	539	.06	

Adjusted R-Squared = .896

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	2.67	460		
METHOD	.96	3	55.04	.000
RATE	13.21	4	569.53	.000
TAINT	.00	2	.36	.698
SAMSIZE	2.89	2	248.97	.000
BOUND	.79	2	68.43	.000
METHOD BY RATE	.28	12	4.07	.000
METHOD BY SAMSIZE	.71	6	20.45	.000
METHOD BY BOUND	.03	6	.84	.537
METHOD BY TAINT	.00	6	.03	1.000
RATE BY BOUND	1.55	8	33.39	.000
RATE BY TAINT	.03	8	.62	.763
RATE BY SAMSIZE	2.94	8	63.35	.000
TAINT BY SAMSIZE	.03	4	1.39	.237
TAINT BY BOUND	.02	4	.72	.582
SAMSIZE BY BOUND	.45	4	19.26	.000
(Model)	23.89	79	52.15	.000
(Total)	26.55	539		

Adjusted R-Squared = .882

Simple Random, Systematic, Cell and Sieve Sampling

Reliability Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	4.17	460		
METHOD	.11	3	3.95	.008
RATE	13.62	4	375.91	.000
TAINT	.11	2	6.10	.002
SAMSIZE	4.27	2	235.93	.000
BOUND	1.21	2	66.74	.000
METHOD BY RATE	.10	12	.89	.562
METHOD BY SAMSIZE	.08	6	1.47	.186
METHOD BY BOUND	.00	6	.04	1.000
METHOD BY TAINT	.00	6	.06	.999
RATE BY BOUND	.87	8	11.98	.000
RATE BY TAINT	.71	8	9.80	.000
RATE BY SAMSIZE	5.81	8	80.22	.000
TAINT BY SAMSIZE	.16	4	4.41	.002
TAINT BY BOUND	.16	4	4.41	.002
SAMSIZE BY BOUND	.00	4	.07	.990
(Model)	27.21	79	38.03	.000
(Total)	31.38	539	.06	

Adjusted R-Squared = .844

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	1.92	460		
METHOD	.90	3	72.02	.000
RATE	10.38	4	622.71	.000
TAINT	.01	2	1.52	.220
SAMSIZE	1.71	2	205.30	.000
BOUND	.22	2	26.46	.000
METHOD BY RATE	.20	12	4.01	.000
METHOD BY SAMSIZE	.83	6	33.29	.000
METHOD BY BOUND	.00	6	.01	1.000
METHOD BY TAINT	.00	6	.06	.999
RATE BY BOUND	.27	8	8.23	.000
RATE BY TAINT	.04	8	1.33	.225
RATE BY SAMSIZE	6.04	8	181.07	.000
TAINT BY SAMSIZE	.05	4	2.73	.029
TAINT BY BOUND	.03	4	1.99	.096
SAMSIZE BY BOUND	.18	4	10.83	.000
(Model)	20.87	79	63.41	.000
(Total)	22.79	539		

Adjusted R-Squared = .901

Simple Random, Systematic, Cell and Sieve Sampling

Reliability Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	4.91	460		
METHOD	.07	3	2.12	.097
RATE	32.87	4	769.33	.000
TAINT	.63	2	29.26	.000
SAMSIZE	7.40	2	346.41	.000
BOUND	3.87	2	181.01	.000
METHOD BY RATE	.10	12	.76	.693
METHOD BY SAMSIZE	.07	6	1.17	.323
METHOD BY BOUND	.00	6	.03	1.000
METHOD BY TAINT	.00	6	.01	1.000
RATE BY BOUND	.99	8	11.57	.000
RATE BY TAINT	.75	8	8.83	.000
RATE BY SAMSIZE	6.06	8	70.88	.000
TAINT BY SAMSIZE	.09	4	2.16	.073
TAINT BY BOUND	.63	4	14.64	.000
SAMSIZE BY BOUND	.05	4	1.24	.293
(Model)	53.58	79	63.49	.000
(Total)	58.49	539		

Adjusted R-Squared = .902

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	5.27	460		
METHOD	.65	3	18.99	.000
RATE	10.31	4	225.05	.000
TAINT	.15	2	6.49	.002
SAMSIZE	7.27	2	317.37	.000
BOUND	3.68	2	160.83	.000
METHOD BY RATE	.28	12	2.07	.018
METHOD BY SAMSIZE	.47	6	6.88	.000
METHOD BY BOUND	.01	6	.19	.979
METHOD BY TAINT	.00	6	.00	1.000
RATE BY BOUND	1.48	8	16.12	.000
RATE BY TAINT	.68	8	7.37	.000
RATE BY SAMSIZE	8.57	8	93.58	.000
TAINT BY SAMSIZE	.33	4	7.14	.000
TAINT BY BOUND	.19	4	4.23	.002
SAMSIZE BY BOUND	.07	4	1.60	.174
(Model)	34.14	79	37.75	.000
(Total)	39.41	539		

Adjusted R-Squared = .843

Simple Random, Systematic, Cell and Sieve Sampling

Reliability Dependent Variable with the AON Assignment at the 70% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	8.99	460		
METHOD	.03	3	.59	.621
RATE	33.52	4	428.66	.000
TAINT	.35	2	8.92	.000
SAMSIZE	7.70	2	197.00	.000
BOUND	4.90	2	125.27	.000
METHOD BY RATE	.07	12	.32	.987
METHOD BY SAMSIZE	.05	6	.01	.878
METHOD BY BOUND	.00	6	.02	1.000
METHOD BY TAINT	.00	6	.04	1.000
RATE BY BOUND	1.60	8	10.24	.000
RATE BY TAINT	.25	8	1.63	.115
RATE BY SAMSIZE	9.40	8	60.10	.000
TAINT BY SAMSIZE	.09	4	1.21	.306
TAINT BY BOUND	.05	4	.60	.660
SAMSIZE BY BOUND	.14	4	1.81	.125
(Model)	58.17	79	37.67	.000
(Total)	67.16	539		

Adjusted R-Squared = .843

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	6.39	460		
METHOD	.78	3	18.70	.000
RATE	7.16	4	128.79	.000
TAINT	.28	2	10.11	.000
SAMSIZE	8.98	2	323.25	.000
BOUND	3.47	2	125.03	.000
METHOD BY RATE	.25	12	1.47	.131
METHOD BY SAMSIZE	.47	6	5.67	.000
METHOD BY BOUND	.01	6	.18	.983
METHOD BY TAINT	.00	6	.01	1.000
RATE BY BOUND	.38	8	3.46	.001
RATE BY TAINT	.94	8	8.45	.000
RATE BY SAMSIZE	9.82	8	88.31	.000
TAINT BY SAMSIZE	.38	4	6.85	.000
TAINT BY BOUND	.31	4	5.53	.000
SAMSIZE BY BOUND.	00	4	.07	.990
(Model)	33.25	79	30.28	.000
(Total)	39.64	539		

Adjusted R-Squared = .811

Simple Random, Systematic, Cell and Sieve Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 95% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.11	460		
METHOD	.00	3	4.65	.003
RATE	47.52	4	48278.64	.000
TAINT	1.04	2	2121.29	.000
SAMSIZE	16.19	2	32900.87	.000
BOUND	1.79	2	3638.47	.000
METHOD BY RATE	.00	12	.63	.817
METHOD BY SAMSIZE	.01	6	9.61	.000
METHOD BY BOUND	.00	6	.03	1.000
METHOD BY TAINT	.00	6	.00	1.000
RATE BY BOUND	.60	8	302.71	.000
RATE BY TAINT	.01	8	3.04	.002
RATE BY SAMSIZE	.12	8	59.24	.000
TAINT BY SAMSIZE	.01	4	5.19	.000
TAINT BY BOUND	.02	4	25.36	.000
SAMSIZE BY BOUND	.37	4	379.24	.000
(Model)	67.69	79	3481.95	.000
(Total	67.80	539		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.06	460		
METHOD	.00	3	10.78	.000
RATE	27.29	4	56694.83	.000
TAINT	.04	2	167.95	.000
SAMSIZE	13.71	2	56954.90	.000
BOUND	3.25	2	13496.22	.000
METHOD BY RATE	.00	12	.91	.538
METHOD BY SAMSIZE	.01	6	13.38	.000
METHOD BY BOUND	.00	6	.57	.752
METHOD BY TAINT	.00	6	.06	.999
RATE BY BOUND	.75	8	782.51	.000
RATE BY TAINT	.01	8	8.26	.000
RATE BY SAMSIZE	.10	8	101.32	.000
TAINT BY SAMSIZE	.00	4	.55	.700
TAINT BY BOUND	.00	4	5.26	.000
SAMSIZE BY BOUND	.64	4	1321.77	.000
(Model)	45.80	79	4817.62	.000
(Total)	45.86	539		

Adjusted R-Squared = .999

Simple Random, Systematic, Cell and Sieve Sampling

Tightness Dependent Variable with the AON Error Assignment at the 95% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	460		
METHOD	.00	3	11.27	.000
RATE	39.41	4	118783.17	.000
TAINT	.60	2	3630.00	.000
SAMSIZE	12.85	2	77470.25	.000
BOUND	.02	2	114.30	.000
METHOD BY RATE	.00	12	1.77	.051
METHOD BY SAMSIZE	.01	6	23.57	.000
METHOD BY BOUND	.00	6	.06	.999
METHOD BY TAINT	.00	6	.36	.902
RATE BY BOUND	.08	8	120.21	.000
RATE BY TAINT	.00	8	4.97	.000
RATE BY SAMSIZE	.25	8	369.39	.000
TAINT BY SAMSIZE	.00	4	11.21	.000
TAINT BY BOUND	.00	4	3.56	.007
SAMSIZE BY BOUND	.05	4	150.24	.000
(Model)	53.28	79	8131.36	.000
(Total)	53.32	539		

Adjusted R-Squared = .999

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.02	460		
METHOD	.00	3	28.09	.000
RATE	22.48	4	117811.94	.000
TAINT	.04	2	406.74	.000
SAMSIZE	10.66	2	111702.11	.000
BOUND	.00	2	23.49	.000
METHOD BY RATE	.00	12	2.09	.016
METHOD BY SAMSIZE	.01	6	30.14	.000
METHOD BY BOUND	.00	6	.70	.646
METHOD BY TAINT	.00	6	.13	.993
RATE BY BOUND	.11	8	299.13	.000
RATE BY TAINT	.01	8	21.96	.000
RATE BY SAMSIZE	.17	8	444.81	.000
TAINT BY SAMSIZE	.00	4	1.67	.155
TAINT BY BOUND	.00	4	.87	.479
SAMSIZE BY BOUND	.08	4	427.10	.000
(Model)	33.57	79	8907.00	.000
(Total)	33.59	539		

Adjusted R-Squared = .999

Simple Random, Systematic, Cell and Sieve Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.13	460		
METHOD	.01	3	9.32	.000
RATE	46.97	4	40575.11	.000
TAINT	1.08	2	1858.32	.000
SAMSIZE	16.56	2	28604.33	.000
BOUND	2.06	2	3560.13	.000
METHOD BY RATE	.00	12	1.10	.360
METHOD BY SAMSIZE	.03	6	17.44	.000
METHOD BY BOUND	.00	6	.09	.998
METHOD BY TAINT	.00	6	.00	1.000
RATE BY BOUND	.63	8	273.82	.000
RATE BY TAINT	.01	8	3.22	.001
RATE BY SAMSIZE	.12	8	50.45	.000
TAINT BY SAMSIZE	.01	4	5.02	.001
TAINT BY BOUND	.03	4	29.09	.000
SAMSIZE BY BOUND	.41	4	350.93	.000
(Model)	67.91	79	2970.28	.000
(Total)	68.05	539		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.09	460		
METHOD	.01	3	14.38	.000
RATE	26.71	4	35986.79	.000
TAINT	.04	2	111.61	.000
SAMSIZE	13.66	2	36808.39	.000
BOUND	2.75	2	7421.22	.000
METHOD BY RATE	.00	12	1.38	.170
METHOD BY SAMSIZE	.02	6	20.51	.000
METHOD BY BOUND	.00	6	.54	.776
METHOD BY TAINT	.00	6	.08	.998
RATE BY BOUND	.84	8	568.57	.000
RATE BY TAINT	.01	8	5.42	.000
RATE BY SAMSIZE	.14	8	91.22	.000
TAINT BY SAMSIZE	.00	4	.47	.761
TAINT BY BOUND	.00	4	3.00	.018
SAMSIZE BY BOUND	.69	4	930.74	.000
(Model)	44.88	79	3061.71	.000
(Total)	44.97	539		

Adjusted R-Squared = .998

Simple Random, Systematic, Cell and Sieve Sampling

Tightness Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.07	460		
METHOD	.01	3	14.09	.000
RATE	39.01	4	62315.91	.000
TAINT	.59	2	1891.49	.000
SAMSIZE	13.23	2	42255.12	.000
BOUND	.54	2	1740.48	.000
METHOD BY RATE	.00	12	1.98	.024
METHOD BY SAMSIZE	.02	6	26.41	.000
METHOD BY BOUND	.00	6	.13	.992
METHOD BY TAINT	.00	6	.41	.873
RATE BY BOUND	.09	8	70.82	.000
RATE BY TAINT	.00	8	3.57	.001
RATE BY SAMSIZE	.28	8	220.34	.000
TAINT BY SAMSIZE	.00	4	7.14	.000
TAINT BY BOUND	.00	4	2.11	.078
SAMSIZE BY BOUND	.06	4	100.95	.000
(Model)	53.85	79	4355.24	.000
(Total)	53.92	539		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.05	460		
METHOD	.01	3	24.57	.000
RATE	21.93	4	53064.94	.000
TAINT	.04	2	184.60	.000
SAMSIZE	10.67	2	51627.62	.000
BOUND	.44	2	2111.61	.000
METHOD BY RATE	.00	12	2.14	.014
METHOD BY SAMSIZE	.02	6	30.93	.000
METHOD BY BOUND	.00	6	.64	.696
METHOD BY TAINT	.00	6	.12	.994
RATE BY BOUND	.15	8	177.44	.000
RATE BY TAINT	.01	8	9.75	.000
RATE BY SAMSIZE	.21	8	259.39	.000
TAINT BY SAMSIZE	.00	4	.99	.412
TAINT BY BOUND	.00	4	.51	.728
SAMSIZE BY BOUND	.12	4	280.07	.000
(Model)	33.59	79	4115.14	.000
(Total)	33.63	539		

Adjusted R-Squared = .998

Simple Random, Systematic, Cell and Sieve Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.19	460		
METHOD	.02	3	18.19	.000
RATE	49.18	4	30241.88	.000
TAINT	1.19	2	1469.56	.000
SAMSIZE	17.84	2	21943.46	.000
BOUND	2.96	2	3639.96	.000
METHOD BY RATE	.01	12	1.96	.026
METHOD BY SAMSIZE	.08	6	31.62	.000
METHOD BY BOUND	.00	6	.28	.945
METHOD BY TAINT	.00	6	.01	1.000
RATE BY BOUND	.46	8	140.80	.000
RATE BY TAINT	.01	8	3.23	.001
RATE BY SAMSIZE	.12	8	35.72	.000
TAINT BY SAMSIZE	.01	44	.57	.001
TAINT BY BOUND	.06	4	37.25	.000
SAMSIZE BY BOUND	.34	4	208.78	.000
(Model)	72.28	79	2250.42	.000
(Total)	72.47	539		

Adjusted R-Squared = .997

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.22	460		
METHOD	.02	3	14.59	.000
RATE	27.85	4	14710.41	.000
TAINT	.05	2	49.56	.000
SAMSIZE	14.20	2	14995.04	.000
BOUND	3.27	2	3457.34	.000
METHOD BY RATE	.01	12	1.68	.069
METHOD BY SAMSIZE	.07	6	23.41	.000
METHOD BY BOUND	.00	6	.58	.750
METHOD BY TAINT	.00	6	.09	.997
RATE BY BOUND	.74	8	195.66	.000
RATE BY TAINT	.01	8	2.36	.017
RATE BY SAMSIZE	.26	8	69.81	.000
TAINT BY SAMSIZE	.00	4	.31	.874
TAINT BY BOUND	.00	4	.67	.616
SAMSIZE BY BOUND	.63	4	334.04	.000
(Model)	47.12	79	1259.96	.000
(Total)	47.34	539		

Adjusted R-Squared = .995

Simple Random, Systematic, Cell and Sieve Sampling

Tightness Dependent Variable with the AON Error Assignment at the 70% Nominal Confidence

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.19	460		
METHOD	.02	3	15.89	.000
RATE	42.87	4	25547.18	.000
TAINT	.64	2	761.95	.000
SAMSIZE	14.99	2	17867.49	.000
BOUND	3.76	2	4477.06	.000
METHOD BY RATE	.01	12	2.04	.019
METHOD BY SAMSIZE	.07	6	27.50	.000
METHOD BY BOUND	.00	6	.47	.831
METHOD BY TAINT	.00	6	.44	.849
RATE BY BOUND	.08	82	3.26	.000
RATE BY TAINT	.01	8	2.00	.045
RATE BY SAMSIZE	.33	8	98.51	.000
TAINT BY SAMSIZE	.01	4	3.72	.005
TAINT BY BOUND	.00	4	.57	.687
SAMSIZE BY BOUND	.06	4	34.58	.000
(Model)	62.84	79	1896.08	.000
(Total)	63.03	539		

Adjusted R-Squared = .996

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.17	460		
METHOD	.02	3	17.21	.000
RATE	23.76	4	15952.25	.000
TAINT	.04	2	55.93	.000
SAMSIZE	11.61	2	15593.80	.000
BOUND	3.76	2	5049.92	.000
METHOD BY RATE	.01	12	1.88	.035
METHOD BY SAMSIZE	.06	6	25.44	.000
METHOD BY BOUND	.00	6	.77	.592
METHOD BY TAINT	.00	6	.10	.997
RATE BY BOUND	.17	8	56.62	.000
RATE BY TAINT	.01	8	2.87	.004
RATE BY SAMSIZE	.36	8	122.47	.000
TAINT BY SAMSIZE	.00	4	.46	.769
TAINT BY BOUND	.00	4	.15	.962
SAMSIZE BY BOUND	.16	4	107.59	.000
(Model)	39.96	79	1358.59	.000
(Total)	40.13	539		

Adjusted R-Squared = .995

Simple Random, Systematic, Cell and Sieve Sampling

Precision Dependent Variable with the Taint Error Assignment at the 95% Nominal Confidence Level.

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.13	460		
METHOD	.16	3	191.67	.000
RATE	10.85	4	9936.30	.000
TAINT	.06	2	117.86	.000
SAMSIZE	6.69	2	12251.41	.000
BOUND	2.99	2	5475.55	.000
METHOD BY RATE	.06	12	17.10	.000
METHOD BY SAMSIZE	.02	6	12.42	.000
METHOD BY BOUND	.00	6	.15	.989
METHOD BY TAINT	.00	6	.16	.987
RATE BY BOUND	.13	8	57.42	.000
RATE BY TAINT	.02	8	11.38	.000
RATE BY SAMSIZE	.05	8	23.22	.000
TAINT BY SAMSIZE	.01	4	6.36	.000
TAINT BY BOUND	.09	4	84.97	.000
SAMSIZE BY BOUND	.01	4	12.77	.000
(Model)	21.14	79	980.30	.000
(Total)	21.26	539		

Adjusted R-Squared = .993

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.33	460		
METHOD	.55	3	254.57	.000
RATE	7.38	4	2545.98	.000
TAINT	.01	2	7.18	.001
SAMSIZE	10.54	2	7276.99	.000
BOUND	2.90	2	2001.49	.000
METHOD BY RATE	.12	12	13.48	.000
METHOD BY SAMSIZE	.47	6	108.32	.000
METHOD BY BOUND	.00	6	.08	.998
METHOD BY TAINT	.00	6	.14	.991
RATE BY BOUND	.13	8	21.79	.000
RATE BY TAINT	.01	8	.90	.513
RATE BY SAMSIZE	.09	8	15.03	.000
TAINT BY SAMSIZE	.00	4	.08	.990
TAINT BY BOUND	.00	4	.15	.964
SAMSIZE BY BOUND	.05	4	16.38	.000
(Model)	22.24	79	388.61	.000
(Total)	22.57	539		

Adjusted R-Squared = .983

Simple Random, Systematic, Cell and Sieve Sampling

Precision Dependent Variable with the AON Assignment at the 95% Nominal Confidence Level.

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.14	460		
METHOD	.13	3	145.64	.000
RATE	11.00	4	8942.60	.000
TAINT	.21	2	345.10	.000
SAMSIZE	6.22	2	10106.11	.000
BOUND	.02	2	27.31	.000
METHOD BY RATE	.03	12	9.38	.000
METHOD BY SAMSIZE	.01	6	7.18	.000
METHOD BY BOUND	.00	6	.13	.993
METHOD BY TAINT	.00	6	.60	.730
RATE BY BOUND	.29	8	118.29	.000
RATE BY TAINT	.00	8	.93	.491
RATE BY SAMSIZE	.14	8	56.23	.000
TAINT BY SAMSIZE	.00	4	.60	.663
TAINT BY BOUND	.00	4	2.10	.080
SAMSIZE BY BOUND	.12	4	95.10	.000
(Model)	18.19	79	748.34	.000
(Total)	18.33	539		

Adjusted R-Squared = .991

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.33	460		
METHOD	.51	3	237.67	.000
RATE	6.05	4	2115.72	.000
TAINT	.01	2	8.46	.000
SAMSIZE	10.78	2	7541.40	.000
BOUND	.15	2	103.72	.000
METHOD BY RATE	.10	12	12.21	.000
METHOD BY SAMSIZE	.43	6	100.69	.000
METHOD BY BOUND	.00	6	.04	1.000
METHOD BY TAINT	.00	.14	6	.990
RATE BY BOUND	.03	8	5.78	.000
RATE BY TAINT	.00	8	.60	.774
RATE BY SAMSIZE	.10	8	16.64	.000
TAINT BY SAMSIZE	.00	4	.04	.997
TAINT BY BOUND	.00	4	.02	1.000
SAMSIZE BY BOUND	.09	4	29.75	.000
(Model)	18.25	79	323.27	.000
(Total)	18.58	539		

Adjusted R-Squared = .979

Simple Random, Systematic, Cell and Sieve Sampling

Precision Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence Level.

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.11	460		
METHOD	.16	3	236.43	.000
RATE	12.59	4	13546.48	.000
TAINT	.05	2	109.03	.000
SAMSIZE	6.27	2	13493.27	.000
BOUND	1.10	2	2371.20	.000
METHOD BY RATE	.05	12	19.04	.000
METHOD BY SAMSIZE	.02	6	15.00	.000
METHOD BY BOUND	.00	6	.12	.994
METHOD BY TAINT	.00	6	.23	.968
RATE BY BOUND	.08	8	44.16	.000
RATE BY TAINT	.02	8	8.31	.000
RATE BY SAMSIZE	.05	8	25.48	.000
TAINT BY SAMSIZE	.00	4	3.98	.003
TAINT BY BOUND	.06	4	65.46	.000
SAMSIZE BY BOUND	.04	4	40.56	.000
(Model)	20.50	79	1116.79	.000
(Total)	20.61	539		

Adjusted R-Squared = .994

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.31	460		
METHOD	.56	3	278.20	.000
RATE	8.46	4	3169.61	.000
TAINT	.01	2	9.94	.000
SAMSIZE	10.20	2	7642.42	.000
BOUND	1.17	2	874.76	.000
METHOD BY RATE	.12	12	14.86	.000
METHOD BY SAMSIZE	.47	6	116.73	.000
METHOD BY BOUND	.00	6	.04	1.000
METHOD BY TAINT	.00	6	.15	.988
RATE BY BOUND	.07	8	12.19	.000
RATE BY TAINT	.01	8	1.10	.360
RATE BY SAMSIZE	.09	8	16.02	.000
TAINT BY SAMSIZE	.00	4	.06	.994
TAINT BY BOUND	.00	4	.04	.997
SAMSIZE BY BOUND	.06	4	22.96	.000
(Model)	21.20	79	402.20	.000
(Total)	21.51	539		

Adjusted R-Squared = .983

Simple Random, Systematic, Cell and Sieve Sampling

Precision Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence Level.

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.12	460		
METHOD	.14	3	184.46	.000
RATE	12.59	4	12506.91	.000
TAINT	.24	2	483.32	.000
SAMSIZE	6.07	2	12070.19	.000
BOUND	.02	2	30.36	.000
METHOD BY RATE	.03	12	11.35	.000
METHOD BY SAMSIZE	.01	6	9.36	.000
METHOD BY BOUND	.00	6	.17	.986
METHOD BY TAINT	.00	6	.71	.639
RATE BY BOUND	.28	8	137.21	.000
RATE BY TAINT	.00	8	.60	.777
RATE BY SAMSIZE	.09	8	46.73	.000
TAINT BY SAMSIZE	.00	4	.73	.572
TAINT BY BOUND	.00	4	2.70	.030
SAMSIZE BY BOUND	.12	4	118.62	.000
(Model)	19.60	79	986.21	.000
(Total)	19.72	539		

Adjusted R-Squared = .993

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.30	460		
METHOD	.52	3	265.92	.000
RATE	7.42	4	2849.96	.000
TAINT	.01	2	11.21	.000
SAMSIZE	10.41	2	7995.12	.000
BOUND	.01	2	11.28	.000
METHOD BY RATE	.11	12	13.87	.000
METHOD BY SAMSIZE	.44	6	111.67	.000
METHOD BY BOUND	.00	6	.02	1.000
METHOD BY TAINT	.00	6	.16	.986
RATE BY BOUND	.05	8	8.76	.000
RATE BY TAINT	.00	8	.72	.678
RATE BY SAMSIZE	.09	8	16.91	.000
TAINT BY SAMSIZE	.00	4	.03	.998
TAINT BY BOUND	.00	4	.03	.999
SAMSIZE BY BOUND	.09	4	35.91	.000
(Model)	19.17	79	372.47	.000
(Total)	19.46	539		

Adjusted R-Squared = .982

Simple Random, Systematic, Cell and Sieve Sampling

Precision Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence Level.

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.09	460		
METHOD	.17	3	285.87	.000
RATE	14.39	4	17871.42	.000
TAINT	.04	2	105.12	.000
SAMSIZE	5.81	2	14434.41	.000
BOUND	.29	2	724.17	.000
METHOD BY RATE	.05	12	21.05	.000
METHOD BY SAMSIZE	.02	6	18.10	.000
METHOD BY BOUND	.00	6	.22	.969
METHOD BY TAINT	.00	6	.31	.930
RATE BY BOUND	.11	8	67.78	.000
RATE BY TAINT	.01	8	5.70	.000
RATE BY SAMSIZE	.04	8	24.73	.000
TAINT BY SAMSIZE	.00	4	2.21	.067
TAINT BY BOUND	.04	4	49.49	.000
SAMSIZE BY BOUND	.07	4	83.35	.000
(Model)	21.05	79	1323.56	.000
(Total)	21.14	539		

Adjusted R-Squared = .995

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.29	460		
METHOD	.56	3	300.40	.000
RATE	9.71	4	3881.69	.000
TAINT	.02	2	12.82	.000
SAMSIZE	9.66	2	7728.10	.000
BOUND	.23	2	187.30	.000
METHOD BY RATE	.12	12	16.22	.000
METHOD BY SAMSIZE	.47	6	124.11	.000
METHOD BY BOUND	.00	6	.01	1.000
METHOD BY TAINT	.00	6	.16	.986
RATE BY BOUND	.05	8	9.37	.000
RATE BY TAINT	.01	8	1.31	.236
RATE BY SAMSIZE	.09	8	17.04	.000
TAINT BY SAMSIZE	.00	4	.04	.996
TAINT BY BOUND	.00	4	.03	.998
SAMSIZE BY BOUND	.08	4	31.93	.000
(Model)	20.99	79	424.99	.000
(Total)	21.27	539		

Adjusted R-Squared = .984

Simple Random, Systematic, Cell and Sieve Sampling

Precision Dependent Variable with the AON Error Assignment at the 70% Nominal Confidence Level.

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.10	460		
METHOD	.15	3	225.44	.000
RATE	14.59	4	16964.19	.000
TAINT	.28	2	652.71	.000
SAMSIZE	5.66	2	13150.10	.000
BOUND	.14	2	329.59	.000
METHOD BY RATE	.03	12	13.03	.000
METHOD BY SAMSIZE	.02	6	11.86	.000
METHOD BY BOUND	.00	6	.23	.968
METHOD BY TAINT	.00	6	.81	.561
RATE BY BOUND	.28	8	163.67	.000
RATE BY TAINT	.00	8	.41	.917
RATE BY SAMSIZE	.06	8	36.43	.000
TAINT BY SAMSIZE	.00	4	.96	.429
TAINT BY BOUND	.00	4	3.56	.007
SAMSIZE BY BOUND	.12	4	143.75	.000
(Model)	21.34	79	1256.06	.000
(Total)	21.44	539		

Adjusted R-Squared = .995

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.28	460		
METHOD	.53	3	292.51	.000
RATE	9.09	4	3748.81	.000
TAINT	.02	2	14.51	.000
SAMSIZE	9.71	2	8007.98	.000
BOUND	.02	2	14.95	.000
METHOD BY RATE	.11	12	15.51	.000
METHOD BY SAMSIZE	.44	6	121.23	.000
METHOD BY BOUND	.00	6	.01	1.000
METHOD BY TAINT	.00	6	.18	.981
RATE BY BOUND	.07	8	13.47	.000
RATE BY TAINT	.00	8	.86	.548
RATE BY SAMSIZE	.08	8	17.49	.000
TAINT BY SAMSIZE	.00	4	.03	.998
TAINT BY BOUND	.00	4	.04	.996
SAMSIZE BY BOUND	.10	4	42.34	.000
(Model)	20.17	79	421.35	.000
(Total)	20.45	539		

Adjusted R-Squared = .984

Lahiri and Simple Random Sampling

Reliability Dependent Variable with the Taint Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.91	212		
METHOD	.00	1	.01	.929
RATE	2.64	4	153.45	.000
TAINT	.09	2	10.48	.000
SAMSIZE	.92	2	107.21	.000
BOUND	.28	2	32.84	.000
METHOD BY RATE	.00	4	.04	.997
METHOD BY SAMSIZE	.00	2	.30	.739
METHOD BY BOUND	.00	2	.04	.961
METHOD BY TAINT	.00	2	.01	.993
RATE BY BOUND	.20	8	5.88	.000
RATE BY TAINT	.04	8	1.25	.270
RATE BY SAMSIZE	.63	8	18.24	.000
TAINT BY SAMSIZE	.02	4	.89	.469
TAINT BY BOUND	.16	4	9.21	.000
SAMSIZE BY BOUND	.10	4	5.72	.000
(Model)	5.08	57	20.74	.000
(Total)	5.99	269		

Adjusted R-Squared = .807

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.80	212		
METHOD	.00	1	1.08	.301
RATE	3.54	4	235.61	.000
TAINT	.00	2	.46	.630
SAMSIZE	1.08	2	143.59	.000
BOUND	.25	2	33.47	.000
METHOD BY RATE	.01	4	.41	.804
METHOD BY SAMSIZE	.01	2	1.26	.287
METHOD BY BOUND	.00	2	.04	.963
METHOD BY TAINT	.00	2	.02	.983
RATE BY BOUND	.44	8	14.76	.000
RATE BY TAINT	.01	8	.43	.902
RATE BY SAMSIZE	.77	8	25.72	.000
TAINT BY SAMSIZE	.01	4	.46	.765
TAINT BY BOUND	.00	4	.31	.870
SAMSIZE BY BOUND	.12	4	8.28	.000
(Model)	6.25	57	29.23	.000
(Total)	7.05	269		

Adjusted R-Squared = .857

Lahiri and Simple Random Sampling

Reliability Dependent Variable with the AON Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.38	212		
METHOD	.00	1	.00	.986
RATE	1.68	4	232.39	.000
TAINT	.06	2	15.64	.000
SAMSIZE	.54	2	149.70	.000
BOUND	.00	2	.06	.939
METHOD BY RATE	.00	4	.36	.837
METHOD BY SAMSIZE	.00	2	1.20	.304
METHOD BY BOUND	.00	2	.00	.999
METHOD BY TAINT	.00	2	.08	.923
RATE BY BOUND	.01	8	.45	.887
RATE BY TAINT	.21	8	14.39	.000
RATE BY SAMSIZE	.70	8	48.46	.000
TAINT BY SAMSIZE	.06	4	7.83	.000
TAINT BY BOUND	.00	4	.06	.993
SAMSIZE BY BOUND	.00	4	.53	.713
(Model)	3.26	57	31.66	.000
(Total)	3.64	269		

Adjusted R-Squared = .867

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.22	212		
METHOD	.00	1	2.71	.101
RATE	2.63	4	621.46	.000
TAINT	.00	2	.45	.640
SAMSIZE	.45	2	214.61	.000
BOUND	.01	2	5.24	.006
METHOD BY RATE	.01	4	2.21	.069
METHOD BY SAMSIZE	.01	2	4.03	.019
METHOD BY BOUND	.00	2	.00	1.000
METHOD BY TAINT	.00	2	.01	.993
RATE BY BOUND	.02	8	2.77	.006
RATE BY TAINT	.01	8	.73	.665
RATE BY SAMSIZE	1.31	8	154.23	.000
TAINT BY SAMSIZE	.01	4	1.92	.108
TAINT BY BOUND	.01	4	2.39	.052
SAMSIZE BY BOUND	.01	4	1.43	.224
(Model)	4.48	57	74.23	.000
(Total)	4.70	269		

Adjusted R-Squared = .939

Lahiri and Simple Random Sampling

Reliability Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	1.36	212		
METHOD	.00	1	.00	.987
RATE	8.36	4	326.02	.000
TAINT	.23	2	18.07	.000
SAMSIZE	3.38	2	263.39	.000
BOUND	.98	2	76.07	.000
METHOD BY RATE	.01	4	.54	.710
METHOD BY SAMSIZE	.02	2	1.68	.188
METHOD BY BOUND	.00	2	.00	.998
METHOD BY TAINT	.00	2	.00	.999
RATE BY BOUND	.47	8	9.10	.000
RATE BY TAINT	.13	8	2.56	.011
RATE BY SAMSIZE	1.47	8	28.75	.000
TAINT BY SAMSIZE	.04	4	1.49	.207
TAINT BY BOUND	.16	4	6.24	.000
SAMSIZE BY BOUND	.20	4	7.61	.000
(Model)	15.44	57	42.27	.000
(Total)	16.80	269		

Adjusted R-Squared = .897

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.85	212		
METHOD	.01	1	2.64	.106
RATE	6.03	4	377.68	.000
TAINT	.00	2	.17	.846
SAMSIZE	4.18	2	523.90	.000
BOUND	.42	2	52.70	.000
METHOD BY RATE	.00	4	.05	.995
METHOD BY SAMSIZE	.03	2	3.65	.028
METHOD BY BOUND	.00	2	.02	.980
METHOD BY TAINT	.00	2	.01	.991
RATE BY BOUND	.78	8	24.30	.000
RATE BY TAINT	.01	8	.45	.892
RATE BY SAMSIZE	2.66	8	83.42	.000
TAINT BY SAMSIZE	.01	4	.72	.580
TAINT BY BOUND	.01	4	.53	.712
SAMSIZE BY BOUND	.22	4	13.48	.000
(Model)	14.36	57	63.14	.000
(Total)	15.20	269		

Adjusted R-Squared = .929

Lahiri and Simple Random Sampling

Reliability Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	2.14	212		
METHOD	.00	1	.02	.897
RATE	7.10	4	176.16	.000
TAINT	.04	2	1.99	.140
SAMSIZE	2.50	2	124.09	.000
BOUND	.60	2	29.95	.000
METHOD BY RATE	.02	4	.38	.821
METHOD BY SAMSIZE	.02	2	.89	.413
METHOD BY BOUND	.00	2	.00	1.000
METHOD BY TAINT	.00	2	.00	.995
RATE BY BOUND	.44	8	5.40	.000
RATE BY TAINT	.33	8	4.11	.000
RATE BY SAMSIZE	3.11	8	38.64	.000
TAINT BY SAMSIZE	.09	4	2.30	.059
TAINT BY BOUND	.08	4	2.02	.093
SAMSIZE BY BOUND	.00	4.	02	.999
(Model)	14.33	57	24.96	.000
(Total)	16.47	269		

Adjusted R-Squared = .835

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.56	212		
METHOD	.01	3.36	.068	
RATE	5.00	4	470.95	.000
TAINT	.01	2	1.26	.284
SAMSIZE	3.33	2	627.17	.000
BOUND	.10	2	19.78	.000
METHOD BY RATE	.00	4	.13	.973
METHOD BY SAMSIZE	.03	2	5.36	.005
METHOD BY BOUND	.00	2	.00	.998
METHOD BY TAINT	.00	2	.02	.981
RATE BY BOUND	.12	8	5.87	.000
RATE BY TAINT	.03	8	1.38	.207
RATE BY SAMSIZE	4.69	8	221.02	.000
TAINT BY SAMSIZE	.02	4	2.20	.070
TAINT BY BOUND	.02	4	1.63	.169
SAMSIZE BY BOUND	.08	4	7.22	.000
(Model)	13.44	57	88.86	.000
(Total)	14.00	269		

Adjusted R-Squared = .949

Lahiri and Simple Random Sampling

Reliability Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	2.45	212		
METHOD	.00	1	.01	.930
RATE	16.93	4	365.71	.000
TAINT	.28	2	12.19	.000
SAMSIZE	4.04	2	174.60	.000
BOUND	2.00	2	86.24	.000
METHOD BY RATE	.01	4	.22	.927
METHOD BY SAMSIZE	.02	2	.92	.400
METHOD BY BOUND	.00	2	.00	.998
METHOD BY TAINT	.00	2	.00	.996
RATE BY BOUND	.53	8	5.76	.000
RATE BY TAINT	.38	8	4.06	.000
RATE BY SAMSIZE	3.18	8	34.32	.000
TAINT BY SAMSIZE	.04	4	.95	.437
TAINT BY BOUND	.29	4	6.17	.000
SAMSIZE BY BOUND	.02	4	.51	.728
(Model)	27.72	57	42.02	.000
(Total)	30.18	269		

Adjusted R-Squared = .897

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	2.03	212		
METHOD	.01	1	1.28	.260
RATE	3.92	4	102.38	.000
TAINT	.07	2	3.72	.026
SAMSIZE	5.90	2	308.38	.000
BOUND	1.53	2	80.26	.000
METHOD BY RATE	.00	4	.04	.996
METHOD BY SAMSIZE	.02	2	1.05	.353
METHOD BY BOUND	.00	2	.00	.995
METHOD BY TAINT	.00	2	.00	1.000
RATE BY BOUND	.59	8	7.77	.000
RATE BY TAINT	.34	8	4.43	.000
RATE BY SAMSIZE	5.08	8	66.45	.000
TAINT BY SAMSIZE	.14	4	3.76	.006
TAINT BY BOUND	.10	4	2.49	.044
SAMSIZE BY BOUND	.07	4	1.83	.124
(Model)	17.78	57	32.62	.000
(Total)	19.80	269		

Adjusted R-Squared = .870

Lahiri and Simple Random Sampling

Reliability Dependent Variable with the AON Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	4.49	212		
METHOD	.00	1	.01	.921
RATE	17.33	4	204.49	.000
TAINT	.14	2	3.36	.036
SAMSIZE	4.12	2	97.13	.000
BOUND	2.41	2	56.83	.000
METHOD BY RATE	.01	4	.10	.981
METHOD BY SAMSIZE	.02	2	.43	.649
METHOD BY BOUND	.00	2	.01	.990
METHOD BY TAINT	.00	2	.01	.989
RATE BY BOUND	.78	8	4.58	.000
RATE BY TAINT	.14	8	.83	.577
RATE BY SAMSIZE	4.85	8	28.61	.000
TAINT BY SAMSIZE	.04	4	.48	.748
TAINT BY BOUND	.03	4	.35	.844
SAMSIZE BY BOUND	.08	4	.91	.457
(Model)	29.94	57	24.79	.000
(Total)	34.43	269		

Adjusted R-Squared = .834

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	2.55	212		
METHOD	.01	1	.50	.481
RATE	2.73	4	56.86	.000
TAINT	.14	2	5.97	.003
SAMSIZE	7.00	2	291.23	.000
BOUND	1.41	2	58.72	.000
METHOD BY RATE	.00	4	.02	.999
METHOD BY SAMSIZE	.02	2	.95	.390
METHOD BY BOUND	.00	2	.00	.999
METHOD BY TAINT	.00	2	.01	.989
RATE BY BOUND	.15	8	1.55	.143
RATE BY TAINT	.49	8	5.11	.000
RATE BY SAMSIZE	5.56	8	57.81	.000
TAINT BY SAMSIZE	.18	4	3.70	.006
TAINT BY BOUND	.15	4	3.22	.014
SAMSIZE BY BOUND	.02	4	.39	.816
(Model)	17.87	57	26.08	.000
(Total)	20.42	269		

Adjusted R-Squared = .842

Lahiri and Simple Random Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.06	212	.00	
METHOD	.00	1	1.29	.258
RATE	23.61	4	22376.21	.000
TAINT	.52	2	989.04	.000
SAMSIZE	8.24	2	15625.78	.000
BOUND	.89	2	1689.50	.000
METHOD BY RATE	.00	4	.37	.828
METHOD BY SAMSIZE	.01	2	16.63	.000
METHOD BY BOUND	.00	2	.05	.950
METHOD BY TAINT	.00	2	.00	.999
RATE BY BOUND	.31	8	145.20	.000
RATE BY TAINT	.00	8	1.49	.162
RATE BY SAMSIZE	.06	8	27.56	.000
TAINT BY SAMSIZE	.00	4	2.89	.023
TAINT BY BOUND	.01	4	13.05	.000
SAMSIZE BY BOUND	.19	4	177.04	.000
(Model)	33.85	57	2251.15	.000
(Total)	33.91	269		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.03	212		
METHOD	00	1	.00	.982
RATE	13.80	4	27527.22	.000
TAINT	.02	2	83.29	.000
SAMSIZE	6.98	2	27839.99	.000
BOUND	1.60	2	6394.81	.000
METHOD BY RATE	.00	4	.74	.562
METHOD BY SAMSIZE	.00	2	17.71	.000
METHOD BY BOUND	.00	2	.03	.970
METHOD BY TAINT	.00	2	.06	.940
RATE BY BOUND	.37	8	372.12	.000
RATE BY TAINT	.00	8	4.21	.000
RATE BY SAMSIZE	.07	8	65.11	.000
TAINT BY SAMSIZE	.00	4	.22	.927
TAINT BY BOUND	.00	4	2.58	.039
SAMSIZE BY BOUND	.31	4	610.14	.000
(Model)	23.16	57	3241.52	.000
(Total)	23.19	269		

Adjusted R-Squared = .999

Lahiri and Simple Random Sampling

Tightness Dependent Variable with the AON Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.02	212		
METHOD	.00	1	6.65	.011
RATE	19.56	4	55432.02	.000
TAINT	.29	2	1667.73	.000
SAMSIZE	6.55	2	37138.67	.000
BOUND	.01	2	51.67	.000
METHOD BY RATE	.00	4	1.34	.257
METHOD BY SAMSIZE	.01	2	41.72	.000
METHOD BY BOUND	.00	2	.07	.935
METHOD BY TAINT	.00	2	.46	.629
RATE BY BOUND	.04	8	56.66	.000
RATE BY TAINT	.00	8	3.03	.003
RATE BY SAMSIZE	.12	8	173.08	.000
TAINT BY SAMSIZE	.00	4	6.59	.000
TAINT BY BOUND	.00	4	1.65	.162
SAMSIZE BY BOUND	.02	4	66.57	.000
(Model)	26.61	57	5293.02	.000
(Total)	26.63	269		

Adjusted R-Squared = .999

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.01	212		
METHOD	.00	1	.06	.814
RATE	11.37	4	69013.29	.000
TAINT	.02	2	243.54	.000
SAMSIZE	5.49	2	66613.58	.000
BOUND	.00	2	11.66	.000
METHOD BY RATE	.00	4	2.15	.075
METHOD BY SAMSIZE	.00	2	50.75	.000
METHOD BY BOUND	.00	2	.02	.981
METHOD BY TAINT	.00	2	.21	.811
RATE BY BOUND	.05	8	162.11	.000
RATE BY TAINT	.00	8	12.25	.000
RATE BY SAMSIZE	.11	8	321.58	.000
TAINT BY SAMSIZE	.00	4	1.06	.378
TAINT BY BOUND	.00	4	.37	.833
SAMSIZE BY BOUND	.04	4	254.75	.000
(Model)	17.09	57	7278.83	.000
(Total)	17.10	269		

Adjusted R-Squared = .999

Lahiri and Simple Random Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.07	212		
METHOD	.00	1	2.06	.152
RATE	23.29	4	18777.72	.000
TAINT	.54	2	863.47	.000
SAMSIZE	8.50	2	13710.89	.000
BOUND	1.03	2	1662.31	.000
METHOD BY RATE	.00	4	.59	.673
METHOD BY SAMSIZE	.02	2	29.91	.000
METHOD BY BOUND	.00	2	.07	.936
METHOD BY TAINT	.00	2	.00	.997
RATE BY BOUND	.33	8	131.66	.000
RATE BY TAINT	.00	8	1.60	.127
RATE BY SAMSIZE	.06	8	23.61	.000
TAINT BY SAMSIZE	.00	4	2.92	.022
TAINT BY BOUND	.02	4	15.00	.000
SAMSIZE BY BOUND	.20	4	164.90	.000
(Model)	34.00	57	1923.42	.000
(Total)	34.07	269		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	212		
METHOD	.00	1	.01	.935
RATE	13.61	4	18175.44	.000
TAINT	.02	2	58.32	.000
SAMSIZE	6.99	2	18670.89	.000
BOUND	1.36	2	3633.66	.000
METHOD BY RATE	.00	4	1.11	.353
METHOD BY SAMSIZE	.01	2	26.96	.000
METHOD BY BOUND	.00	2	.10	.908
METHOD BY TAINT	.00	2	.09	.918
RATE BY BOUND	.41	8	276.80	.000
RATE BY TAINT	.00	8	2.94	.004
RATE BY SAMSIZE	.10	8	64.48	.000
TAINT BY SAMSIZE	.00	4	.19	.941
TAINT BY BOUND	.00	4	1.51	.201
SAMSIZE BY BOUND	.33	4	442.88	.000
(Model)	22.84	57	2140.67	.000
(Total)	22.88	269		

Adjusted R-Squared = .998

Lahiri and Simple Random Sampling

Tightness Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	212		
METHOD	.00	1	7.08	.008
RATE	19.30	4	28836.60	.000
TAINT	.29	2	857.30	.000
SAMSIZE	6.80	2	20328.02	.000
BOUND	.27	2	810.14	.000
METHOD BY RATE	.00	4	1.39	.238
METHOD BY SAMSIZE	.02	2	46.72	.000
METHOD BY BOUND	.00	2	.12	.889
METHOD BY TAINT	.00	2	.55	.576
RATE BY BOUND	.05	8	33.85	.000
RATE BY TAINT	.00	8	2.28	.023
RATE BY SAMSIZE	.14	8	102.34	.000
TAINT BY SAMSIZE	.00	4	4.40	.002
TAINT BY BOUND	.00	4	.98	.420
SAMSIZE BY BOUND	.03	4	43.33	.000
(Model)	26.89	57	2820.13	.000
(Total)	26.93	269		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.02	212		
METHOD	.00	1	.14	.707
RATE	11.17	4	30218.83	.000
TAINT	.02	2	108.38	.000
SAMSIZE	5.53	2	29924.90	.000
BOUND	.21	2	1149.68	.000
METHOD BY RATE	.00	4	2.05	.089
METHOD BY SAMSIZE	.01	2	48.29	.000
METHOD BY BOUND	.00	2	.04	.958
METHOD BY TAINT	.00	2	.20	.820
RATE BY BOUND	.07	8	90.38	.000
RATE BY TAINT	.00	8	5.18	.000
RATE BY SAMSIZE	.14	8	188.30	.000
TAINT BY SAMSIZE	.00	4	.66	.618
TAINT BY BOUND	.00	4	.19	.944
SAMSIZE BY BOUND	.06	4	161.75	.000
(Model)	17.22	57	3267.86	.000
(Total)	17.24	269		

Adjusted R-Squared = .999

Lahiri and Simple Random Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.09	212		
METHOD	.00	1	3.07	.081
RATE	24.32	4	14104.59	.000
TAINT	.59	2	686.66	.000
SAMSIZE	9.31	2	10801.50	.000
BOUND	1.49	2	1726.31	.000
METHOD BY RATE	.00	4	.88	.475
METHOD BY SAMSIZE	.05	2	54.40	.000
METHOD BY BOUND	.00	2	.13	.879
METHOD BY TAINT	.00	2	.01	.989
RATE BY BOUND	.24	8	69.46	.000
RATE BY TAINT	.01	8	1.66	.111
RATE BY SAMSIZE	.06	8	17.06	.000
TAINT BY SAMSIZE	.00	4	2.86	.024
TAINT BY BOUND	.03	4	19.42	.000
SAMSIZE BY BOUND	.17	4	98.30	.000
(Model)	36.27	57	1476.33	.000
(Total)	36.36	269		

Adjusted R-Squared = .997

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.10	212		
METHOD	.00	1	.04	.850
RATE	14.41	4	7714.07	.000
TAINT	.03	2	27.45	.000
SAMSIZE	7.31	2	7830.12	.000
BOUND	1.61	2	1722.62	.000
METHOD BY RATE	.00	4	1.25	.289
METHOD BY SAMSIZE	.03	2	30.35	.000
METHOD BY BOUND	.00	2	.18	.838
METHOD BY TAINT	.00	2	.09	.911
RATE BY BOUND	.35	8	93.64	.000
RATE BY TAINT	.01	8	1.38	.206
RATE BY SAMSIZE	.19	8	52.11	.000
TAINT BY SAMSIZE	.00	4	.14	.969
TAINT BY BOUND	.00	4	.32	.864
SAMSIZE BY BOUND	.31	4	163.38	.000
(Model)	24.24	57	910.80	.000
(Total)	24.34	269		

Adjusted R-Squared = .995

Lahiri and Simple Random Sampling

Tightness Dependent Variable with the AON Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.10	212		
METHOD	.00	1	6.36	.012
RATE	21.10	4	11666.72	.000
TAINT	.31	2	337.36	.000
SAMSIZE	7.85	2	8678.22	.000
BOUND	1.89	2	2090.39	.000
METHOD BY RATE	.00	4	1.23	.297
METHOD BY SAMSIZE	.04	2	48.59	.000
METHOD BY BOUND	.00	2	.30	.742
METHOD BY TAINT	.00	2	.63	.532
RATE BY BOUND	.04	8	12.10	.000
RATE BY TAINT	.01	8	1.39	.203
RATE BY SAMSIZE	.16	8	44.83	.000
TAINT BY SAMSIZE	.00	4	2.46	.046
TAINT BY BOUND	.00	4	.29	.887
SAMSIZE BY BOUND	.02	4	12.62	.000
(Model)	31.43	57	1219.60	.000
(Total)	31.53	269		

Adjusted R-Squared = .996

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.07	212		
METHOD	.00	1	.14	.712
RATE	12.29	4	8736.03	.000
TAINT	.02	2	32.12	.000
SAMSIZE	6.07	2	8625.99	.000
BOUND	1.84	2	2617.22	.000
METHOD BY RATE	.00	4	1.56	.186
METHOD BY SAMSIZE	.03	2	35.67	.000
METHOD BY BOUND	.00	2	.09	.918
METHOD BY TAINT	.00	2	.15	.861
RATE BY BOUND	.07	8	25.00	.000
RATE BY TAINT	.00	8	1.41	.194
RATE BY SAMSIZE	.24	8	86.37	.000
TAINT BY SAMSIZE	.00	4	.33	.860
TAINT BY BOUND	.00	4	.04	.998
SAMSIZE BY BOUND	.08	4	60.04	.000
(Model)	20.65	57	1030.12	.000
(Total)	20.72	269		

Adjusted R-Squared = .995

Lahiri and Simple Random Sampling

Precision Dependent Variable with the Taint Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	212		
METHOD	.00	1	.15	.699
RATE	5.69	4	7282.02	.000
TAINT	.03	2	67.83	.000
SAMSIZE	3.39	2	8691.75	.000
BOUND	1.50	2	3841.79	.000
METHOD BY RATE	.00	4	2.25	.065
METHOD BY SAMSIZE	.01	2	21.12	.000
METHOD BY BOUND	.00	2	.00	.996
METHOD BY TAINT	.00	2	.02	.981
RATE BY BOUND	.06	8	39.16	.000
RATE BY TAINT	.02	8	10.28	.000
RATE BY SAMSIZE	.02	8	10.87	.000
TAINT BY SAMSIZE	.00	4	5.41	.000
TAINT BY BOUND	.05	4	59.73	.000
SAMSIZE BY BOUND	.01	4	7.87	.000
(Model)	10.77	57	967.66	.000
(Total)	10.81	269		

Adjusted R-Squared = .995

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	212		
METHOD	.01	1	72.84	.000
RATE	3.14	4	4177.75	.000
TAINT	.00	2	12.87	.000
SAMSIZE	3.11	2	8272.49	.000
BOUND	1.42	2	3781.25	.000
METHOD BY RATE	.00	4	.60	.662
METHOD BY SAMSIZE	.01	2	20.81	.000
METHOD BY BOUND	.00	2	.25	.782
METHOD BY TAINT	.00	2	.01	.993
RATE BY BOUND	.06	8	38.83	.000
RATE BY TAINT	.00	8	1.08	.380
RATE BY SAMSIZE	.03	81	8.26	.000
TAINT BY SAMSIZE	.00	4	.04	.997
TAINT BY BOUND	.00	4	.26	.906
SAMSIZE BY BOUND	.02	4	23.24	.000
(Model)	7.80	57	728.44	.000
(Total)	7.84	269		

Adjusted R-Squared = .994

Lahiri and Simple Random Sampling

Precision Dependent Variable with the AON Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.05	212		
METHOD	.00	1	.75	.386
RATE	5.72	4	6444.90	.000
TAINT	.09	2	192.40	.000
SAMSIZE	3.20	2	7207.02	.000
BOUND	.01	2	22.33	.000
METHOD BY RATE	.00	4	1.87	.117
METHOD BY SAMSIZE	.01	2	18.93	.000
METHOD BY BOUND	.00	2	.00	1.000
METHOD BY TAINT	.00	2	1.28	.279
RATE BY BOUND	.14	8	77.41	.000
RATE BY TAINT	.00	8	1.88	.065
RATE BY SAMSIZE	.06	8	32.46	.000
TAINT BY SAMSIZE	.00	4	.95	.434
TAINT BY BOUND	.00	4	1.41	.230
SAMSIZE BY BOUND	.05	4	59.90	.000
(Model)	9.28	57	733.59	.000
(Total)	9.32	269		

Adjusted R-Squared = .994

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	212		
METHOD	.01	1	58.83	.000
RATE	2.58	4	3424.64	.000
TAINT	.01	2	14.65	.000
SAMSIZE	3.27	2	8682.10	.000
BOUND	.07	2	192.17	.000
METHOD BY RATE	.00	4	.82	.513
METHOD BY SAMSIZE	.01	2	17.21	.000
METHOD BY BOUND	.00	2	.35	.706
METHOD BY TAINT	.00	2	.10	.905
RATE BY BOUND	.02	8	11.87	.000
RATE BY TAINT	.00	8	.66	.724
RATE BY SAMSIZE	.03	8	22.20	.000
TAINT BY SAMSIZE	.00	4	.06	.994
TAINT BY BOUND	.00	4	.05	.996
SAMSIZE BY BOUND	.03	4	37.25	.000
(Model)	6.02	57	561.42	.000
(Total)	6.06	269		

Adjusted R-Squared = .992

Lahiri and Simple Random Sampling

Precision Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.03	212		
METHOD	.00	1	.17	.678
RATE	6.55	4	11008.79	.000
TAINT	.02	2	67.42	.000
SAMSIZE	3.21	2	10775.93	.000
BOUND	.55	2	1856.82	.000
METHOD BY RATE	.00	4	2.71	.031
METHOD BY SAMSIZE	.01	2	30.96	.000
METHOD BY BOUND	.00	2	.00	.998
METHOD BY TAINT	.00	2	.02	.982
RATE BY BOUND	.04	8	32.78	.000
RATE BY TAINT	.01	8	9.14	.000
RATE BY SAMSIZE	.02	8	12.90	.000
TAINT BY SAMSIZE	.00	4	3.92	.004
TAINT BY BOUND	.03	4	50.88	.000
SAMSIZE BY BOUND	.02	4	8.94	.000
(Model)	10.45	57	1233.02	.000
(Total)	10.49	269		

Adjusted R-Squared = .996

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.03	212		
METHOD	.01	1	96.95	.000
RATE	3.62	4	6257.17	.000
TAINT	.01	2	21.28	.000
SAMSIZE	2.99	2	10332.34	.000
BOUND	.57	2	1978.62	.000
METHOD BY RATE	.00	4	.81	.522
METHOD BY SAMSIZE	.01	2	28.99	.000
METHOD BY BOUND	.00	2	.30	.745
METHOD BY TAINT	.00	2	.01	.994
RATE BY BOUND	.03	8	26.11	.000
RATE BY TAINT	.00	8	1.71	.098
RATE BY SAMSIZE	.02	8	17.67	.000
TAINT BY SAMSIZE	.00	4	.04	.997
TAINT BY BOUND	.00	4	.09	.986
SAMSIZE BY BOUND	.02	4	38.72	.000
(Model)	7.29	57	883.70	.000
(Total)	7.32	269		

Adjusted R-Squared = .995

Lahiri and Simple Random Sampling

Precision Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	212		
METHOD	.00	1	.95	.330
RATE	6.52	4	9576.68	.000
TAINT	.10	2	291.89	.000
SAMSIZE	3.14	2	9236.19	.000
BOUND	.01	2	18.28	.000
METHOD BY RATE	.00	4	2.25	.065
METHOD BY SAMSIZE	.01	2	27.04	.000
METHOD BY BOUND	.00	2	.00	1.000
METHOD BY TAINT	.00	2	1.73	.179
RATE BY BOUND	.13	8	95.89	.000
RATE BY TAINT	.00	8	1.65	.111
RATE BY SAMSIZE	.04	8	27.82	.000
TAINT BY SAMSIZE	.00	4	.95	.437
TAINT BY BOUND	.00	4	1.95	.103
SAMSIZE BY BOUND	.05	4	79.41	.000
(Model)	10.00	57	1031.56	.000
(Total)	10.04	269		

Adjusted R-Squared = .995

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.03	212		
METHOD	.01	1	78.92	.000
RATE	3.18	4	5456.38	.000
TAINT	.01	2	22.70	.000
SAMSIZE	3.14	2	10746.27	.000
BOUND	.01	2	25.61	.000
METHOD BY RATE	.00	4	1.12	.347
METHOD BY SAMSIZE	.01	2	25.34	.000
METHOD BY BOUND	.00	2	.39	.674
METHOD BY TAINT	.00	2	.13	.875
RATE BY BOUND	.02	8	19.33	.000
RATE BY TAINT	.00	8	1.05	.399
RATE BY SAMSIZE	.02	8	20.10	.000
TAINT BY SAMSIZE	.00	4	.10	.984
TAINT BY BOUND	.00	4	.08	.989
SAMSIZE BY BOUND	.03	4	56.05	.000
(Model)	6.43	57	773.66	.000
(Total)	6.46	269		

Adjusted R-Squared = .994

Lahiri and Simple Random Sampling

Precision Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.02	212		
METHOD	.00	1	.17	.684
RATE	7.44	4	16581.64	.000
TAINT	.02	2	71.90	.000
SAMSIZE	2.99	2	13347.51	.000
BOUND	.14	2	633.96	.000
METHOD BY RATE	.00	4	3.23	.013
METHOD BY SAMSIZE	.01	2	45.97	.000
METHOD BY BOUND	.00	2	.00	1.000
METHOD BY TAINT	.00	2	.02	.983
RATE BY BOUND	.05	8	54.94	.000
RATE BY TAINT	.01	8	8.11	.000
RATE BY SAMSIZE	.01	8	13.24	.000
TAINT BY SAMSIZE	.00	4	2.64	.035
TAINT BY BOUND	.02	4	43.70	.000
SAMSIZE BY BOUND	.034	67.55	.000	
(Model)	10.72	57	1677.27	.000
(Total)	10.74	269		

Adjusted R-Squared = .997

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.02	212		
METHOD	.01	1	127.57	.000
RATE	4.17	4	9200.65	.000
TAINT	.01	2	32.65	.000
SAMSIZE	2.79	2	12339.18	.000
BOUND	.11	2	506.13	.000
METHOD BY RATE	.00	4	1.08	.366
METHOD BY SAMSIZE	.01	2	40.34	.000
METHOD BY BOUND	.00	2	.38	.687
METHOD BY TAINT	.00	2	.01	.993
RATE BY BOUND	.02	8	23.61	.000
RATE BY TAINT	.00	8	2.55	.011
RATE BY SAMSIZE	.02	8	17.18	.000
TAINT BY SAMSIZE	.00	4	.05	.996
TAINT BY BOUND	.00	4	.07	.992
SAMSIZE BY BOUND	.03	4	65.23	.000
(Model)	7.18	57	1111.93	.000
(Total)	7.20	269		

Adjusted R-Squared = .996

Lahiri and Simple Random Sampling

Precision Dependent Variable with the AON Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.03	212		
METHOD	.00	1	1.12	.291
RATE	7.53	4	13752.41	.000
TAINT	.12	2	425.27	.000
SAMSIZE	2.95	2	10789.09	.000
BOUND	.07	2	240.52	.000
METHOD BY RATE	.00	4	2.53	.041
METHOD BY SAMSIZE	.01	2	37.43	.000
METHOD BY BOUND	.00	2	.00	.999
METHOD BY TAINT	.00	2	2.26	.107
RATE BY BOUND	.13	8	121.73	.000
RATE BY TAINT	.00	8	1.44	.181
RATE BY SAMSIZE	.02	8	21.92	.000
TAINT BY SAMSIZE	.00	4	.94	.444
TAINT BY BOUND	.00	4	2.73	.030
SAMSIZE BY BOUND	.06	4	101.60	.000
(Model)	10.89	57	1396.35	.000
(Total)	10.92	269		

Adjusted R-Squared = .997

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.02	212		
METHOD	.01	1	104.15	.000
RATE	3.91	4	8422.19	.000
TAINT	.01	2	34.20	.000
SAMSIZE	2.87	2	12372.00	.000
BOUND	.01	2	34.60	.000
METHOD BY RATE	.00	4	1.51	.199
METHOD BY SAMSIZE	.01	2	36.84	.000
METHOD BY BOUND	.00	2	.46	.631
METHOD BY TAINT	.00	2	.17	.841
RATE BY BOUND	.03	8	32.49	.000
RATE BY TAINT	.00	8	1.63	.119
RATE BY SAMSIZE	.02	8	18.40	.000
TAINT BY SAMSIZE	.00	4	.15	.961
TAINT BY BOUND	.00	4	.13	.973
SAMSIZE BY BOUND	.04	4	80.77	.000
(Model)	6.91	57	1043.86	.000
(Total)	6.94	269		

Adjusted R-Squared = .995

Stabilised Sieve, Sieve and Simple Random Sampling

Reliability Dependent Variable with the Taint Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	1.42	336		
METHOD	.01	2	.94	.392
RATE	4.11	4	243.00	.000
TAINT	.16	2	18.70	.000
SAMSIZE	1.33	2	157.23	.000
BOUND	.44	2	51.57	.000
METHOD BY RATE	.02	8	.70	.695
METHOD BY SAMSIZE	.02	4	.95	.437
METHOD BY BOUND	.00	4	.03	.999
METHOD BY TAINT	.00	4	.09	.987
RATE BY BOUND	.31	8	9.06	.000
RATE BY TAINT	.08	8	2.34	.019
RATE BY SAMSIZE	.92	8	27.10	.000
TAINT BY SAMSIZE	.01	4	.63	.642
TAINT BY BOUND	.24	4	14.45	.000
SAMSIZE BY BOUND	.16	4	9.28	.000
(Model)	7.79	68	27.12	.000
(Total)	9.21	404		

Adjusted R-Squared = .815

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	1.05	336	.00	
METHOD	.13	2	21.37	.000
RATE	3.92	4	313.25	.000
TAINT	.00	2	.56	.574
SAMSIZE	.64	2	101.75	.000
BOUND	.31	2	50.06	.000
METHOD BY RATE	.07	8	2.68	.007
METHOD BY SAMSIZE	.09	4	7.27	.000
METHOD BY BOUND	.00	4	.36	.834
METHOD BY TAINT	.00	4	.01	1.000
RATE BY BOUND	.64	8	25.37	.000
RATE BY TAINT	.01	8	.55	.819
RATE BY SAMSIZE	.60	8	23.93	.000
TAINT BY SAMSIZE	.01	4	.77	.545
TAINT BY BOUND	.01	4	.42	.793
SAMSIZE BY BOUND	.22	4	17.44	.000
(Model)	6.66	68	31.26	.000
(Total)	7.71	404		

Adjusted R-Squared = .836

Stabilised Sieve, Sieve and Simple Random Sampling

Reliability Dependent Variable with the AON Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.63	336		
METHOD	.01	2	1.82	.164
RATE	2.55	4	339.66	.000
TAINT	.09	2	24.98	.000
SAMSIZE	.83	2	222.32	.000
BOUND	.00	2	.13	.881
METHOD BY RATE	.01	8	.69	.700
METHOD BY SAMSIZE	.01	4	1.35	.251
METHOD BY BOUND	.00	4	.00	1.000
METHOD BY TAINT	.00	4	.27	.894
RATE BY BOUND	.01	8	.81	.592
RATE BY TAINT	.31	8	20.36	.000
RATE BY SAMSIZE	1.12	8	74.59	.000
TAINT BY SAMSIZE	.08	4	11.33	.000
TAINT BY BOUND	.00	4	.13	.973
SAMSIZE BY BOUND	.01	4	.95	.436
(Model)	5.03	68	39.48	.000
(Total	5.66	404		

Adjusted R-Squared = .866

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.34	336		
METHOD	.10	2	50.96	.000
RATE	2.51	4	612.10	.000
TAINT	.00	2	.45	.639
SAMSIZE	.17	2	81.85	.000
BOUND	.01	2	6.60	.002
METHOD BY RATE	.09	8	10.36	.000
METHOD BY SAMSIZE	.07	4	17.78	.000
METHOD BY BOUND	.00	4	.03	.998
METHOD BY TAINT	.00	4	.02	.999
RATE BY BOUND	.03	8	3.46	.001
RATE BY TAINT	.01	8	.74	.654
RATE BY SAMSIZE	1.20	8	146.03	.000
TAINT BY SAMSIZE	.01	4	2.70	.031
TAINT BY BOUND	.01	4	2.93	.021
SAMSIZE BY BOUND	.01	4	1.80	.128
(Model)	4.22	68	60.50	.000
(Total)	4.56	404		

Adjusted R-Squared = .909

Stabilised Sieve, Sieve and Simple Random Sampling

Reliability Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	2.11	336		
METHOD	.01	2	.93	.395
RATE	12.67	4	504.77	.000
TAINT	.38	2	30.11	.000
SAMSIZE	4.77	2	379.94	.000
BOUND	1.34	2	107.04	.000
METHOD BY RATE	.04	8	.75	.651
METHOD BY SAMSIZE	.04	4	1.77	.134
METHOD BY BOUND	.00	4	.10	.983
METHOD BY TAINT	.00	4	.02	.999
RATE BY BOUND	.63	8	12.63	.000
RATE BY TAINT	.20	8	4.02	.000
RATE BY SAMSIZE	2.37	8	47.27	.000
TAINT BY SAMSIZE	.06	4	2.48	.044
TAINT BY BOUND	.22	4	8.92	.000
SAMSIZE BY BOUND	.29	4	11.55	.000
(Model)	23.04	68	54.00	.000
(Total)	25.15	404		

Adjusted R-Squared = .899

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	1.49	336		
METHOD	.48	2	53.85	.000
RATE	9.21	4	520.83	.000
TAINT	.00	2	.41	.663
SAMSIZE	2.60	2	293.89	.000
BOUND	.63	2	71.55	.000
METHOD BY RATE	.04	8	1.07	.385
METHOD BY SAMSIZE	.30	4	16.80	.000
METHOD BY BOUND	.00	4	.10	.983
METHOD BY TAINT	.00	4	.04	.997
RATE BY BOUND	1.21	8	34.29	.000
RATE BY TAINT	.02	8	.64	.748
RATE BY SAMSIZE	2.49	8	70.51	.000
TAINT BY SAMSIZE	.02	4	1.15	.332
TAINT BY BOUND	.01	4	.72	.576
SAMSIZE BY BOUND	.33	4	18.49	.000
(Model)	17.35	68	57.71	.000
(Total)	18.83	404		

Adjusted R-Squared = .905

Stabilised Sieve, Sieve and Simple Random Sampling

Reliability Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	3.08	336		
METHOD	.01	2	.70	.496
RATE	10.59	4	288.72	.000
TAINT	.07	2	3.83	.023
SAMSIZE	3.62	2	197.51	.000
BOUND	.86	2	47.11	.000
METHOD BY RATE	.03	8	.36	.942
METHOD BY SAMSIZE	.03	4	.93	.444
METHOD BY BOUND	.00	4	.00	1.000
METHOD BY TAINT	.00	4	.03	.998
RATE BY BOUND	.62	8	8.47	.000
RATE BY TAINT	.48	8	6.57	.000
RATE BY SAMSIZE	4.83	8	65.82	.000
TAINT BY SAMSIZE	.14	4	3.69	.006
TAINT BY BOUND	.11	4	3.10	.016
SAMSIZE BY BOUND	.00	4	.07	.992
(Model)	21.41	68	34.33	.000
(Total)	24.49	404		

Adjusted R-Squared = .849

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	1.05	336		
METHOD	.48	2	76.80	.000
RATE	7.49	4	601.19	.000
TAINT	.01	2	1.76	.174
SAMSIZE	1.66	2	267.28	.000
BOUND	.17	2	27.77	.000
METHOD BY RATE	.04	8	1.56	.137
METHOD BY SAMSIZE	.33	4	26.58	.000
METHOD BY BOUND	.00	4	.02	.999
METHOD BY TAINT	.00	4	.01	1.000
RATE BY BOUND	.22	8	8.72	.000
RATE BY TAINT	.04	8	1.66	.108
RATE BY SAMSIZE	4.96	8	199.10	.000
TAINT BY SAMSIZE	.03	4	2.54	.040
TAINT BY BOUND	.02	4	2.00	.094
SAMSIZE BY BOUND	.13	4	10.76	.000
(Model)	15.59	68	73.64	.000
(Total)	16.64	404		

Adjusted R-Squared = .924

Stabilised Sieve, Sieve and Simple Random Sampling

Reliability Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	3.69	336		
METHOD	.01	2	.44	.645
RATE	25.19	4	573.90	.000
TAINT	.46	2	21.01	.000
SAMSIZE	5.74	2	261.60	.000
BOUND	2.93	2	1.46	.000
METHOD BY RATE	.02	8	.23	.984
METHOD BY SAMSIZE	.05	4	1.10	.356
METHOD BY BOUND	.00	4	.05	.995
METHOD BY TAINT	.00	4	.01	1.000
RATE BY BOUND	.78	8	8.94	.000
RATE BY TAINT	.57	8	6.44	.000
RATE BY SAMSIZE	4.70	8	53.51	.000
TAINT BY SAMSIZE	.06	4	1.46	.215
TAINT BY BOUND	.44	4	10.00	.000
SAMSIZE BY BOUND	.04	4	.93	.447
(Model)	40.99	68	54.93	.000
(Total)	44.68	404		

Adjusted R-Squared = .901

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	3.43	336		
METHOD	.49	2	23.89	.000
RATE	7.06	4	172.89	.000
TAINT	.10	2	4.94	.008
SAMSIZE	6.12	2	299.85	.000
BOUND	2.65	2	129.63	.000
METHOD BY RATE	.07	8	.91	.512
METHOD BY SAMSIZE	.17	4	4.28	.002
METHOD BY BOUND	.01	4	.18	.949
METHOD BY TAINT	.00	4	.01	1.000
RATE BY BOUND	1.06	8	12.94	.000
RATE BY TAINT	.46	8	5.69	.000
RATE BY SAMSIZE	6.27	8	76.75	.000
TAINT BY SAMSIZE	.22	4	5.40	.000
TAINT BY BOUND	.14	4	3.52	.008
SAMSIZE BY BOUND	.05	4	1.17	.322
(Model)	24.87	68	35.83	.000
(Total)	28.30	404		

Adjusted R-Squared = .854

Stabilised Sieve, Sieve and Simple Random Sampling

Reliability Dependent Variable with the AON Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	6.61	336		
METHOD	.01	2	.16	.853
RATE	25.44	4	323.21	.000
TAINT	.23	2	5.85	.003
SAMSIZE	5.98	2	151.82	.000
BOUND	3.57	2	90.65	.000
METHOD BY RATE	.01	8	.08	1.000
METHOD BY SAMSIZE	.04	4	.50	.734
METHOD BY BOUND	.00	4	.00	1.000
METHOD BY TAINT	.00	4	.01	1.000
RATE BY BOUND	1.15	8	7.33	.000
RATE BY TAINT	.23	8	1.46	.170
RATE BY SAMSIZE	7.22	8	45.88	.000
TAINT BY SAMSIZE	.07	4	.83	.508
TAINT BY BOUND	.04	4	.51	.727
SAMSIZE BY BOUND	.11	4	1.42	.227
(Model)	44.10	68	32.95	.000
(Total)	50.72	404		

Adjusted R-Squared = .843

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	4.29	336		
METHOD	.57	2	22.17	.000
RATE	5.00	4	97.98	.000
TAINT	.21	2	8.09	.000
SAMSIZE	7.37	2	288.50	.000
BOUND	2.47	2	96.66	.000
METHOD BY RATE	.06	8	.58	.793
METHOD BY SAMSIZE	.19	4	3.69	.006
METHOD BY BOUND	.01	4	.15	.962
METHOD BY TAINT	.00	4	.03	.999
RATE BY BOUND	.25	8	2.48	.012
RATE BY TAINT	.70	8	6.81	.000
RATE BY SAMSIZE	7.16	8	70.14	.000
TAINT BY SAMSIZE	.26	4	5.12	.001
TAINT BY BOUND	.23	4	4.46	.002
SAMSIZE BY BOUND	.00	4	.01	1.000
(Model)	24.47	68	28.19	.000
(Total)	28.76	404		

Adjusted R-Squared = .821

Stabilised Sieve, Sieve and Simple Random Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.08	336		
METHOD	.00	2	4.03	.019
RATE	35.10	4	35324.75	.000
TAINT	.80	2	1606.87	.000
SAMSIZE	12.16	2	24465.06	.000
BOUND	1.33	2	2672.72	.000
METHOD BY RATE	.00	8	.46	.885
METHOD BY SAMSIZE	.01	4	14.94	.000
METHOD BY BOUND	.00	4	.02	.999
METHOD BY TAINT	.00	4	.17	.954
RATE BY BOUND	.45	8	226.39	.000
RATE BY TAINT	.00	8	2.00	.045
RATE BY SAMSIZE	.10	8	49.54	.000
TAINT BY SAMSIZE	.00	4	3.69	.006
TAINT BY BOUND	.02	4	19.37	.000
SAMSIZE BY BOUND	.27	4	274.55	.000
(Model)	50.25	68	2974.62	.000
(Total)	50.33	404		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	336		
METHOD	.03	2	141.41	.000
RATE	20.06	4	44371.74	.000
TAINT	.03	2	130.77	.000
SAMSIZE	10.16	2	44938.35	.000
BOUND	2.39	2	10582.35	.000
METHOD BY RATE	.01	8	12.11	.000
METHOD BY SAMSIZE	.00	4	10.14	.000
METHOD BY BOUND	.00	4	.58	.681
METHOD BY TAINT	.00	4	.11	.979
RATE BY BOUND	.55	8	609.59	.000
RATE BY TAINT	.01	8	6.68	.000
RATE BY SAMSIZE	.08	8	85.02	.000
TAINT BY SAMSIZE	.00	4	.23	.920
TAINT BY BOUND	.00	4	4.31	.002
SAMSIZE BY BOUND	.47	4	1040.01	.000
(Model)	33.80	68	4397.08	.000
(Total)	33.83	404		

Adjusted R-Squared = .999

Stabilised Sieve, Sieve and Simple Random Sampling

Tightness Dependent Variable with the AON Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.03	336		
METHOD	.00	2	7.73	.001
RATE	29.18	4	82719.36	.000
TAINT	.45	2	2578.67	.000
SAMSIZE	9.69	2	54928.91	.000
BOUND	.01	2	76.88	.000
METHOD BY RATE	.00	8	1.35	.218
METHOD BY SAMSIZE	.01	4	33.78	.000
METHOD BY BOUND	.00	4	.02	.999
METHOD BY TAINT	.00	4	.73	.575
RATE BY BOUND	.06	8	84.55	.000
RATE BY TAINT	.00	8	3.69	.000
RATE BY SAMSIZE	.20	8	276.58	.000
TAINT BY SAMSIZE	.00	4	7.63	.000
TAINT BY BOUND	.00	4	2.43	.048
SAMSIZE BY BOUND	.04	4	102.58	.000
(Model)	39.65	68	6611.47	.000
(Total)	39.68	404		

Adjusted R-Squared = .999

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.01	336		
METHOD	.03	2	335.40	.000
RATE	16.57	4	97840.29	.000
TAINT	.03	2	337.42	.000
SAMSIZE	7.94	2	93762.66	.000
BOUND	.00	2	25.96	.000
METHOD BY RATE	.01	8	22.46	.000
METHOD BY SAMSIZE	.00	4	23.31	.000
METHOD BY BOUND	.00	4	.24	.913
METHOD BY TAINT	.00	4	.31	.873
RATE BY BOUND	.09	8	261.33	.000
RATE BY TAINT	.01	8	18.09	.000
RATE BY SAMSIZE	.13	8	382.99	.000
TAINT BY SAMSIZE	.00	4	1.03	.390
TAINT BY BOUND	.00	4	.73	.570
SAMSIZE BY BOUND	.06	4	380.40	.000
(Model)	24.87	68	8638.05	.000
(Total)	24.89	404		

Adjusted R-Squared = .999

Stabilised Sieve, Sieve and Simple Random Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.10	336		
METHOD	.00	2	7.38	.001
RATE	34.47	4	28887.21	.000
TAINT	.83	2	1391.17	.000
SAMSIZE	12.42	2	20809.77	.000
BOUND	1.52	2	2552.94	.000
METHOD BY RATE	.00	8	.77	.630
METHOD BY SAMSIZE	.03	4	26.77	.000
METHOD BY BOUND	.00	4	.10	.981
METHOD BY TAINT	.00	4	.36	.839
RATE BY BOUND	.47	8	198.54	.000
RATE BY TAINT	.00	8	1.98	.048
RATE BY SAMSIZE	.10	8	43.97	.000
TAINT BY SAMSIZE	.00	4	3.49	.008
TAINT BY BOUND	.03	4	21.85	.000
SAMSIZE BY BOUND	.30	4	247.57	.000
(Model)	50.19	68	2474.03	.000
(Total)	50.29	404		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.06	336		
METHOD	.07	2	205.93	.000
RATE	19.43	4	28250.13	.000
TAINT	.03	2	87.39	.000
SAMSIZE	10.06	2	29238.79	.000
BOUND	2.01	2	5839.90	.000
METHOD BY RATE	.03	8	18.42	.000
METHOD BY SAMSIZE	.01	4	15.09	.000
METHOD BY BOUND	.00	4	1.43	.224
METHOD BY TAINT	.00	4	.16	.960
RATE BY BOUND	.61	8	444.22	.000
RATE BY TAINT	.01	8	4.46	.000
RATE BY SAMSIZE	.11	8	78.41	.000
TAINT BY SAMSIZE	.00	4	.17	.955
TAINT BY BOUND	.00	4	2.47	.044
SAMSIZE BY BOUND	.51	4	737.12	.000
(Model)	32.87	68	2810.80	.000
(Total)	32.93	404		

Adjusted R-Squared = .998

Stabilised Sieve, Sieve and Simple Random Sampling

Tightness Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.06	336		
METHOD	.00	2	8.86	.000
RATE	28.70	4	42672.23	.000
TAINT	.45	2	1335.83	.000
SAMSIZE	9.99	2	29696.25	.000
BOUND	.40	2	1193.65	.000
METHOD BY RATE	.00	8	1.38	.205
METHOD BY SAMSIZE	.03	4	37.76	.000
METHOD BY BOUND	.00	4	.02	.999
METHOD BY TAINT	.00	4	.84	.503
RATE BY BOUND	.07	8	50.29	.000
RATE BY TAINT	.00	8	2.57	.010
RATE BY SAMSIZE	.22	8	166.75	.000
TAINT BY SAMSIZE	.00	4	4.78	.001
TAINT BY BOUND	.00	4	1.38	.240
SAMSIZE BY BOUND	.05	4	67.44	.000
(Model)	39.91	68	3490.81	.000
(Total)	39.97	404		

Adjusted R-Squared = .998

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.03	336		
METHOD	.06	2	318.21	.000
RATE	16.02	4	43249.25	.000
TAINT	.03	2	150.33	.000
SAMSIZE	7.91	2	42722.82	.000
BOUND	.33	2	1781.90	.000
METHOD BY RATE	.02	8	23.29	.000
METHOD BY SAMSIZE	.01	4	23.34	000
METHOD BY BOUND	.00	4	.57	.688
METHOD BY TAINT	.00	4	.29	.881
RATE BY BOUND	.11	8	155.11	.000
RATE BY TAINT	.01	8	7.89	.000
RATE BY SAMSIZE	.16	8	221.00	.000
TAINT BY SAMSIZE	.00	4	.57	.685
TAINT BY BOUND	.00	4	.43	.789
SAMSIZE BY BOUND	.09	4	248.07	.000
(Model)	24.75	68	3930.81	.000
(Total)	24.78	404		

Adjusted R-Squared = .998

Stabilised Sieve, Sieve and Simple Random Sampling

Tightness Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.15	336		
METHOD	.01	2	12.99	.000
RATE	35.67	4	20188.83	.000
TAINT	.94	2	1060.12	.000
SAMSIZE	13.35	2	15112.94	.000
BOUND	2.19	2	2479.00	.000
METHOD BY RATE	.00	8	1.25	.269
METHOD BY SAMSIZE	.08	4	46.43	.000
METHOD BY BOUND	.00	4	.31	.870
METHOD BY TAINT	.00	4	.73	.571
RATE BY BOUND	.34	8	97.17	.000
RATE BY TAINT	.01	8	1.75	.087
RATE BY SAMSIZE	.12	8	32.97	.000
TAINT BY SAMSIZE	.01	4	3.00	.019
TAINT BY BOUND	.01	4	2	.000
SAMSIZE BY BOUND	.24	4	138.59	.000
(Model)	53.01	68	1764.92	.000
(Total)	53.16	404		

Adjusted R-Squared = .997

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.14	336		
METHOD	.19	2	219.53	.000
RATE	19.89	4	11536.50	.000
TAINT	.03	2	38.97	.000
SAMSIZE	10.31	2	11964.40	.000
BOUND	2.39	2	2767.38	.000
METHOD BY RATE	.07	8	21.05	.000
METHOD BY SAMSIZE	.03	4	16.75	.000
METHOD BY BOUND	.00	4	2.03	.089
METHOD BY TAINT	.00	4	.17	.953
RATE BY BOUND	.54	8	156.95	.000
RATE BY TAINT	.01	8	2.00	.046
RATE BY SAMSIZE	.21	8	60.48	.000
TAINT BY SAMSIZE	.00	4	.09	.986
TAINT BY BOUND	.00	4	.56	.691
SAMSIZE BY BOUND	.47	4	270.98	.000
(Model)	34.14	68	1164.89	.000
(Total)	34.29	404		

Adjusted R-Squared = .995

Stabilised Sieve, Sieve and Simple Random Sampling

Tightness Dependent Variable with the AON Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.15	336		
METHOD	.01	2	9.03	.000
RATE	31.13	4	17078.55	.000
TAINT	.49	2	536.79	.000
SAMSIZE	11.33	2	12435.70	.000
BOUND	2.76	2	3027.55	.000
METHOD BY RATE	.00	8	1.20	.296
METHOD BY SAMSIZE	.07	4	39.44	.000
METHOD BY BOUND	.00	4	.10	.982
METHOD BY TAINT	.00	4	.92	.450
RATE BY BOUND	.07	8	17.98	.000
RATE BY TAINT	.01	8	1.38	.203
RATE BY SAMSIZE	.28	8	76.66	.000
TAINT BY SAMSIZE	.00	4	2.49	.043
TAINT BY BOUND	.00	4	.32	.865
SAMSIZE BY BOUND	.04	4	21.80	.000
(Model)	46.20	68	1490.74	.000
(Total)	46.35	404		

Adjusted R-Squared = .996

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.11	336		
METHOD	.16	2	234.45	.000
RATE	17.04	4	12543.49	.000
TAINT	.03	2	44.07	.000
SAMSIZE	8.52	2	12534.12	.000
BOUND	2.76	2	4061.80	.000
METHOD BY RATE	.05	8	20.01	.000
METHOD BY SAMSIZE	.03	4	18.55	.000
METHOD BY BOUND	.00	4	2.90	.022
METHOD BY TAINT	.00	4	.23	.924
RATE BY BOUND	.14	8	51.36	.000
RATE BY TAINT	.01	8	2.25	.024
RATE BY SAMSIZE	.28	8	101.26	.000
TAINT BY SAMSIZE	.00	4	.23	.919
TAINT BY BOUND	.00	4	.13	.971
SAMSIZE BY BOUND	.13	4	95.83	.000
(Model)	29.14	68	1261.67	.000
(Total)	29.26	404		

Adjusted R-Squared = .995

Stabilised Sieve, Sieve and Simple Random Sampling

Precision Dependent Variable with the Taint Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.07	336		
METHOD	.01	2	37.67	.000
RATE	8.56	4	11044.98	.000
TAINT	.04	2	111.36	.000
SAMSIZE	5.01	2	12942.27	.000
BOUND	2.26	2	5820.57	.000
METHOD BY RATE	.01	8	'9.15	.000
METHOD BY SAMSIZE	.01	4	16.99	.000
METHOD BY BOUND	.00	4	.79	.534
METHOD BY TAINT	.00	4	.73	.572
RATE BY BOUND	.09	8	60.01	.000
RATE BY TAINT	.02	8	13.37	.000
RATE BY SAMSIZE	.02	8	12.64	.000
TAINT BY SAMSIZE	.01	4	7.50	.000
TAINT BY BOUND	.07	4	87.75	.000
SAMSIZE BY BOUND	.01	4	12.17	.000
(Model)	16.13	68	1224.54	.000
(Total)	16.20	404		

Adjusted R-Squared = .995

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.08	336		
METHOD	.23	2	462.02	.000
RATE	5.83	4	5813.47	.000
TAINT	.01	2	19.49	.000
SAMSIZE	6.83	2	13632.47	.000
BOUND	2.16	2	4298.59	.000
METHOD BY RATE	.04	8	18.38	.000
METHOD BY SAMSIZE	.15	4	148.12	.000
METHOD BY BOUND	.00	4	.40	.812
METHOD BY TAINT	.00	4	.18	.951
RATE BY BOUND	.10	8	48.07	.000
RATE BY TAINT	.00	8	1.36	.215
RATE BY SAMSIZE	.04	8	19.15	.000
TAINT BY SAMSIZE	.00	4	.08	.988
TAINT BY BOUND	.00	4	.30	.875
SAMSIZE BY BOUND	.04	4	37.09	.000
(Model)	15.42	68	904.70	.000
(Total)	15.51	404		

Adjusted R-Squared = .995

Stabilised Sieve, Sieve and Simple Random Sampling

Precision Dependent Variable with the AON Error Assignment at the 95% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.08	336		
METHOD	.02	2	35.98	.000
RATE	8.53	4	9443.11	.000
TAINT	.13	2	296.63	.000
SAMSIZE	4.66	2	10329.10	.000
BOUND	.01	2	33.01	.000
METHOD BY RATE	.01	8	4.93	.000
METHOD BY SAMSIZE	.01	4	9.50	.000
METHOD BY BOUND	.00	4	.01	1.000
METHOD BY TAINT	.00	4	1.38	.240
RATE BY BOUND	.20	8	111.17	.000
RATE BY TAINT	.01	8	3.33	.001
RATE BY SAMSIZE	.07	8	41.31	.000
TAINT BY SAMSIZE	.00	4	.68	.608
TAINT BY BOUND	.00	4	2.17	.072
SAMSIZE BY BOUND	.08	4	87.25	.000
(Model)	13.74	68	894.88	.000
(Total)	13.81	404		

Adjusted R-Squared = .993

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.09	336		
METHOD	.22	2	410.52	.000
RATE	4.82	4	4419.20	.000
TAINT	.01	2	18.78	.000
SAMSIZE	7.07	2	12949.26	.000
BOUND	.11	2	205.51	.000
METHOD BY RATE	.03	8	15.04	.000
METHOD BY SAMSIZE	.14	4	129.80	.000
METHOD BY BOUND	.00	4	.25	.908
METHOD BY TAINT	.00	4	.22	.928
RATE BY BOUND	.03	8	11.94	.000
RATE BY TAINT	.00	8	.60	.778
RATE BY SAMSIZE	.05	8	22.35	.000
TAINT BY SAMSIZE	.00	4	.08	.988
TAINT BY BOUND	.00	4	.05	.995
SAMSIZE BY BOUND	.06	4	56.49	.000
(Model)	12.55	68	676.35	.000
(Total)	12.64	404		

Adjusted R-Squared = .991

Stabilised Sieve, Sieve and Simple Random Sampling

Precision Dependent Variable with the Taint Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.05	336		
METHOD	.02	2	55.37	.000
RATE	9.87	4	16276.02	.000
TAINT	.03	2	110.22	.000
SAMSIZE	4.72	2	15567.23	.000
BOUND	.83	2	2741.42	.000
METHOD BY RATE	.01	8	11.80	.000
METHOD BY SAMSIZE	.01	4	22.78	.000
METHOD BY BOUND	.00	4	.36	.836
METHOD BY TAINT	.00	4	.98	.419
RATE BY BOUND	.06	8	47.33	.000
RATE BY TAINT	.01	8	11.23	.000
RATE BY SAMSIZE	.02	8	14.19	.000
TAINT BY SAMSIZE	.00	4	5.50	.000
TAINT BY BOUND	.04	4	73.12	.000
SAMSIZE BY BOUND	.03	4	42.53	.000
(Model)	15.66	68	1519.26	.000
(Total)	15.72	404		

Adjusted R-Squared = .996

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.07	336		
METHOD	.23	2	586.78	.000
RATE	6.67	4	8378.19	.000
TAINT	.01	2	30.54	.000
SAMSIZE	6.60	2	16565.95	.000
BOUND	.87	2	2177.06	.000
METHOD BY RATE	.04	8	25.03	.000
METHOD BY SAMSIZE	.15	4	187.54	.000
METHOD BY BOUND	.00	4	.32	.862
METHOD BY TAINT	.00	4	.24	.917
RATE BY BOUND	.05	8	30.93	.000
RATE BY TAINT	.00	8	2.03	.043
RATE BY SAMSIZE	.03	8	18.30	.000
TAINT BY SAMSIZE	.00	4	.09	987
TAINT BY BOUND	.00	4	.11	.980
SAMSIZE BY BOUND	.05	4	58.00	.000
(Model)	14.70	68	1085.72	.000
(Total)	14.76	404		

Adjusted R-Squared = .995

Stabilised Sieve, Sieve and Simple Random Sampling

Precision Dependent Variable with the AON Error Assignment at the 85% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.06	336		
METHOD	.02	2	48.92	.000
RATE	9.74	4	13883.74	.000
TAINT	.16	2	442.47	.000
SAMSIZE	4.56	2	13017.43	.000
BOUND	.01	2	27.00	.000
METHOD BY RATE	.01	8	6.39	.000
METHOD BY SAMSIZE	.01	4	13.35	.000
METHOD BY BOUND	.00	4	.02	.999
METHOD BY TAINT	.00	4	1.82	.124
RATE BY BOUND	.19	8	136.64	.000
RATE BY TAINT	.00	8	3.06	.002
RATE BY SAMSIZE	.05	8	34.04	.000
TAINT BY SAMSIZE	.00	4	.59	.668
TAINT BY BOUND	.00	4	2.93	.021
SAMSIZE BY BOUND	.08	4	115.72	.000
(Model)	14.83	68	1243.90	.000
(Total)	14.89	404		

Adjusted R-Squared = .995

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.07	336		
METHOD	.23	2	533.37	.000
RATE	5.89	4	6952.04	.000
TAINT	.01	2	28.82	.000
SAMSIZE	6.81	2	16067.52	.000
BOUND	.01	2	27.79	.000
METHOD BY RATE	.04	8	21.49	.000
METHOD BY SAMSIZE	.14	4	168.76	.000
METHOD BY BOUND	.00	4	.26	.902
METHOD BY TAINT	.00	4	.30	.878
RATE BY BOUND	.03	8	20.35	.000
RATE BY TAINT	.00	8	.93	.488
RATE BY SAMSIZE	.03	8	20.21	.000
TAINT BY SAMSIZE	.00	4	.09	.985
TAINT BY BOUND	.00	4	.09	.987
SAMSIZE BY BOUND	.07	4	80.31	.000
(Model)	13.27	68	920.98	.000
(Total)	13.34	404		

Adjusted R-Squared = .994

Stabilised Sieve, Sieve and Simple Random Sampling

Precision Dependent Variable with the Taint Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.04	336		
METHOD	.02	2	81.03	.000
RATE	11.23	4	23816.17	.000
TAINT	.03	2	116.44	.000
SAMSIZE	4.39	2	18629.69	.000
BOUND	.21	2	904.52	.000
METHOD BY RATE	.01	8	15.20	.000
METHOD BY SAMSIZE	.01	4	30.91	.000
METHOD BY BOUND	.00	4	.06	.993
METHOD BY TAINT	.00	4	1.35	.252
RATE BY BOUND	.07	8	77.41	.000
RATE BY TAINT	.01	8	9.28	.000
RATE BY SAMSIZE	.01	8	14.22	.000
TAINT BY SAMSIZE	.00	4	3.87	.004
TAINT BY BOUND	.03	4	61.27	.000
SAMSIZE BY BOUND	.05	4	97.14	.000
(Model)	16.08	68	2006.40	.000
(Total)	16.12	404		

Adjusted R-Squared = .997

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.05	336		
METHOD	.24	2	736.23	.000
RATE	7.63	4	11910.52	.000
TAINT	.01	2	44.96	.000
SAMSIZE	6.22	2	19426.08	.000
BOUND	.17	2	541.10	.000
METHOD BY RATE	.04	8	33.60	.000
METHOD BY SAMSIZE	.15	4	234.50	.000
METHOD BY BOUND	.00	4	.28	.888
METHOD BY TAINT	.00	4	.31	.868
RATE BY BOUND	.03	8	27.03	.000
RATE BY TAINT	.00	8	2.91	.004
RATE BY SAMSIZE	.02	8	17.82	.000
TAINT BY SAMSIZE	.00	4	.09	.986
TAINT BY BOUND	.00	4	.10	.984
SAMSIZE BY BOUND	.06	4	91.63	.000
(Model)	14.59	68	.21 1339.67	.000
(Total)	14.64	404	.04	

Adjusted R-Squared = .996

Stabilised Sieve, Sieve and Simple Random Sampling

Precision Dependent Variable with the AON Error Assignment at the 70% Nominal Confidence Level

Population 1

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.05	336		
METHOD	.02	2	64.13	.000
RATE	11.26	4	19793.84	.000
TAINT	.18	2	636.58	.000
SAMSIZE	4.26	2	14988.10	.000
BOUND	.10	2	350.78	.000
METHOD BY RATE	.01	8	7.93	.000
METHOD BY SAMSIZE	.01	4	18.26	.000
METHOD BY BOUND	.00	4	.04	.997
METHOD BY TAINT	.00	4	2.33	.056
RATE BY BOUND	.20	8	172.73	.000
RATE BY TAINT	.00	8	2.79	.005
RATE BY SAMSIZE	.03	8	26.28	.000
TAINT BY SAMSIZE	.00	4	.53	.717
TAINT BY BOUND	.00	4	4.05	.003
SAMSIZE BY BOUND	.08	4	148.68	.000
(Model)	16.16	68	1671.00	.000
(Total)	16.21	404		

Adjusted R-Squared = .996

Population 2

Source of Variation	SS	DF	F	Sig of F
WITHIN+RESIDUAL	.06	336		
METHOD	.23	2	678.62	.000
RATE	7.17	4	10645.20	.000
TAINT	.01	2	43.20	.000
SAMSIZE	6.31	2	18736.13	.000
BOUND	.01	2	36.29	.000
METHOD BY RATE	.04	8	30.06	.000
METHOD BY SAMSIZE	.14	4	214.09	.000
METHOD BY BOUND	.00	4	.29	.886
METHOD BY TAINT	.00	4	.40	.807
RATE BY BOUND	.05	8	35.74	.000
RATE BY TAINT	.00	8	1.45	.175
RATE BY SAMSIZE	.03	8	18.84	.000
TAINT BY SAMSIZE	.00	4	.11	.981
TAINT BY BOUND	.00	4	.15	.965
SAMSIZE BY BOUND	.07	4	111.12	.000
(Model)	14.07	68	1228.86	.000
(Total)	14.12	404		

Adjusted R-Squared = .995

APPENDIX E

First-Order Interactions of the ANOVA Models with Simple Random, Systematic, Cell and Sieve Sampling using the Upper Bound Estimates of the Total Error Amount with the Taint Error Assignment at the 85% and 70% Nominal Confidence Levels and with the AON Error Assignment at the 95%, 85% and 70% Nominal Confidence Levels

Table E 1.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	100.00	100.00	99.03	98.44	97.57
Systematic	100.00	100.00	99.70	99.37	98.18
Cell	100.00	100.00	99.40	98.81	97.48
Sieve	100.00	100.00	99.14	98.04	97.00

Systematic sampling has a significantly higher coverage than sieve sampling from populations with line error rates 4 and 5.

Table E 1.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	100.00	100.00	99.12	97.42	97.01
Systematic	100.00	100.00	99.96	98.80	99.24
Cell	100.00	100.00	94.48	98.60	98.08
Sieve	100.00	100.00	99.70	98.59	98.09

(i) Systematic sampling has a significantly higher coverage than simple random sampling from populations with line item error rates 4 and 5 and significantly higher coverage than cell and sieve sampling from populations with line item error rate 5.

(ii) Cell and sieve sampling have significantly higher coverages than simple random sampling from populations with line item error rates 4 and 5.

Table E 1.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	99.24	99.01	98.78
Systematic	99.65	99.61	99.09
Cell	99.42	99.30	98.70
Sieve	99.17	98.88	98.46

No significant differences

Table E 1.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	98.81	98.66	98.66
Systematic	99.68	99.58	99.54
Cell	99.24	99.23	99.23
Sieve	99.33	99.25	99.24

Systematic sampling has a significantly higher coverage than simple random sampling from populations with taint sizes 1 and 2.

Table E 1.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	99.79	98.86	98.38
Systematic	99.77	99.28	99.30
Cell	99.69	98.92	98.80
Sieve	99.75	98.34	98.43

(i) Systematic sampling has a significantly higher coverage than sieve sampling for samples of sizes 60 and 100 and has a significantly higher coverage than simple random sampling for sample size 100.

Table E 1.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	99.14	98.82	98.17
Systematic	99.77	99.28	99.76
Cell	99.41	99.28	99.01
Sieve	99.45	98.93	99.45

Systematic, cell and sieve sampling have significantly greater coverages than simple random sampling for samples of size 100 and has a significantly higher coverage than cell sampling for samples of size 100.

Table E 1.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	99.03	99.03	98.97
Systematic	99.47	99.47	99.41
Cell	99.16	99.16	99.10
Sieve	098.86	98.86	98.78

No significant differences

Table E 1.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	98.85	98.85	98.44
Systematic	99.63	99.63	99.54
Cell	99.32	99.32	99.05
Sieve	99.36	99.36	99.10

Systematic sampling has a significantly higher coverage than simple random sampling for the Stringer/Cell and the Moment bounds

Table E 1.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	638.08	323.55	229.19	140.20	105.35
Systematic	640.89	323.59	226.02	137.54	103.49
Cell	643.15	326.62	229.30	138.18	103.56
Sieve	646.64	328.09	229.71	141.13	105.38

No significant differences

Table E 1.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	316.87	253.37	187.68	114.14	85.06
Systematic	318.29	255.48	190.28	116.87	87.20
Cell	314.70	251.82	188.34	116.36	86.30
Sieve	315.00	249.34	186.77	114.56	85.30

No significant differences

Table E 1.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	308.33	298.10	255.49
Systematic	307.13	298.51	254.28
Cell	309.04	299.81	255.64
Sieve	310.89	301.76	257.92

No significant differences

Table E 1.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	196.34	191.31	186.63
Systematic	198.35	193.53	188.99
Cell	196.11	191.32	187.09
Sieve	194.83	190.05	185.70

No significant differences

Table E 1.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	438.73	255.82	167.28
Systematic	435.80	252.08	171.05
Cell	438.28	253.78	172.43
Sieve	444.26	252.37	173.93

No significant differences

Table E 1.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	281.31	169.88	123.09
Systematic	285.85	172.13	122.90
Cell	2277.97	175.20	121.34
Sieve	278.72	170.00	121.86

No significant differences

Table E 1.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	293.28	293.28	275.26
Systematic	292.66	292.66	273.60
Cell	294.45	294.45	275.59
Sieve	296.49	296.49	277.59

No significant differences

Table E 1.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	194.87	194.87	184.53
Systematic	196.65	196.65	187.58
Cell	195.11	195.11	184.29
Sieve	193.97	193.97	182.65

No significant differences

Table E 1.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	55.87	82.58	100.80	128.96	144.08
Systematic	54.27	78.31	92.57	113.94	132.24
Cell	54.57	80.90	96.12	126.05	144.52
Sieve	56.55	82.93	100.75	131.11	153.39

No significant differences

Table E 1.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	105.44	118.17	138.91	173.28	196.68
Systematic	87.85	103.88	123.12	170.14	155.67
Cell	94.99	108.98	128.49	159.32	181.11
Sieve	89.34	105.31	129.72	160.00	187.46

No significant differences

Table E 1.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	98.87	99.97	108.54
Systematic	90.13	91.75	100.92
Cell	96.52	98.14	106.63
Sieve	100.60	103.04	111.20

No significant differences

Table E 1.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	144.43	146.64	148.42
Systematic	127.30	127.78	129.31
Cell	133.13	134.31	139.29
Sieve	131.54	133.65	136.12

No significant differences

Table E 1.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	135.66	99.44	72.22
Systematic	126.07	84.41	67.32
Cell	136.46	93.66	71.17
Sieve	140.16	99.16	75.53

No significant differences

Table E 1.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	195.63	138.51	105.36
Systematic	199.01	111.53	73.85
Cell	187.45	127.62	88.66
Sieve	188.76	129.83	82.73

(i) Systematic sampling is significantly more precise than simple random cell and sieve sampling for samples of sizes 60 and 100 and significantly more precise than cell sampling for samples of size 100.

(ii) Cell and sieve sampling significantly more precise than simple random sampling for samples of size 100.

Table E 1.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	100.60	100.60	106.17
Systematic	92.83	92.83	97.14
Cell	98.74	98.74	103.81
Sieve	103.01	103.01	108.83

No significant differences

Table E 1.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	142.67	142.67	154.14
Systematic	125.06	125.06	134.27
Cell	130.94	130.94	141.84
Sieve	130.26	130.26	140.79

No significant differences

Table E 2.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	99.84	96.91	91.79	89.44	87.39
Systematic	99.96	98.23	97.02	94.75	92.03
Cell	99.85	97.21	95.59	90.99	88.28
Sieve	99.85	96.97	94.44	89.71	85.19

No significant differences

Table E 2.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	95.58	95.76	93.68	90.06	89.28
Systematic	100.00	99.22	96.71	91.00	93.91
Cell	97.70	97.20	94.73	92.68	92.10
Sieve	98.89	98.10	95.49	92.11	91.02

(i) Systematic sampling has a significantly greater coverage than simple random sampling from populations with line item error rates 1 and 5 and has a significantly greater coverage than cell sampling from populations with line item error rate 1.

(ii) Cell sampling has a significantly greater coverage than simple random sampling from populations with line item error rate 4.

(iii) Sieve sampling has a significantly greater coverage than simple random sampling from populations with line item error rate 1

Table E 2.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	95.28	95.02	93.71
Systematic	97.05	96.82	95.32
Cell	95.62	95.25	93.90
Sieve	95.14	94.79	93.23

No significant differences

Table E 2.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	92.67	93.10	92.85
Systematic	96.17	96.31	96.03
Cell	94.71	95.12	94.81
Sieve	95.09	95.96	94.98

(i) Systematic sampling has a significant greater coverage than simple random sampling from populations with taint size 1.

Table E 2.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	97.71	94.24	92.07
Systematic	97.71	95.81	95.67
Cell	97.36	94.74	92.66
Sieve	96.83	94.30	92.02

No significant differences

Table E 2.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	95.58	94.05	88.99
Systematic	95.48	96.14	96.88
Cell	96.88	94.53	93.53
Sieve	95.65	94.62	95.10

(i) Systematic and sieve sampling have significantly higher coverages than simple random sampling for samples of sizes 100.

Table E 2.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	96.41	95.86	91.75
Systematic	98.04	97.72	93.44
Cell	96.63	96.12	92.02
Sieve	96.16	95.60	91.39

No significant differences

Table E 2.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	93.78	93.60	91.24
Systematic	96.66	96.45	95.45
Cell	95.78	95.62	93.33
Sieve	95.89	95.76	93.72

Systematic sampling has a significantly higher coverage than simple random sampling with the Stringer, Cell and Moment bounds

Table E 2.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	393.46	198.49	140.07	82.50	61.78
Systematic	388.11	198.29	138.29	81.41	60.61
Cell	385.20	193.78	136.93	83.34	61.45
Sieve	389.58	197.11	137.43	82.23	61.26

No significant differences

Table E 2.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	196.87	156.65	117.65	71.02	52.59
Systematic	195.18	156.98	115.35	71.31	53.41
Cell	196.25	157.34	115.76	72.90	54.03
Sieve	198.30	156.38	115.39	71.37	52.09

No significant differences

Table E 2.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	191.70	183.82	150.27
Systematic	189.47	181.74	148.81
Cell	188.41	180.60	147.41
Sieve	189.67	181.91	149.98

No significant differences

Table E 2.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	121.57	118.66	116.27
Systematic	121.46	118.27	115.60
Cell	122.14	119.11	116.52
Sieve	121.66	118.57	115.86

No significant differences

Table E 2.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	275.38	150.17	100.24
Systematic	269.39	147.60	103.04
Cell	266.07	150.14	100.22
Sieve	270.03	149.45	100.36

No significant differences

Table E 2.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	173.36	108.39	74.75
Systematic	174.00	107.31	74.02
Cell	177.72	105.00	75.05
Sieve	176.53	106.61	73.96

No significant differences

Table E 2.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	191.70	189.03	145.06
Systematic	189.50	186.83	143.68
Cell	188.55	185.85	142.02
Sieve	190.02	187.23	143.31

No significant differences

Table E 2.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	126.71	126.17	103.61
Systematic	125.99	125.52	103.83
Cell	127.37	126.86	103.53
Sieve	126.92	126.43	102.74

No significant differences

Table E 2.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	47.46	70.56	84.18	109.24	125.56
Systematic	45.10	67.91	79.16	96.16	109.04
Cell	45.33	66.28	80.19	106.31	121.30
Sieve	47.64	69.01	84.27	111.38	128.30

No significant differences

Table E 2.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	93.28	103.67	120.86	157.30	178.84
Systematic	74.34	89.15	105.99	152.20	143.28
Cell	83.16	96.54	113.07	143.14	167.48
Sieve	77.91	91.17	111.58	146.26	173.48

No significant differences

Table E 2.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	86.31	86.79	89.10
Systematic	78.21	78.71	81.52
Cell	82.60	83.15	85.90
Sieve	86.61	87.24	90.16

No significant differences

Table E 2.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	129.16	130.39	132.82
Systematic	112.07	112.61	114.29
Cell	119.50	120.43	122.10
Sieve	118.83	119.81	121.81

No significant differences

Table E 2.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	119.17	82.03	60.99
Systematic	110.23	72.65	55.57
Cell	113.04	80.07	58.51
Sieve	120.25	82.24	61.88

No significant differences

Table E 2.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	174.14	122.51	95.72
Systematic	177.84	95.77	65.37
Cell	167.56	114.46	80.01
Sieve	174.17	111.81	74.47

(i) Systematic sampling significantly more precise than simple random sampling for samples of sizes 60 and 100.

(ii) Cell and sieve sampling significantly more precise than simple random sampling for samples of sizes 100.

Table E 2.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	87.77	88.26	86.17
Systematic	79.96	80.39	78.09
Cell	84.35	84.83	82.46
Sieve	88.60	89.05	86.72

No significant differences

Table E 2.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	129.27	129.32	133.36
Systematic	112.22	112.18	114.58
Cell	119.27	119.34	123.42
Sieve	118.85	118.90	122.69

No significant differences

Table E 3.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	100.00	95.33	93.65	90.62	89.80
Systematic	100.00	96.67	94.78	93.28	91.07
Cell	100.00	96.66	95.03	91.01	88.76
Sieve	100.00	96.06	93.87	90.51	88.04

No significant differences

Table E 3.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	96.47	96.34	93.45	89.28	89.75
Systematic	100.00	99.19	96.50	91.16	95.17
Cell	98.01	97.36	95.46	92.36	92.25
Sieve	99.16	98.19	95.44	91.78	91.32

(i) Systematic sampling has a significantly higher coverage than simple random sampling from populations with line item error rates 1 and 5 and significantly higher coverage than cell and sieve for populations with line item error rate 5.

(ii) Cell sampling has a significantly higher coverage than simple random sampling from populations with line item error rates 4 and 5.

(iii) Sieve sampling has a significantly higher coverage than simple random sampling from populations with line item error rate 4.

Table E 3.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	93.84	93.93	93.88
Systematic	95.35	95.24	94.89
Cell	94.42	94.39	94.06
Sieve	93.83	93.62	93.63

No significant differences

Table E 3.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	92.99	93.40	92.79
Systematic	96.32	96.58	96.30
Cell	94.94	95.40	94.94
Sieve	95.17	95.46	94.90

Systematic sampling has a significantly higher coverage than simple random sampling for all taint sizes

Table E 3.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	96.81	94.25	90.58
Systematic	96.98	94.95	93.54
Cell	96.20	94.51	92.12
Sieve	96.53	93.14	91.41

No significant differences

Table E 3.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	95.35	93.55	90.27
Systematic	96.42	95.50	97.29
Cell	99.60	95.07	93.62
Sieve	96.21	93.96	95.36

(i) Systematic sampling has a significantly higher coverage than simple random, cell and sieve sampling for samples of size 100.

(ii) Cell sampling has a significantly higher coverage than simple random sampling for samples of size 100.

(iii) Sieve sampling has a significantly higher coverage than simple random sampling for samples of size 100.

Table E 3.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	95.22	95.22	91.21
Systematic	96.48	96.48	92.53
Cell	95.57	95.57	91.74
Sieve	94.98	94.98	91.12

No significant differences

Table E 3.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	93.72	93.72	91.73
Systematic	96.74	96.74	95.73
Cell	95.66	95.66	933.96
Sieve	95.74	95.74	94.05

Systematic sampling has a significantly higher coverage than simple random sampling for the Stringer/Cell and Moment bounds.

Table E 3.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	395.48	200.25	142.04	87.46	65.91
Systematic	397.89	200.15	139.10	84.92	64.13
Cell	399.81	202.88	142.02	85.63	64.30
Sieve	402.90	204.22	142.50	88.32	66.04

No significant differences

Table E 3.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	196.43	157.10	116.13	70.46	52.79
Systematic	197.19	158.52	118.10	72.96	54.58
Cell	1194.35	155.57	116.57	72.37	53.87
Sieve	194.53	153.34	115.14	70.74	52.96

No significant differences

Table E 3.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	191.37	184.76	158.55
Systematic	190.18	184.18	157.36
Cell	191.92	186.26	158.61
Sieve	193.63	188.07	160.70

No significant differences

Table E 3.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	121.69	118.50	115.56
Systematic	123.21	120.20	117.40
Cell	121.38	118.40	115.86
Sieve	120.21	117.24	114.59

No significant differences

Table E 3.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	274.01	159.06	101.62
Systematic	271.29	155.59	104.84
Cell	273.58	157.13	106.72
Sieve	279.92	155.96	107.51

No significant differences

Table E 3.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	174.90	104.58	76.27
Systematic	178.86	106.29	75.66
Cell	171.95	109.19	74.50
Sieve	172.61	104.57	74.86

No significant differences

Table E 3.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	188.89	188.89	156.90
Systematic	188.18	188.18	155.37
Cell	189.83	189.83	157.13
Sieve	191.73	191.73	158.94

No significant differences

Table E 3.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	125.73	125.73	104.29
Systematic	127.19	127.19	106.43
Cell	125.83	125.83	103.97
Sieve	124.75	124.75	102.54

No significant differences

Table E 3.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	48.35	71.97	88.67	116.13	132.21
Systematic	46.92	68.10	81.29	102.43	121.13
Cell	47.18	75.51	84.49	113.41	132.41
Sieve	48.95	72.29	88.69	118.10	140.77

No significant differences

Table E 3.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	91.92	103.56	123.08	157.48	182.59
Systematic	76.16	90.76	108.76	154.60	144.78
Cell	82.58	95.30	113.63	144.80	168.19
Sieve	77.61	92.05	111.99	145.37	174.30

No significant differences

Table E 3.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	87.97	89.07	97.35
Systematic	80.03	81.57	90.33
Cell	85.84	87.40	95.56
Sieve	89.61	91.87	99.81

No significant differences

Table E 3.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	129.71	131.84	133.63
Systematic	114.20	114.67	116.17
Cell	118.45	120.63	122.62
Sieve	118.10	121.13	122.56

No significant differences

Table E 3.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	120.84	88.71	64.84
Systematic	112.00	79.36	60.03
Cell	121.45	83.39	63.42
Sieve	124.95	88.34	63.38

No significant differences

Table E 3.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	175.04	124.43	65.35
Systematic	178.05	99.71	35.39
Cell	167.70	114.57	52.56
Sieve	169.04	116.57	45.44

(i) Systematic sampling significantly more precise than simple random and sieve sampling for samples of size 60 and significantly more precise than simple random, cell and sieve sampling for samples of size 100.

(ii) Cell and sieve sampling significantly more precise than simple random sampling for samples of size 100.

Table E 3.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	91.43	91.43	91.52
Systematic	84.19	84.19	83.54
Cell	89.69	89.69	89.43
Sieve	93.69	93.69	93.90

No significant differences

Table E 3.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	130.65	130.65	133.88
Systematic	114.37	114.37	116.30
Cell	119.85	119.85	123.00
Sieve	119.30	119.30	122.19

No significant difference

Table E 4.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	98.26	89.39	84.13	77.40	75.56
Systematic	98.36	90.77	84.14	80.91	79.21
Cell	98.17	89.83	84.72	73.31	76.86
Sieve	98.26	89.73	76.87	73.28	72.66

No significant differences

Table E 4.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	84.71	83.72	78.51	79.67	76.60
Systematic	91.78	90.76	82.67	80.87	81.99
Cell	87.58	85.86	79.97	82.53	78.87
Sieve	89.86	87.64	80.63	82.21	77.21

Systematic sampling has a significantly higher error coverage than simple random sampling and sieve sampling from populations with line item error rate 5.

Table E 4.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	85.97	85.66	83.20
Systematic	87.75	87.34	84.96
Cell	86.65	86.33	83.75
Sieve	85.80	85.52	82.90

No significant differences

Table E 4.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	81.68	80.47	79.77
Systematic	86.80	85.38	84.67
Cell	84.01	82.80	82.07
Sieve	84.71	83.20	82.54

No significant differences

Table E 4.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	90.63	84.12	80.08
Systematic	90.96	85.66	83.42
90.40	85.25	81.08	79.48
Sieve	89.768	85.58	79.96

No significant differences

Table E 4.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	87.55	77.50	76.88
Systematic	87.00	83.59	86.25
Cell	89.40	78.33	81.15
Sieve	87.64	79.39	83.53

(i) Systematic sampling has a significantly higher coverage than simple random and sieve sampling for samples of size 60 and significantly higher than simple random and cell sampling for samples of size 100.

(ii) Sieve sampling has significantly higher coverage than simple random sampling for samples of size 100.

Table E 4.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	88.22	87.72	78.89
Systematic	89.79	89.42	80.83
Cell	88.77	88.30	79.60
Sieve	88.03	87.58	78.60

No significant differences

Table E 4.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	84.17	84.09	73.66
Systematic	89.02	88.91	78.91
Cell	86.49	86.40	76.00
Sieve	87.21	87.12	76.23

Systematic sampling has a significantly higher coverage than simple random sampling with the Stringer bound.

Table E 4.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	40.078	119.44	83.27	47.52	35.32
Systematic	234.97	119.11	81.70	46.46	34.17
Cell	233.03	115.40	80.58	48.30	35.02
Sieve	237.17	118.38	81116	47.34	34.90

No significant differences

Table E 4.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	114.66	89.96	66.51	38.82	28.27
Systematic	112.58	89.82	39.10	28.85	25.64
Cell	113.82	90.36	65.20	40.37	29.53
Sieve	115.43	89.39	64.82	39.03	27.76

No significant differences

Table E 4.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	115.32	110.42	89.63
Systematic	113.26	108.46	88.17
Cell	112.50	107.67	87.22
Sieve	113.71	108.93	86.70

No significant differences

Table E 4.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	69.29	67.53	66.09
Systematic	68.88	66.90	65.24
Cell	69.64	67.77	66.16
Sieve	69.14	67.21	65.51

No significant differences

Table E 4.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	169.07	88.66	57.64
Systematic	163.55	86.31	60.00
Cell	161.05	88.79	57.56
Sieve	165.39	88.24	57.71

No significant differences

Table E 4.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	100.09	61.76	41.08
Systematic	100.67	60.43	39.93
Cell	103.74	58.72	41.10
Sieve	102.69	59.13	40.03

No significant differences

Table E 4.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	118.95	117.61	78.79
Systematic	116.95	115.60	77.30
Cell	116.17	114.80	76.41
Sieve	117.52	116.11	77.72

No significant differences

Table E 4.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	77.13	76.86	48.92
Systematic	76.33	76.09	49.60
Cell	75.58	77.32	47.62
Sieve	77.10	76.85	46.90

No significant differences

Table E 4.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	39.99	60.71	73.42	98.06	114.98
Systematic	37.91	58.11	68.90	86.31	99.88
Cell	38.01	56.86	69.87	95.32	111.00
Sieve	40.09	59.36	73.59	100.11	117.58

No significant differences

Table E 4.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	80.47	90.10	106.29	142.60	165.49
Systematic	63.71	77.17	92.97	137.57	132.59
Cell	71.52	83.73	99.22	129.64	155.03
Sieve	66.87	78.97	97.99	132.50	161.00

Table E 4.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	76.61	76.93	78.70
Systematic	69.21	69.58	71.87
Cell	73.24	73.62	75.77
Sieve	76.94	77.41	80.09

No significant differences

Table E 4.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	115.32	116.60	119.05
Systematic	99.87	100.42	102.09
Cell	106.60	107.58	109.31
Sieve	106.09	107.12	109.17

No significant differences

Table E 4.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	104.55	72.84	54.87
Systematic	96.36	64.11	50.20
Cell	98.91	70.05	52.68
Sieve	105.63	73.03	55.78

No significant differences

Table E 4.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	154.03	109.91	87.03
Systematic	156.95	85.70	59.73
Cell	148.25	102.51	72.73
Sieve	154.32	100.21	67.85

(i) Systematic sampling is significantly more precise than simple random sampling for samples of sizes 60 and 100.

(ii) Cell and sieve sampling are significantly more precise than simple random sampling for samples of size 100.

Table E 4.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	79.21	79.44	73.60
Systematic	71.99	72.19	66.48
Cell	76.02	76.26	70.35
Sieve	79.97	80.18	74.28

No significant differences

Table E 4.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	117.74	117.76	115.46
Systematic	101.91	101.89	99.58
Cell	108.55	108.59	106.88
Sieve	108.24	108.27	105.88

No significant differences

Table E 5.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	98.70	87.87	80.91	75.70	76.13
Systematic	98.86	88.46	81.42	78.52	77.73
Cell	98.74	89.22	82.86	75.44	75.53
Sieve	98.82	88.31	81.47	76.09	74.71

Systematic sampling has a significantly higher coverage than sieve sampling from populations with line item error rate 5.

Table E 5.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	84.10	83.14	77.28	79.40	75.90
Systematic	91.13	90.24	82.10	81.01	82.40
Cell	87.76	86.20	79.76	82.61	79.34
Sieve	89.18	86.78	79.83	81.53	76.90

No significant differences

Table E 5.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	84.02	84.46	83.11
Systematic	85.39	85.99	83.61
Cell	84.62	85.22	83.23
Sieve	84.18	84.56	82.90

No significant differences

Table E 5.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	81.32	79.68	78.88
Systematic	86.43	85.30	84.40
Cell	84.32	82.96	82.13
Sieve	84.17	82.70	81.67

No significant differences

Table E 5.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	89.78	84.08	77.72
Systematic	89.98	84.40	80.61
Cell	88.90	84.67	79.50
Sieve	89.53	83.01	79.10

No significant differences

Table E 5.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	87.73	74.69	77.47
Systematic	88.17	81.65	86.30
Cell	88.69	79.38	81.34
Sieve	88.53	76.94	83.06

(i) Systematic sampling has a significantly higher coverage than simple random and sieve sampling for samples of size 60 and has a significantly higher coverage than cell sampling for samples of size 100.

(ii) Cell sampling has a significantly higher coverage than simple random sampling for samples of sizes 60 and 100.

(iii) Sieve sampling has a significantly higher cover than simple random sampling for samples of size 100.

Table E 5.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	87.60	87.60	76.40
Systematic	88.86	88.86	77.27
Cell	88.15	88.15	76.78
Sieve	87.60	87.60	76.45

No significant differences

Table E 5.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	83.06	83.06	73.77
Systematic	88.44	88.44	79.24
Cell	86.36	86.36	76.66
Sieve	86.10	86.10	76.34

Systematic sampling has a significantly higher coverage than simple random sampling with the Stringer/Cell bound.

Table E 5.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	234.86	115.81	80.87	48.84	34.28
Systematic	236.85	115.60	78.17	46.42	34.58
Cell	238.48	118.03	80.75	47.19	34.84
Sieve	241.18	119.23	81.28	49.64	36.50

No significant differences

Table E 5.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	113.76	89.99	65.16	38.02	28.15
Systematic	113.95	90.87	66.61	40.30	29.62
Cell	111.75	88.50	65.39	39.64	29.08
Sieve	111.80	86.51	64.11	38.18	28.26

No significant differences

Table E 5.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	111.35	107.16	91.49
Systematic	110.16	106.50	90.31
Cell	111.75	108.38	91.45
Sieve	113.30	110.04	93.35

No significant differences

Table E 5.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	68.93	66.95	65.16
Systematic	70.04	68.21	66.56
Cell	68.55	66.75	65.32
Sieve	67.46	65.68	64.16

No significant differences

Table E 5.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	162.39	92.20	55.41
Systematic	159.85	88.99	58.13
Cell	161.97	90.35	59.24
Sieve	166.67	89.41	60.61

No significant differences

Table E 5.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	100.88	58.06	42.10
Systematic	104.40	59.29	41.12
Cell	98.30	62.01	40.31
Sieve	98.87	57.91	40.53

No significant differences

Table E 5.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	116.36	116.36	77.28
Systematic	115.56	115.56	75.85
Cell	117.09	117.09	77.40
Sieve	118.84	118.84	79.02

No significant differences

Table E 5.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	76.25	76.25	48.55
Systematic	77.41	77.41	49.98
Cell	76.23	76.23	48.17
Sieve	75.20	75.20	46.90

No significant differences

Table E 5.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	41.28	62.20	77.54	104.23	120.99
Systematic	40.00	58.67	70.94	91.78	110.66
Cell	40.23	60.93	73.80	101.70	120.98
Sieve	41.80	62.49	77.62	106.04	128.85

No significant differences

Table E 5.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	79.45	90.14	108.53	142.71	169.04
Systematic	65.32	78.60	95.49	139.98	134.23
Cell	71.13	82.73	99.97	131.21	155.75
Sieve	66.78	79.84	98.44	131.65	161.58

Systematic sampling is significantly more precise than simple random sampling from populations with line item error rate 5.

Table E 5.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	77.87	78.94	86.93
Systematic	70.65	72.11	80.47
Cell	75.92	77.41	85.25
Sieve	79.40	81.49	89.11

No significant differences

Table E 5.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	116.01	118.06	119.86
Systematic	101.92	102.40	103.86
Cell	106.72	107.89	109.87
Sieve	105.57	107.51	109.89

No significant differences

Table E 5.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	106.45	78.97	58.33
Systematic	98.36	70.26	54.62
Cell	106.89	74.10	57.59
Sieve	110.20	78.56	61.32

No significant differences

Table E 5.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	155.07	111.68	87.18
Systematic	157.67	89.02	61.48
Cell	148.55	102.77	73.16
Sieve	149.88	104.58	68.52

(i) Systematic sampling is significantly more precise than simple random sampling for samples of sizes 60 and 100.

(ii) Cell and sieve sampling are significantly more precise than simple random sampling for samples of size 100.

Table E 5.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	82.58	82.58	78.59
Systematic	75.85	75.85	71.53
Cell	80.93	80.93	76.72
Sieve	84.68	84.68	80.71

No significant differences

Table E 5.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	118.96	118.96	116.00
Systematic	103.90	103.90	100.37
Cell	109.05	109.05	106.37
Sieve	108.60	108.60	105.77

No significant differences

APPENDIX F

First-Order Interactions of the ANOVA Models with Lahiri and Simple Random Sampling using the Upper Bound Estimates of the Total Error Amount with the Taint Error Assignment at the 85% and 70% Nominal Confidence Levels and with the AON Error Assignment at the 95%, 85% and 70% Nominal Confidence Levels

Table F 1.1 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 1 with the AON Error Assignment at the 85% Nominal Confidence Level.

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	99.01	2.86	102.46
SRS	99.01	2.87	102.60

Table F 1.2 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 2 with the AON Error Assignment at the 95% Nominal Confidence Level.

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	98.52	192.40	151.30
SRS	98.71	191.42	146.50

Table F 1.3 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 1 with the AON Error Assignment at the 95% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	100.00(100.00)	640.05(638.08)	55.47(55.87)
Rate 2	100.00(100.00)	321.00(323.55)	81.73(82.58)
Rate 3	99.3(99.0)	226.32(229.19)	100.03(100.80)
Rate 4	98.4(93.7)	137.46(140.20)	129.52(128.96)
Rate 5	97.3(97.60)	103.73(105.35)	146.25(144.08)

Table F 1.4 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 2 with the AON Error Assignment at the 95% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	100.00(100.00)	319.39(316.87)	108.39(105.44)
Rate 2	100.00(100.00)	253.82(253.37)	123.95(118.17)
Rate 3	98.2(99.1)	187.32(187.68)	142.41(138.91)
Rate 4	96.6(97.4)	115.39(114.14)	179.69(173.28)
Rate 5	97.2(97.0)	86.11(85.06)	202.08(196.68)

Table F 1.5 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 1 with the AON Error Assignment at the 95% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	99.25(99.24)	306.07(308.33)	98.91(98.86)
Taint 2	99.09(99.01)	297.29(298.00)	100.97(99.97)
Taint 3	98.70(98.78)	253.77(255.49)	107.91(108.54)

Table F 1.6 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 2 with the AON Error Assignment at the 95% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	98.63(98.81)	197.13(196.33)	149.60(144.43)
Taint 2	98.48(98.66)	192.22(191.30)	151.21(146.64)
Taint 3	98.46(98.66)	187.86(186.63)	153.09(148.42)

Table F 1.7 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 1 with the AON Error Assignment at the 95% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	99.69(99.79)	436.58(438.73)	138.80(135.66)
n = 60	98.69(98.86)	249.57(255.82)	96.44(96.49)
n = 100	98.66(98.38)	170.98(167.27)	72.57(72.22)

Table F 1.8 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 2 with the AON Error Assignment at the 95% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	99.36(99.14)	286.85(281.31)	205.94(195.63)
n = 60	98.49(98.82)	169.83(169.88)	139.48(138.51)
n = 100	98.17(97.71)	120.53(123.09)	108.49(105.36)

Table F 1.9 The Average Performance Measures for Each Bound for Audit Population Generated from Population 1 with the AON Error Assignment at the 95% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	99.02(99.03)	291.83(293.28)	100.82(100.06)
Cell	99.02(99.03)	291.83(293.28)	100.82(100.06)
Moment	98.98(98.97)	273.48(275.26)	106.16(106.17)

Table F 1.10 The Average Performance Measures for Each Bound for Audit Population Generated from Population 2 with the AON Error Assignment at the 95% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	98.66(98.85)	195.81(194.87)	147.04(142.67)
Cell	98.66(98.85)	195.81(194.87)	147.04(142.67)
Moment	98.24(98.44)	185.58(184.53)	159.83(154.14)

Table F 2.1 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 1 with the Taint Error Assignment at the 85% Nominal Confidence Level.

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	94.65	173.15	86.87
SRS	94.67	175.26	87.34

Table F 2.2 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 2 with the Taint Error Assignment at the 85% Nominal Confidence Level.

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	92.92	115.41	132.79
SRS	92.87	118.41	130.79

Table F 2.3 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 1 with the Taint Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	99.8(99.8)	392.15(393.46)	47.46(48.41)
Rate 2	97.0(96.6)	196.23(198.48)	68.19(70.50)
Rate 3	95.7(94.3)	138.54(140.00)	84.18(81.45)
Rate 4	91.5(91.8)	81.58(82.50)	110.30(109.24)
Rate 5	87.2(89.4)	60.85(61.80)	125.92(125.56)

Table F 2.4 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 2 with the Taint Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	95.56(95.58)	190.91(196.87)	93.28(90.15)
Rate 2	95.67(96.76)	151.65(156.65)	103.97(103.70)
Rate 3	91.76(93.68)	111.81(117.05)	122.97(120.86)
Rate 4	87.53(90.06)	70.13(71.02)	160.80(157.30)
Rate 5	88.54(89.28)	52.55(52.59)	186.04(178.84)

Table F 2.5 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 1 with the Taint Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	95.31(95.28)	190.17(191.71)	85.66(86.31)
Taint 2	94.99(95.02)	182.36(183.82)	86.19(86.79)
Taint 3	93.76(93.72)	149.09(150.27)	88.10(89.10)

Table F 2.6 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 2 with the Taint Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	91.82(92.67)	118.30(121.57)	131.24(129.16)
Taint	92.29(93.10)	115.24(118.66)	132.51(130.39)
Taint 3	92.85(91.48)	112.69(116.27)	134.61(132.82)

Table F 2.7 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 1 with the Taint Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	96.88(97.71)	268.02(275.38)	116.59(119.17)
n = 60	94.54(94.24)	151.60(150.17)	82.78(82.03)
n = 100	92.52(92.07)	101.99(100.24)	61.22(60.99)

Table F 2.8 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 2 with the Taint Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	95.71(95.58)	174.56(173.36)	176.64(174.14)
n = 60	92.51(94.05)	99.83(108.39	124.62(122.51)
n = 100	87.82(88.99)	71.84(74.75)	97.10(95.72)

Table F 2.9 The Average Performance Measures for Each Bound for Audit Population Generated from Population 1 with the Taint Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	96.41(96.38)	190.12(191.70)	87.34(87.77)
Cell	95.87(95.86)	187.03(189.03)	87.81(88.25)
Moment	91.57(91.75)	145.06(145.06)	85.45(85.17)

Table F 2.10 The Average Performance Measures for Each Bound for Audit Population Generated from Population 2 with the Taint Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	93.35(93.78)	123.27(126.78)	131.41(129.27)
Cell	92.83(90.15)	122.7795.00)	131.45(129.32)
Moment	90.16(91.24)	100.19(103.61)	135.53(133.78)

Table F 3.1 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 1 with the AON Error Assignment at the 85% Nominal Confidence Level.

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	93.96	176.84	91.62
SRS	93.88	178.23	91.46

Table F 3.2 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 2 with the AON Error Assignment at the 85% Nominal Confidence Level.

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	92.53	119.50	136.18
SRS	93.06	118.58	131.73

Table F 3.3 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 1 with the AON Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	100.00(100.00)	397.16(195.48)	479.92(483.47)
Rate 2	96.2(95.3)	198.04(200.25)	71.30(71.97)
Rate 3	94.4(93.7)	139.52(142.04)	88.13(88.67)
Rate 4	90.1(90.6)	85.02(87.46)	116.58(116.13)
Rate 5	89.0(89.8)	64.47(65.91)	134.08(132.21)

Table F 3.4 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 2 with the AON Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	95.57(96.47)	198.69(196.43)	94.54(91.92)
Rate 2	95.73(96.34)	157.57(157.10)	108.77(103.56)
Rate 3	93.03(93.45)	115.83(116.13)	126.22(123.08)
Rate 4	88.84(89.28)	71.63(70.46)	163.41(157.48)
Rate 5	89.47(89.75)	53.77(52.79)	187.97(182.59)

Table F 3.5 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 1 with the AON Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	93.97(93.84)	189.39(191.37)	88.05(87.97)
Taint 2	93.98(93.93)	184.13(184.76)	90.90(89.07)
Taint 3	93.92(93.88)	157.02(158.55)	96.81(97.35)

Table F 3.6 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 2 with the AON Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	92.52(92.99)	122.44(121.69)	134.50(129.71)
Taint 2	92.82(93.40)	119.36(118.50)	136.08(131.84)
Taint 3	92.24(92.79)	116.70(115.59)	137.97(133.63)

Table F 3.7 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 1 with the AON Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	96.26(96.81)	272.15(270.01)	123.71(120.84)
n = 60	93.92(94.25)	153.51(159.06)	85.92(88.71)
n = 100	91.68(90.58)	104.87(101.62)	65.22(64.84)

Table F 3.8 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 2 with the AON Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	95.91(95.35)	179.93(174.90)	184.48(175.04)
n = 60	93.06(93.55)	104.54(104.58)	125.30(124.43)
n = 100	88.61(90.27)	74.04(76.27)	98.50(95.70)

Table F 3.9 The Average Performance Measures for Each Bound for Audit Population Generated from Population 1 with the AON Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	95.30(95.22)	187.57(188.89)	92.72(92.65)
Cell	95.30(95.22)	187.57(188.89)	92.72(92.65)
Moment	91.26(91.21)	155.40(156.90)	91.56(91.52)

Table F 3.10 The Average Performance Measures for Each Bound for Audit Population Generated from Population 2 with the AON Error Assignment at the 85% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	93.24(93.72)	126.63(125.73)	134.81(130.65)
Cell	93.24(93.72)	126.63(125.73)	134.81(130.65)
Moment	91.10(91.73)	105.24(104.29)	138.93(133.88)

Table F 4.1 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 1 with the Taint Error Assignment at the 70% Nominal Confidence Level.

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	84.98	103.96	76.857
SRS	84.94	105.12	77.41

Table F 4.2 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 2 with the Taint Error Assignment at the 70% Nominal Confidence Level

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	78.71	64.63	118.83
SRS	80.64	67.64	116.99

Table F 4.3 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 1 with the Taint Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	98.29(98.29)	238.92(240.07)	40.76(37.91
Rate 2	90.01(90.39)	117.53(119.44)	58.52(60.71)
Rate 3	84.26(84.13)	81.99(83.27)	70.93(73.42)
Rate 4	77.40(76.44)	46.81(47.52)	98.88(98.06)
Rate 5	75.90(75.56)	34.32(31.40)	115.17(1114.50

Table F 4.4 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 2 with the Taint Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	82.89(84.71)	112.43(114.66)	80.47(77.65)
Rate 2	81.69(83.72)	85.60(89.96)	93.39(90.10)
Rate 3	75.89(75.51)	61.91(66.51)	108.08(106.29)
Rate 4	77.81(79.67)	37.98(38.82)	145.77(142.60)
Rate 5	75.38(72.49)	28.23(28.27)	172.32(165.49)

Table F 4.5 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 1 with the Taint Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	85.92(85.97)	114.00(1115.32	75.95(76.61)
Taint 2	85.67(85.66)	109.18(1110.42	76.32(76.90)
Taint 3	83.36(83.20)	88.67(88.63)	78.28(78.70)

Table F 4.6 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 2 with the Taint Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	79.86(81.68)	66.41(69.29)	117.27(115.32)
Taint 2	78.44(80.47)	64.53(67.53)	118.55(116.60)
Taint 3	77.83(79.77)	62.94(66.10)	120.69(119.05)

Table F 4.7 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 1 with the Taint Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	89.18(90.63)	169.07(162.64)	104.54(102.03)
n = 60	84.64(84.20)	88.66(90.04)	72.84(73.39)
n = 100	80.08(81.11)	59.64(57.64)	55.12(54.87)

Table F 4.8 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 2 with the Taint Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	88.11(87.55)	101.15(100.09)	156.54(154.03)
n = 60	73.22(77.50)	54.30(61.76)	111.65(109.91)
n = 100	74.78(76.88)	38.44(41.08)	88.32(87.03)

Table F 4.9 The Average Performance Measures for Each Bound for Audit Population Generated from Population 1 with the Taint Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	88.23(88.22)	117.05(118.96)	78.73(79.21)
Cell	87.72(87.72)	116.21(117.61)	79.44(78.96)
Moment	79.00(78.89)	78.06(78.80)	73.60(72.86)

Table F 4.10 The Average Performance Measures for Each Bound for Audit Population Generated from Population 2 with the Taint Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	82.24(84.17)	74.07(77.14)	119.70(117.74)
Cell	82.16(84.09)	73.82(76.86)	119.73(117.76)
Moment	71.74(73.366	46.00(48.93)	117.09(115.47)

Table F 5.1 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 1 with the AON Error Assignment at the 70% Nominal Confidence Level

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	83.73	102.11	81.40
SRS	83.86	103.33	81.25

Table F 5.2 Average Performance Measures (across all levels of the independent factors) for Audit Population Generated from Population 2 with the AON Error Assignment at the 70% Nominal Confidence Level

Performance Measures	Coverage	Tightness	Standard Deviation (000s)
Lahiri	79.35	67.86	122.10
SRS	79.96	67.01	117.98

Table F 5.3 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 1 with the AON Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	98.74(98.70)	236.27(234.86)	40.97(41.28)
Rate 2	88.40(87.87)	113.91(115.81)	62.20(61.67)
Rate 3	81.36(80.91)	78.69(80.87)	77.19(77.54)
Rate 4	74.54(75.70)	46.69(48.84)	104.58(104.23)
Rate 5	75.60(76.13)	35.00(36.28)	122.59(120.99)

Table F 5.4 The Average Performance Measures for Each Line Item Error Rate for Audit Population Generated from Population 2 with the AON Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Rate 1	84.16(84.10)	115.75(113.76)	81.79(79.45)
Rate 2	82.40(83.14)	90.48(89.99)	94.83(90.14)
Rate 3	76.32(77.28)	64.91(65.16)	111.34(108.53)
Rate 4	78.46(79.40)	39.09(38.02)	148.21(142.71)
Rate 5	75.42(75.90)	29.06(28.15)	174.35(169.04)

Table F 5.5 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 1 with the AON Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	83.83(84.02)	109.62(111.35)	77.95(77.87)
Taint 2	84.55(84.46)	106.61(107.16)	79.80(78.94)
Taint 3	82.80(83.11)	90.11(91.49)	86.45(86.93)

Table F 5.6 The Average Performance Measures for Each Taint Size for Audit Population Generated from Population 2 with the AON Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Taint 1	80.57(81.32)	69.63(68.93)	120.44(116.01)
Taint 2	79.05(79.68)	67.74(66.95)	121.99(118.06)
Taint 3	78.44(78.88)	66.20(65.16)	123.88(119.86)

Table F 5.7 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 1 with the AON Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	88.92(89.78)	160.81(162.39)	109.05(106.45)
n = 60	83.20(84.08)	87.27(92.20)	76.40(78.97)
n = 100	79.06(77.72)	52.26(55.41)	58.75(58.33)

Table F 5.8 The Average Performance Measures for Each Sample Size for Audit Population Generated from Population 2 with the AON Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation
n = 30	88.06(87.73)	105.42(100.88)	164.18(155.07)
n = 60	74.68(74.69)	58.01(58.06)	112.46(111.68)
n = 100	75.32(77.47)	40.15(42.10)	89.67(87.18)

Table F 5.9 The Average Performance Measures for Each Bound for Audit Population Generated from Population 1 with the AON Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	87.58(87.60)	115.16(116.36)	82.77(82.58)
Cell	87.58(87.60)	115.16(116.36)	82.77(82.58)
Moment	76.01(76.40)	76.03(77.28)	78.66(78.59)

Table F 5.10 The Average Performance Measures for Each Bound for Audit Population Generated from Population 2 with the AON Error Assignment at the 70% Nominal Confidence Level

Lahiri (SRS)	Coverage	Tightness	Standard Deviation (000s)
Stringer	82.51(83.06)	77.09(76.25)	122.91(118.96)
Cell	82.51(83.06)	77.09(76.26)	122.91(118.96)
Moment	73.04(73.77)	49.39(48.55)	120.49(116.00)

APPENDIX G

First-Order Interactions of the ANOVA Models with Simple Random, Sieve and Stabilised Sieve Sampling using the Upper Bound Estimates of the Total Error Amount with the Taint Error Assignment at the 85% and 70% Nominal Confidence Levels and with the AON Error Assignment at the 95%, 85% and 70% Nominal Confidence Levels

Table G 1.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	100.00	100.00	99.03	98.44	97.57
Sieve	100.00	100.00	99.14	98.04	97.00
Stabilised Sieve	100.00	100.00	99.26	98.49	97.72

No significant differences.

Table G 1.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	100.00	100.00	99.12	97.42	97.01
Sieve	100.00	100.00	99.70	98.59	98.09
Stabilised Sieve	100.00	100.00	99.74	99.00	98.5

Stabilised sieve sampling has a significantly higher coverage than simple random sampling from populations with line item error rates 4 and 5

Table G 1.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	99.24	99.01	98.78
Sieve	99.17	98.88	98.46
Stabilised Sieve	99.27	99.21	98.79

No significant differences

Table G 1.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	98.81	98.66	98.66
Sieve	99.33	99.25	99.24
Stabilised Sieve	99.51	99.45	99.40

Stabilised sieve sampling has a significantly higher coverage than simple random sampling from populations with mean taint sizes 1 and 2.

Table G 1.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	99.79	98.86	98.38
Sieve	99.75	98.34	98.43
Stabilised Sieve	99.72	98.86	98.70

No significant differences

Table G 1.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	99.14	98.82	98.17
Sieve	99.45	98.93	99.45
Stabilised Sieve	99.44	99.45	99.46

Stabilised sieve sampling has a significantly higher coverage than SRS for sample size 100.

Table G 1.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	99.03	99.03	98.97
Sieve	98.86	98.86	98.78
Stabilised Sieve	99.12	95.80?	99.05

No significant differences

Table G 1.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	98.85	98.85	98.44
Sieve	99.36	99.36	99.10
Stabilised Sieve	99.52	99.52	99.10

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for the Stringer/Cell bound

Table G 1.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	638.08	323.55	229.19	140.20	105.35
Sieve	646.64	328.09	229.71	141.13	105.38
Stabilised Sieve	643.36	321.96	227.04	139.29	105.51

No significant differences

Table G 1.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	316.87	253.37	187.68	114.14	85.06
Sieve	315.00	249.34	186.77	114.56	85.30
Stabilised Sieve	318.56	259.20	194.72	121.07	91.41

No significant differences

Table G 1.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	308.33	298.10	255.49
Sieve	310.89	301.76	257.92
Stabilised Sieve	308.68	298.86	254.76

No significant differences

Table G 1.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	196.34	191.31	186.63
Sieve	194.83	190.05	185.70
Stabilised Sieve	201.50	196.89	192.59

No significant differences

Table G 1.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	438.73	255.82	167.28
Sieve	444.26	252.37	173.93
Stabilised Sieve	438.22	252.39	171.69

No significant differences

Table G 1.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	281.31	169.88	123.09
Sieve	278.72	170.00	121.86
Stabilised Sieve	287.63	178.32	125.03

No significant differences

Table G 1.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	293.28	293.28	275.26
Sieve	296.49	296.49	277.59
Stabilised Sieve	293.56	293.56	275.18

No significant differences

Table G 1.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	194.87	194.87	184.53
Sieve	193.97	193.97	182.65
Stabilised Sieve	200.74	200.74	189.49

No significant differences

Table G 1.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	55.87	82.58	100.80	128.96	144.08
Sieve	56.55	82.93	100.75	131.11	153.39
Stabilised Sieve	56.39	81.20	97.30	125.32	143.94

No significant differences

Table G 1.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	105.44	118.17	138.91	173.28	196.68
Sieve	89.34	105.31	129.72	160.00	187.46
Stabilised Sieve	90.22	107.82	131.41	164.29	189.60

No significant differences

Table G 1.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	98.87	99.97	108.54
Sieve	100.60	103.04	111.20
Stabilised Sieve	97.87	98.71	105.91

No significant differences

Table G 1.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	144.43	146.64	148.42
Sieve	131.54	133.65	136.12
Stabilised Sieve	135.16	136.61	138.23

No significant differences

Table G 1.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	135.66	99.44	72.22
Sieve	140.16	99.16	75.53
Stabilised Sieve	134.91	94.42	71.16

No significant differences

Table G 1.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	195.63	138.51	105.36
Sieve	188.76	129.83	82.73
Stabilised Sieve	196.28	127.69	86.03

Stabilised sieve sampling is significantly more precise than SRS for samples of size 100.

Table G 1.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	100.60	100.60	106.17
Sieve	103.01	103.01	108.83
Stabilised Sieve	99.14	99.14	104.21

No significant differences

Table G 1.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	142.67	142.67	154.14
Sieve	130.26	130.26	140.79
Stabilised Sieve	132.85	132.85	144.31

No significant differences

Table G 2.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	99.84	96.91	95.37	91.79	89.44
Sieve	99.85	97.21	95.59	90.99	88.20
Stabilised Sieve	99.87	96.91	95.84	92.20	90.04

No significant differences

Table G 2.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	95.58	95.76	93.68	90.06	89.28
Sieve	98.89	98.10	95.49	92.11	91.02
Stabilised Sieve	98.78	98.17	95.57	93.11	93.31

Stabilised sieve sampling has a significantly higher coverage than simple random sampling from populations with line item error rates 1 and 5.

Table G 2.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	95.28	95.02	93.72
Sieve	95.14	94.79	93.23
Stabilised Sieve	95.68	95.34	93.89

No significant differences

Table G 2.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	92.67	93.10	92.85
Sieve	95.09	95.30	94.98
Stabilised Sieve	95.85	96.11	95.88

Stabilised sieve sampling has a significantly higher coverage than simple random sampling from populations with taint sizes 1 and 2.

Table G 2.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	97.71	94.24	92.07
Sieve	96.83	94.30	92.02
Stabilised Sieve	97.37	94.43	93.11

No significant differences

Table G 2.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	95.58	94.05	88.99
Sieve	95.65	94.62	95.10
Stabilised Sieve	97.09	94.94	95.81

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for samples of size 100.

Table G 2.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	96.41	95.86	91.75
Sieve	96.16	95.60	91.39
Stabilised Sieve	96.71	96.18	92.02

No significant differences

Table G 2.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	93.78	93.60	91.24
Sieve	95.89	95.76	93.72
Stabilised Sieve	96.64	96.52	94.67

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for each of the three bounds

Table G 2.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	393.46	198.48	140.07	82.50	61.80
Sieve	389.58	197.11	137.43	82.23	61.26
Stabilised Sieve	383.04	193.39	135.30	82.54	62.15

No significant differences

Table G 2.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	196.87	156.65	117.05	71.01	52.59
Sieve	198.31	156.37	115.39	71.37	52.06
Stabilised Sieve	194.67	158.48	117.87	75.11	57.12

No significant differences

Table G 2.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	191.70	183.82	150.28
Sieve	189.67	181.91	148.97
Stabilised Sieve	187.71	179.87	146.38

No significant differences

Table G 2.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	121.57	118.66	116.27
Sieve	121.66	118.57	115.86
Stabilised Sieve	123.50	120.49	117.97

No significant differences

Table G 2.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	275.38	150.17	100.24
Sieve	270.83	149.45	100.28
Stabilised Sieve	264.00	147.90	102.06

No significant differences

Table G 2.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	173.36	108.39	74.75
Sieve	176.53	105.61	73.96
Stabilised Sieve	179.33	106.82	75.80

No significant differences

Table G 2.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	191.69	189.03	145.06
Sieve	190.02	187.23	143.31
Stabilised Sieve	187.59	184.88	141.49

No significant differences

Table G 2.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	126.71	126.17	103.61
Sieve	126.92	126.42	102.74
Stabilised Sieve	128.72	128.20	105.04

No significant differences

Table G 2.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	47.46	70.56	84.18	109.24	125.56
Sieve	47.64	69.02	84.27	111.38	128.30
Stabilised Sieve	46.15	67.52	81.75	107.91	123.82

No significant differences

Table G 2.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	93.28	103.68	120.86	157.30	178.84
Sieve	77.91	91.17	111.57	146.26	173.84
Stabilised Sieve	80.08	93.66	113.65	143.31	165.36

No significant differences

Table G 2.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	86.31	86.79	89.10
Sieve	86.61	87.24	90.52
Stabilised Sieve	84.27	84.77	87.25

No significant differences

Table G 2.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	129.16	130.39	132.82
Sieve	118.83	119.81	121.81
Stabilised Sieve	117.89	118.93	120.81

No significant differences

Table G 2.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	119.17	82.03	60.99
Sieve	120.25	82.24	61.88
Stabilised Sieve	114.84	80.84	60.61

No significant differences

Table G 2.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	174.14	122.51	95.72
Sieve	174.17	111.81	74.47
Stabilised Sieve	172.27	111.49	73.87

Stabilised sieve sampling is significantly more precise than SRS for samples of size 100.

Table G 2.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	87.77	88.26	86.17
Sieve	88.59	89.05	86.72
Stabilised Sieve	85.73	86.18	84.38

No significant differences

Table G 2.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	129.27	129.32	133.78
Sieve	118.85	118.91	122.69
Stabilised Sieve	117.81	117.87	121.96

No significant differences.

Table G 3.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	100.00	95.33	93.65	90.62	89.80
Sieve	100.00	96.06	93.87	90.51	88.04
Stabilised Sieve	100.00	96.23	94.21	91.34	89.71

No significant differences.

Table G 3.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	96.47	96.34	93.45	89.28	89.75
Sieve	99.16	98.19	95.44	91.78	91.32
Stabilised Sieve	99.00	98.27	96.46	93.10	93.34

Stabilised sieve sampling has a significantly higher coverage than simple random sampling from populations with line item error rates 1, 4 and 5.

Table G 3.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	93.84	93.93	93.88
Sieve	93.83	93.62	93.63
Stabilised Sieve	94.42	94.36	94.12

No significant differences

Table G 3.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	92.99	93.40	92.79
Sieve	95.17	95.46	94.90
Stabilised Sieve	96.03	96.28	95.79

Stabilised sieve sampling has a significantly higher coverage than simple random sampling from populations with each taint size.

Table G 3.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	96.81	94.25	90.58
Sieve	96.53	93.14	91.41
Stabilised Sieve	96.56	94.09	92.25

No significant differences.

Table G 3.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	95.35	93.55	90.27
Sieve	96.21	93.96	95.36
Stabilised Sieve	96.56	95.89	95.66

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for samples of size 100.

Table G 3.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	95.22	95.22	91.21
Sieve	94.98	94.98	91.12
Stabilised Sieve	95.56	95.56	91.78

No significant differences.

Table G 3.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	93.72	93.72	91.73
Sieve	95.74	95.74	94.05
Stabilised Sieve	96.56	96.56	94.99

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for the Stringer/Cell and Moment bounds.

Table G 3.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	395.48	200.25	142.04	87.46	65.91
Sieve	402.90	204.22	142.50	88.32	66.04
Stabilised Sieve	400.06	198.84	140.10	86.63	66.09

No significant differences.

Table G 3.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	196.43	157.10	116.13	70.46	52.79
Sieve	194.53	153.34	115.14	70.74	52.96
Stabilised Sieve	197.65	161.98	122.23	76.70	58.66

No significant differences.

Table G 3.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	191.37	184.76	158.55
Sieve	193.63	188.07	160.70
Stabilised Sieve	191.67	185.48	157.04

No significant differences.

Table G 3.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	121.69	118.50	115.56
Sieve	120.21	117.24	114.59
Stabilised Sieve	126.20	123.37	120.77

No significant differences.

Table G 3.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	274.01	159.06	101.62
Sieve	279.92	155.96	107.51
Stabilised Sieve	273.51	155.99	105.52

No significant differences.

Table G 3.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	174.90	104.58	76.27
Sieve	172.61	104.57	74.86
Stabilised Sieve	180.58	111.98	77.77

No significant differences.

Table G 3.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	188.89	188.89	156.90
Sieve	191.73	191.73	158.94
Stabilised Sieve	189.10	189.10	156.82

No significant differences.

Table G 3.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	125.73	125.73	104.29
Sieve	124.75	124.75	102.54
Stabilised Sieve	130.92	130.92	108.50

No significant differences.

Table G 3.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	48.35	71.97	88.67	116.13	132.21
Sieve	48.95	72.29	88.69	118.10	140.77
Stabilised Sieve	48.79	70.73	85.49	112.73	131.98

No significant differences.

Table G 3.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	91.92	103.56	123.08	157.48	182.59
Sieve	77.61	92.05	111.99	145.37	174.30
Stabilised Sieve	78.42	94.37	116.56	149.71	176.72

No significant differences.

Table G 3.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	87.97	89.07	97.35
Sieve	89.61	91.87	99.81
Stabilised Sieve	87.06	89.90	94.88

No significant differences.

Table G 3.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	129.71	131.84	133.63
Sieve	118.10	121.13	122.56
Stabilised Sieve	121.64	123.09	124.73

No significant differences.

Table G 3.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	120.84	88.71	64.84
Sieve	124.95	83.34	67.98
Stabilised Sieve	120.03	85.82	63.98

No significant differences.

Table G 3.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	175.04	124.43	95.35
Sieve	169.04	116.57	75.44
Stabilised Sieve	176.23	114.94	78.29

Stabilised sieve sampling significantly more precise than simple random sampling for samples of size 100.

Table G 3.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	91.43	91.43	91.52
Sieve	93.69	93.69	93.90
Stabilised Sieve	90.03	90.03	89.77

No significant differences.

Table G 3.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	130.65	130.65	133.88
Sieve	119.30	119.30	122.19
Stabilised Sieve	121.94	121.94	125.58

No significant differences.

Table G 4.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	98.26	89.39	84.13	77.40	74.56
Sieve	98.26	89.73	83.55	76.87	75.28
Stabilised Sieve	98.28	89.87	84.00	78.29	76.68

No significant differences.

Table G 4.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	84.71	83.72	78.51	79.67	76.60
Sieve	89.89	87.60	80.63	82.21	77.21
Stabilised Sieve	89.14	87.97	81.39	84.37	82.31

No significant differences.

Table G 4.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	85.97	85.66	83.20
Sieve	85.80	85.52	82.90
Stabilised Sieve	86.56	86.24	83.48

No significant differences.

Table G 4.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	81.68	80.47	79.77
Sieve	84.71	83.30	82.54
Stabilised Sieve	86.04	84.84	84.24

No significant differences.

Table G 4.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	90.63	84.12	80.08
Sieve	89.68	84.56	79.96
Stabilised Sieve	90.20	84.09	81.99

No significant differences.

Table G 4.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	87.55	77.50	76.88
Sieve	87.64	79.39	83.53
Stabilised Sieve	89.65	80.43	85.03

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for samples of size 100.

Table G 4.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	88.22	87.72	78.89
Sieve	88.03	87.58	78.60
Stabilised Sieve	88.77	88.37	79.13

No significant differences.

Table G 4.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	84.17	84.09	73.68
Sieve	87.21	87.12	76.23
Stabilised Sieve	88.53	88.45	78.13

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for the Stringer and Cell bounds.

Table G 4.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	240.07	119.44	81.27	47.51	35.32
Systematic	237.17	118.38	81.11	47.34	34.89
Stabilised Sieve	231.24	115.19	79.14	47.53	35.62

No significant differences.

Table G 4.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	114.66	89.96	66.51	38.81	28.27
Sieve	115.43	89.39	64.81	27.76	24.33
Stabilised Sieve	112.38	91.29	67.05	42.40	32.38

No significant differences.

Table G 4.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	115.32	110.42	89.63
Sieve	113.71	108.93	88.70
Stabilised Sieve	111.92	107.05	86.27

No significant differences

Table G 4.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	69.29	67.53	66.10
Systematic	69.14	67.21	65.51
Stabilised Sieve	70.85	61.00	67.45

No significant differences.

Table G 4.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	169.07	88.66	57.64
Sieve	165.39	88.24	57.71
Stabilised Sieve	159.31	86.70	59.22

No significant differences.

Table G 4.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	100.09	61.75	41.07
Sieve	102.69	59.14	40.03
Stabilised Sieve	105.34	60.25	41.70

No significant differences

Table G 4.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	118.95	117.61	78.80
Sieve	117.52	116.88	77.72
Stabilised Sieve	115.37	114.00	75.87

No significant differences.

Table G 4.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	77.13	76.86	48.92
Sieve	77.10	76.85	47.90
Stabilised Sieve	78.81	78.54	49.95

No significant differences.

Table G 4.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	39.91	60.71	73.42	98.06	114.98
Sieve	40.09	59.36	73.59	100.11	117.58
Stabilised Sieve	38.74	57.97	71.21	96.85	113.39

No significant differences.

Table G 4.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	80.47	90.10	106.29	142.60	165.49
Sieve	66.87	78.97	97.99	132.50	161.00
Stabilised Sieve	68.88	81.28	99.87	129.95	153.30

No significant differences.

Table G 4.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Taint	1	2	3
SRS	76.61	76.94	78.70
Sieve	76.94	77.41	80.08
Stabilised Sieve	74.76	75.11	77.02

No significant differences.

Table G 4.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Taint	1	2	3
SRS	115.32	116.60	119.05
Sieve	106.09	107.13	109.17
Stabilised Sieve	105.61	106.37	108.32

No significant differences.

Table G 4.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	104.55	72.84	54.87
Sieve	105.63	73.03	55.78
Stabilised Sieve	100.52	71.73	54.64

No significant differences.

Table G 4.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	154.03	109.91	87.03
Sieve	154.33	100.21	67.86
Stabilised Sieve	152.74	99.93	67.80

Stabilised sieve sampling is significantly more precise than simple random sampling for samples of size 100.

Table G 4.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	79.21	79.44	73.60
Sieve	79.97	80.18	74.28
Stabilised Sieve	77.36	77.57	71.97

No significant differences.

Table G 4.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Bound	Stringer	Cell	Moment
SRS	117.74	117.76	115.47
Sieve	108.24	108.27	105.88
Stabilised Sieve	107.34	107.36	105.26

No significant differences.

Table G 5.1 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	98.70	87.87	80.91	75.70	76.13
Sieve	98.82	88.31	81.47	76.09	74.71
Stabilised Sieve	98.78	88.36	81.61	76.56	76.71

No significant differences.

Table G 5.2 Mean Coverage of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	84.10	83.14	77.28	79.40	75.90
Sieve	89.18	86.78	79.83	81.53	76.90
Stabilised Sieve	90.10	88.04	82.13	84.57	80.83

Stabilised sieve sampling has a significantly higher coverage than simple random sampling from populations with line item error rate 5.

Table G 5.3 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	84.02	84.46	83.11
Sieve	84.18	85.56	82.90
Stabilised Sieve	84.68	85.16	83.38

No significant differences.

Table G 5.4 Mean Coverage of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	81.32	79.68	78.88
Sieve	84.17	82.70	81.67
Stabilised Sieve	86.11	85.03	84.27

Stabilised sieve sampling has a significantly higher coverage than simple random sampling from populations with mean taint sizes 2 and 3.

Table G 5.5 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	89.78	84.08	77.72
Sieve	89.53	83.01	79.10
Stabilised Sieve	89.38	83.42	80.41

No significant differences.

Table G 5.6 Mean Coverage of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	87.73	74.69	77.47
Sieve	88.53	76.94	83.06
Stabilised Sieve	89.53	81.52	84.36

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for samples of sizes 60 and 100.

Table G 5.7 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	87.60	87.60	76.40
Sieve	87.60	87.60	76.45
Stabilised Sieve	88.19	88.19	76.84

No significant differences.

Table G 5.8 Mean Coverage of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	83.06	83.06	73.77
Sieve	86.10	86.10	76.34
Stabilised Sieve	88.18	88.18	79.06

Stabilised sieve sampling has a significantly higher coverage than simple random sampling for the Stringer/Cell bound.

Table G 5.9 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	234.86	115.81	80.87	48.84	34.28
Sieve	241.18	119.23	81.28	49.64	36.50
Stabilised Sieve	238.74	114.57	79.14	48.10	36.47

No significant differences.

Table G 5.10 Mean Tightness of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	113.76	89.99	65.16	38.02	28.15
Sieve	111.80	86.51	64.11	38.18	28.26
Stabilised Sieve	114.48	93.99	70.40	43.60	33.56

No significant differences.

Table G 5.11 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	111.35	107.16	91.49
Sieve	113.30	110.04	93.35
Stabilised Sieve	111.60	107.75	90.85

No significant differences.

Table G 5.12 Mean Tightness of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	68.93	66.95	65.16
Sieve	67.46	65.68	64.16
Stabilised Sieve	72.81	71.15	69.66

No significant differences.

Table G 5.13 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	162.39	92.20	55.41
Sieve	166.67	89.41	60.61
Stabilised Sieve	161.90	89.46	58.84

No significant differences.

Table G 5.14 Mean Tightness of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	100.88	58.06	42.10
Sieve	98.87	57.91	40.43
Stabilised Sieve	105.92	64.49	43.20

No significant differences.

Table G 5.15 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	116.36	116.36	77.28
Sieve	118.84	118.84	79.02
Stabilised Sieve	116.50	116.50	77.20

No significant differences.

Table G 5.16 Mean Tightness of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	76.25	76.25	48.55
Sieve	75.20	75.20	46.90
Stabilised Sieve	80.78	80.78	52.06

No significant differences.

Table G 5.17 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	41.28	62.20	77.54	104.23	120.99
Sieve	41.80	62.49	77.62	106.04	128.85
Stabilised Sieve	41.65	61.08	74.65	101.07	120.69

No significant differences.

Table G 5.18 Mean Std. Deviation of the First-Order Interaction of Sampling Method by Line Item Error Rate at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Line Item Error Rate	1	2	3	4	5
SRS	79.45	90.14	108.53	142.71	169.04
Sieve	66.78	79.84	98.44	131.65	161.58
Stabilised Sieve	67.52	82.01	102.90	136.00	164.19

No significant differences.

Table G 5.19 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Taint	1	2	3
SRS	77.87	78.94	86.93
Sieve	79.40	81.49	89.11
Stabilised Sieve	77.01	77.85	84.61

No significant differences.

Table G 5.20 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Taint Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Taint	1	2	3
SRS	116.01	118.06	119.86
Sieve	105.57	107.51	109.89
Stabilised Sieve	109.02	110.45	112.10

No significant differences.

Table G 5.21 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	106.45	78.97	58.33
Sieve	110.20	78.56	61.32
Stabilised Sieve	105.60	76.22	57.65

No significant differences.

Table G 5.22 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Sample Size at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n= 30	n= 60	n = 100
SRS	155.07	111.68	87.18
Sieve	149.88	104.58	68.52
Stabilised Sieve	156.71	103.40	71.46

Stabilised sieve sampling is significantly more precise than simple random sampling for samples of size 100.

Table G 5.23 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	82.58	82.58	78.59
Sieve	84.68	84.68	80.71
Stabilised Sieve	82.24	82.24	77.00

No significant differences.

Table G 5.24 Mean Std. Deviation of the First-Order Interaction of the Sampling Method by the Bound at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Bound	Stringer	Cell	Moment
SRS	118.96	118.96	116.00
Sieve	108.60	108.60	105.77
Stabilised Sieve	111.28	111.28	109.02

No significant differences.

APPENDIX H

The Design Effects of Systematic, Cell and Sieve Sampling using the Upper Bound Estimates of the Total Error Amount with the Taint Error Assignment at the 85% and 70% Nominal Confidence Levels and with the AON Error Assignment at the 95%, 85% and 70% Nominal Confidence Levels

Table H 1.1 Design Effect of Systematic Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.03	1.05	0.94	0.90	0.86	0.84
Taint 2	1.04	1.01	1.00	0.99	0.87	0.87
Taint 3	0.97	0.87	0.90	0.85	0.89	0.90
Error Rate 2						
Taint 1	0.91	0.85	0.93	0.84	0.88	0.92
Taint 2	0.93	0.88	0.92	0.84	0.88	0.91
Taint 3	0.93	0.90	0.92	0.86	0.89	0.90
Error Rate 3						
Taint 1	0.79	0.73	0.93	0.86	0.86	0.89
Taint 2	0.81	0.75	0.91	0.85	0.87	0.91
Taint 3	0.83	0.79	0.85	0.83	0.92	0.94
Error Rate 4						
Taint 1	0.84	0.86	0.72	0.74	0.69	0.68
Taint 2	0.81	0.83	0.72	0.74	0.70	0.70
Taint 3	0.83	0.83	0.79	0.80	0.79	0.78
Error Rate 5						
Taint 1	0.83	0.84	0.68	0.69	0.93	0.92
Taint 2	0.87	0.87	0.71	0.72	0.95	0.94
Taint 3	0.91	0.91	0.75	0.75	1.05	1.05

Table H 1.2 Design Effect of Systematic Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.11	1.13	0.55	0.53	0.29	0.37
Taint 2	1.12	1.12	0.57	0.54	0.29	0.35
Taint 3	1.10	1.10	0.60	0.58	0.31	0.37
Error Rate 2						
Taint 1	1.25	1.27	0.65	0.64	0.30	0.34
Taint 2	1.26	1.27	0.66	0.63	0.29	0.32
Taint 3	1.24	1.24	0.67	0.65	0.32	0.35
Error Rate 3						
Taint 1	1.02	0.95	0.72	0.72	0.53	0.54
Taint 2	1.00	0.94	0.74	0.73	0.49	0.44
Taint 3	0.99	0.93	0.85	0.84	0.50	0.50
Error Rate 4						
Taint 1	1.33	1.31	0.88	0.89	0.54	0.54
Taint 2	1.29	1.29	0.88	0.90	0.53	0.53
Taint 3	1.25	1.27	0.89	0.90	0.54	0.54
Error Rate 5						
Taint 1	0.74	0.77	0.47	0.46	0.77	0.77
Taint 2	0.71	0.74	0.43	0.43	0.71	0.71
Taint 3	0.73	0.75	0.41	0.41	0.60	0.60

Table H 1.3 Design Effect of Cell Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.94	0.93	0.87	0.77	1.02	1.04
Taint 2	1.04	1.02	0.93	0.87	1.03	1.06
Taint 3	0.93	0.80	0.92	0.87	1.02	1.03
Error Rate 2						
Taint 1	1.02	1.04	0.84	0.80	1.00	1.05
Taint 2	1.03	1.06	0.84	0.81	0.98	1.02
Taint 3	1.00	1.01	0.93	0.93	0.96	0.99
Error Rate 3						
Taint 1	0.97	0.95	0.79	0.80	0.87	0.89
Taint 2	0.98	0.96	0.81	0.83	0.88	0.91
Taint 3	1.07	1.08	0.80	0.83	0.90	0.91
Error Rate 4						
Taint 1	1.02	0.99	0.94	0.95	0.93	0.93
Taint 2	1.01	0.98	0.91	0.91	0.93	0.93
Taint 3	0.96	0.93	0.96	0.96	0.92	0.92
Error Rate 5						
Taint 1	1.06	1.04	0.90	0.91	1.00	0.99
Taint 2	1.09	1.06	0.90	0.91	1.03	1.03
Taint 3	1.03	1.02	0.94	0.96	1.09	1.09

Table H 1.4 Design Effect of Cell Sieve Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.94	0.91	0.74	0.80	0.65	0.69
Taint 2	0.93	0.89	0.79	0.80	0.65	0.69
Taint 3	0.93	0.89	0.77	0.79	0.66	0.69
Error Rate 2						
Taint 1	0.97	0.94	0.85	0.89	0.66	0.68
Taint 2	0.97	0.94	0.85	0.88	0.66	0.68
Taint 3	0.97	0.94	0.87	0.90	0.66	0.68
Error Rate 3						
Taint 1	0.92	0.90	0.87	0.89	0.72	0.73
Taint 2	0.92	0.91	0.86	0.89	0.71	0.72
Taint 3	0.93	0.93	0.87	0.90	0.72	0.73
Error Rate 4						
Taint 1	0.89	0.93	0.85	0.85	0.74	0.74
Taint 2	0.88	0.92	0.85	0.86	0.73	0.73
Taint 3	0.88	0.92	0.86	0.87	0.72	0.72
Error Rate 5						
Taint 1	0.92	0.93	0.87	0.87	0.76	0.76
Taint 2	0.90	0.91	0.83	0.83	0.72	0.71
Taint 3	0.90	0.91	0.84	0.84	0.72	0.72

Table H 1.5 Design Effect of Sieve Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.06	1.09	0.92	0.85	1.02	1.05
Taint 2	1.16	1.26	0.99	0.97	1.06	1.11
Taint 3	1.03	1.00	0.94	0.91	1.01	1.04
Error Rate 2						
Taint 1	1.03	1.06	0.87	0.83	1.06	1.11
Taint 2	1.04	1.07	0.90	0.86	1.06	1.08
Taint 3	1.08	1.14	0.94	0.91	1.11	1.12
Error Rate 3						
Taint 1	0.98	0.98	0.92	0.92	1.06	1.06
Taint 2	0.99	0.98	0.96	0.97	1.08	1.08
Taint 3	1.04	1.05	0.95	0.95	1.06	1.06
Error Rate 4						
Taint 1	1.04	1.04	1.06	1.04	1.07	1.06
Taint 2	1.00	1.02	1.07	1.07	1.07	1.06
Taint 3	0.95	0.95	1.02	1.02	1.12	1.11
Error Rate 5						
Taint 1	1.14	1.12	1.07	1.09	1.12	1.11
Taint 2	1.19	1.15	1.10	1.12	1.17	1.16
Taint 3	1.21	1.20	1.02	1.03	1.18	1.17

Table H 1.6 Design Effect of Sieve Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.87	0.79	0.71	0.70	0.48	0.55
Taint 2	0.88	0.80	0.72	0.72	0.51	0.57
Taint 3	0.89	0.82	0.71	0.71	0.51	0.57
Error Rate 2						
Taint 1	0.94	0.90	0.80	0.81	0.54	0.59
Taint 2	0.96	0.92	0.80	0.81	0.54	0.58
Taint 3	0.96	0.92	0.82	0.83	0.55	0.58
Error Rate 3						
Taint 1	0.91	0.89	0.82	0.84	0.66	0.67
Taint 2	0.95	0.94	0.81	0.83	0.64	0.65
Taint 3	0.99	1.00	0.82	0.84	0.64	0.65
Error Rate 4						
Taint 1	0.92	0.94	0.94	0.95	0.60	0.60
Taint 2	0.92	0.94	0.94	0.95	0.60	0.59
Taint 3	0.93	0.94	0.97	0.97	0.61	0.61
Error Rate 5						
Taint 1	0.95	0.97	1.02	1.02	0.71	0.71
Taint 2	0.95	0.96	1.00	1.00	0.70	0.70
Taint 3	0.96	0.96	1.00	1.00	0.70	0.70

Table H 2.1 Design Effect of Systematic Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.98	0.98	1.01	0.92	0.92	0.91	0.80	0.80	0.77
Taint 2	0.98	0.98	0.99	0.91	0.91	0.89	0.80	0.80	0.78
Taint 3	0.97	0.97	0.97	0.88	0.89	0.85	0.83	0.82	0.82
Error Rate 2									
Taint 1	0.93	0.94	0.86	1.02	1.02	1.02	0.83	0.83	0.83
Taint 2	0.93	0.93	0.86	1.02	1.02	1.00	0.83	0.83	0.83
Taint 3	0.91	0.91	0.89	1.01	1.01	0.99	0.84	0.84	0.84
Error Rate 3									
Taint 1	0.86	0.86	0.84	0.97	0.98	0.90	0.84	0.84	0.91
Taint 2	0.86	0.86	0.83	0.96	0.96	0.90	0.84	0.84	0.90
Taint 3	0.85	0.85	0.86	0.93	0.94	0.92	0.87	0.86	0.87
Error Rate 4									
Taint 1	0.88	0.88	0.89	0.66	0.66	0.69	0.69	0.69	0.70
Taint 2	0.88	0.88	0.88	0.66	0.66	0.69	0.70	0.70	0.70
Taint 3	0.88	0.88	0.89	0.69	0.69	0.69	0.75	0.75	0.73
Error Rate 5									
Taint 1	0.74	0.74	0.74	0.63	0.62	0.63	0.79	0.79	0.79
Taint 2	0.74	0.74	0.74	0.63	0.62	0.64	0.79	0.74	0.74
Taint 3	0.78	0.78	0.78	0.65	0.64	0.64	0.62	0.62	0.62

Table H 2.2 Design Effect of Systematic Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	1.02	1.02	0.96	0.53	0.53	0.48	0.27	0.27	0.30
Taint 2	1.03	1.03	0.99	0.54	0.54	0.49	0.30	0.30	0.32
Taint 3	1.02	1.02	0.98	0.58	0.57	0.53	0.33	0.33	0.34
Error Rate 2									
Taint 1	1.27	1.27	1.28	0.60	0.60	0.57	0.27	0.27	0.30
Taint 2	1.26	1.26	1.28	0.59	0.59	0.55	0.29	0.29	0.32
Taint 3	1.25	1.25	1.26	0.61	0.61	0.57	0.29	0.29	0.32
Error Rate 3									
Taint 1	1.08	1.08	1.10	0.65	0.66	0.71	0.41	0.42	0.42
Taint 2	1.09	1.08	1.00	0.71	0.71	0.67	0.44	0.44	0.44
Taint 3	1.08	1.08	1.05	0.77	0.77	0.75	0.53	0.53	0.53
Error Rate 4									
Taint 1	1.29	1.29	1.25	0.84	0.85	0.85	0.51	0.51	0.51
Taint 2	1.27	1.27	1.25	0.85	0.85	0.85	0.53	0.53	0.53
Taint 3	1.24	1.25	1.25	0.84	0.84	0.86	0.52	0.53	0.57
Error Rate 5									
Taint 1	0.77	0.77	0.78	0.46	0.47	0.46	0.79	0.79	0.79
Taint 2	0.76	0.76	0.79	0.44	0.44	0.44	0.79	0.74	0.74
Taint 3	0.76	0.76	0.77	0.41	0.41	0.40	0.62	0.62	0.62

Table H 2.3 Design Effect of Cell Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.84	0.84	0.76	1.03	1.03	1.07	0.92	0.92	0.88
Taint 2	0.84	0.84	0.79	1.03	1.03	1.07	0.92	0.92	0.89
Taint 3	0.81	0.84	0.84	1.02	1.02	1.05	0.93	0.93	0.92
Error Rate 2									
Taint 1	0.86	0.86	0.78	0.95	0.95	0.94	0.87	0.87	0.88
Taint 2	0.86	0.86	0.79	0.95	0.95	0.94	0.87	0.87	0.89
Taint 3	0.86	0.86	0.84	0.95	0.95	0.94	0.89	0.99	0.89
Error Rate 3									
Taint 1	0.91	0.91	0.86	0.94	0.95	0.94	0.87	0.87	0.89
Taint 2	0.91	0.91	0.87	0.94	0.94	0.94	0.87	0.88	0.89
Taint 3	0.91	0.91	0.91	0.94	0.94	0.94	0.88	0.88	0.88
Error Rate 4									
Taint 1	0.93	0.93	0.93	0.95	0.95	0.95	0.97	0.97	0.97
Taint 2	0.93	0.93	0.92	0.95	0.95	0.95	0.96	0.96	0.97
Taint 3	0.94	10.94	0.94	0.97	0.97	0.97	0.98	0.97	0.97
Error Rate 5									
Taint 1	0.94	0.94	0.91	0.92	0.93	0.93	0.93	0.93	0.94
Taint 2	0.93	0.95	0.95	0.93	0.93	0.93	0.94	0.94	0.94
Taint 3	0.96	0.96	0.95	0.93	0.93	0.93	0.95	0.95	0.95

Table H 2.4 Design Effect of Cell Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.88	0.88	0.82	0.83	0.83	0.82	0.63	0.63	0.66
Taint 2	0.89	0.89	0.95	0.84	0.84	0.84	0.63	0.63	0.66
Taint 3	0.89	0.89	0.83	0.84	0.84	0.84	0.63	0.63	0.66
Error Rate 2									
Taint 1	0.97	0.97	0.98	0.82	0.87	0.89	0.68	0.68	0.71
Taint 2	0.97	0.98	0.98	0.87	0.87	0.89	0.67	0.67	0.71
Taint 3	0.98	0.98	0.88	0.87	0.87	0.90	0.67	0.67	0.71
Error Rate 3									
Taint 1	0.96	0.96	0.98	0.88	0.88	0.88	0.74	0.64	0.76
Taint 2	0.96	0.96	0.97	0.88	0.85	0.86	0.72	0.72	0.73
Taint 3	0.96	0.96	0.96	0.87	0.86	0.89	0.71	0.71	0.73
Error Rate 4									
Taint 1	0.86	0.86	0.87	0.87	0.86	0.88	0.71	0.71	0.71
Taint 2	0.89	0.90	0.87	0.88	0.89	0.88	0.70	0.70	0.69
Taint 3	0.84	0.89	0.96	0.88	0.89	0.88	0.70	0.70	0.69
Error Rate 5									
Taint 1	0.96	0.95	0.96	0.90	0.90	0.90	0.73	0.73	0.73
Taint 2	0.95	0.95	0.97	0.89	0.89	0.90	0.72	0.71	0.72
Taint 3	0.95	0.95	0.95	0.87	0.87	0.87	0.70	0.72	0.62

Table H 2.5 Design Effect of Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	1.00	1.00	1.06	1.05	1.05	1.14	0.92	0.92	0.90
Taint 2	1.06	1.07	1.06	1.02	1.05	1.12	0.92	0.92	0.92
Taint 3	1.02	1.02	1.04	1.04	1.04	1.07	0.92	0.92	0.92
Error Rate 2									
Taint 1	0.97	0.97	0.93	1.00	1.00	1.01	0.88	0.88	0.90
Taint 2	0.97	0.97	0.93	1.00	1.00	1.00	0.89	0.88	0.97
Taint 3	0.98	0.98	0.96	1.00	1.00	1.01	0.89	0.89	0.89
Error Rate 3									
Taint 1	0.96	0.96	0.91	1.09	1.09	1.09	0.97	0.97	1.00
Taint 2	0.95	0.96	0.92	1.09	1.09	1.09	0.97	0.97	0.97
Taint 3	0.97	0.97	0.95	1.09	1.09	1.09	0.96	0.97	0.98
Error Rate 4									
Taint 1	1.02	1.01	1.01	0.97	0.97	0.96	1.15	1.14	1.14
Taint 2	1.02	1.02	1.01	0.97	0.97	0.96	1.13	1.15	1.14
Taint 3	1.05	1.05	1.02	0.99	0.98	0.99	1.18	1.18	1.16
Error Rate 5									
Taint 1	1.07	1.07	1.01	0.95	0.95	0.94	1.08	1.06	1.07
Taint 2	1.08	1.08	1.03	0.95	0.95	0.95	1.08	1.08	1.08
Taint 3	1.15	1.14	1.11	0.97	0.97	0.97	1.13	1.12	1.11

Table H 2.6 Design Effects of Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.87	0.87	0.83	0.70	0.71	0.71	0.43	0.43	0.50
Taint 2	0.88	0.88	0.88	0.72	0.72	0.71	0.43	0.43	0.50
Taint 3	0.88	0.88	0.81	0.72	0.72	0.72	0.44	0.43	0.51
Error Rate 2									
Taint 1	0.96	0.96	0.95	0.77	0.77	0.78	0.51	0.50	0.55
Taint 2	0.96	0.95	0.93	0.77	0.78	0.80	0.51	0.51	0.55
Taint 3	0.95	0.95	0.95	0.77	0.80	0.81	0.52	0.52	0.55
Error Rate 3									
Taint 1	1.00	1.00	0.99	0.85	0.85	0.84	0.61	0.61	0.63
Taint 2	1.00	1.00	0.99	0.85	0.85	0.85	0.61	0.61	0.63
Taint 3	1.00	1.00	0.97	0.85	0.85	0.85	0.62	0.62	0.64
Error Rate 4									
Taint 1	1.02	1.02	1.01	0.85	0.85	0.96	0.63	0.62	0.62
Taint 2	1.01	1.02	1.01	0.85	0.85	0.86	0.62	0.62	0.62
Taint 3	1.00	1.01	1.00	0.85	0.85	0.87	0.60	0.60	0.60
Error Rate 5									
Taint 1	1.10	1.10	1.10	0.91	0.92	0.91	0.74	0.74	0.74
Taint 2	1.08	1.08	1.09	0.91	0.91	0.91	0.73	0.73	0.79
Taint 3	1.06	1.08	1.05	0.92	0.92	0.91	0.73	0.73	0.72

Table H 3.1 Design Effect of Systematic Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.03	1.04	0.93	0.89	0.86	0.84
Taint 2	1.04	1.00	1.00	0.99	0.87	0.87
Taint 3	0.96	0.87	0.89	0.85	0.89	0.90
Error Rate 2						
Taint 1	0.91	0.85	0.92	0.83	0.88	0.92
Taint 2	0.92	0.88	0.90	0.83	0.88	0.91
Taint 3	0.93	0.90	0.90	0.85	0.90	0.90
Error Rate 3						
Taint 1	0.78	0.73	0.92	0.85	0.86	0.90
Taint 2	0.80	0.75	0.90	0.85	0.88	0.91
Taint 3	0.83	0.79	0.84	0.82	0.93	0.94
Error Rate 4						
Taint 1	0.84	0.86	0.72	0.73	0.69	0.69
Taint 2	0.81	0.83	0.72	0.73	0.71	0.70
Taint 3	0.82	0.82	0.79	0.80	0.79	0.79
Error Rate 5						
Taint 1	0.82	0.83	0.67	0.69	0.94	0.93
Taint 2	0.86	0.87	0.71	0.72	0.95	0.95
Taint 3	0.91	0.91	0.75	0.76	1.05	1.05

Table H 3.2 Design Effect of Systematic Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.11	1.11	0.54	0.51	0.29	0.35
Taint 2	1.11	1.01	0.56	0.53	0.29	0.34
Taint 3	1.10	1.08	0.59	0.57	0.31	0.36
Error Rate 2						
Taint 1	1.25	1.27	0.64	0.63	0.30	0.33
Taint 2	1.26	1.27	0.65	0.62	0.29	0.32
Taint 3	1.24	1.24	0.66	0.64	0.32	0.34
Error Rate 3						
Taint 1	1.01	0.94	0.71	0.71	0.53	0.54
Taint 2	0.99	0.93	0.73	0.72	0.49	0.50
Taint 3	0.99	0.93	0.85	0.88	0.50	0.51
Error Rate 4						
Taint 1	1.33	1.33	0.88	0.89	0.54	0.54
Taint 2	1.30	1.30	0.88	0.89	0.53	0.53
Taint 3	1.26	1.28	0.88	0.89	0.54	0.54
Error Rate 5						
Taint 1	0.75	0.78	0.47	0.47	0.76	0.77
Taint 2	0.72	0.74	0.43	0.43	0.71	0.71
Taint 3	0.73	0.75	0.41	0.41	0.60	0.60

Table H 3.3 Design Effect of Cell Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.99	0.94	0.86	0.77	1.03	1.05
Taint 2	1.05	1.02	0.92	0.86	1.03	1.06
Taint 3	0.92	0.81	0.91	0.87	1.02	1.02
Error Rate 2						
Taint 1	1.02	1.04	0.83	0.79	1.00	1.05
Taint 2	1.04	1.07	0.83	0.80	0.98	1.02
Taint 3	1.00	1.01	0.93	0.93	0.96	0.99
Error Rate 3						
Taint 1	0.96	0.94	0.78	0.79	0.87	0.89
Taint 2	0.98	0.96	0.81	0.82	0.89	0.91
Taint 3	1.08	1.09	0.80	0.82	0.90	0.91
Error Rate 4						
Taint 1	1.02	0.99	0.94	0.95	0.93	0.93
Taint 2	1.00	0.98	0.91	0.91	0.93	0.93
Taint 3	0.95	0.93	0.96	0.96	0.92	0.92
Error Rate 5						
Taint 1	1.06	1.04	0.90	0.91	1.00	1.00
Taint 2	1.09	1.06	0.90	0.90	1.03	1.02
Taint 3	1.03	1.01	0.94	0.95	1.09	1.09

Table H 3.4 Design Effect of Cell Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.94	0.91	0.78	0.80	0.65	0.67
Taint 2	0.93	0.87	0.79	0.79	0.65	0.68
Taint 3	0.93	0.89	0.77	0.78	0.66	0.68
Error Rate 2						
Taint 1	0.97	0.94	0.85	0.88	0.65	0.67
Taint 2	0.97	0.94	0.85	0.87	0.65	0.67
Taint 3	0.96	0.94	0.87	0.89	0.65	0.67
Error Rate 3						
Taint 1	0.91	0.89	0.87	0.89	0.72	0.73
Taint 2	0.91	0.91	0.86	0.88	0.71	0.71
Taint 3	0.93	0.93	0.87	0.89	0.72	0.73
Error Rate 4						
Taint 1	0.90	0.93	0.85	0.86	0.73	0.74
Taint 2	0.89	0.92	0.86	0.86	0.72	0.73
Taint 3	0.88	0.92	0.87	0.87	0.72	0.73
Error Rate 5						
Taint 1	0.93	0.93	0.87	0.87	0.76	0.76
Taint 2	0.90	0.91	0.84	0.84	0.72	0.72
Taint 3	0.90	0.91	0.84	0.84	0.72	0.72

Table H 3.5 Design Effect of Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.06	1.09	0.91	0.85	1.02	10.4
Taint 2	1.17	1.25	0.99	0.97	1.06	1.11
Taint 3	1.03	1.01	0.94	0.91	1.01	1.04
Error Rate 2						
Taint 1	1.04	1.06	0.86	0.82	1.06	1.12
Taint 2	1.04	1.07	0.89	0.86	1.06	1.08
Taint 3	1.09	1.14	0.93	0.90	1.11	1.23
Error Rate 3						
Taint 1	0.98	0.97	0.92	0.91	1.06	1.06
Taint 2	0.99	0.98	0.96	0.97	1.08	1.09
Taint 3	1.04	1.06	0.96	0.95	1.06	1.07
Error Rate 4						
Taint 1	1.04	1.04	1.06	1.04	1.07	1.07
Taint 2	1.01	1.02	1.08	1.07	1.07	1.07
Taint 3	0.95	0.95	1.02	1.02	1.12	1.12
Error Rate 5						
Taint 1	1.14	1.13	1.07	1.08	1.12	1.12
Taint 2	1.18	1.16	1.10	1.11	1.17	1.17
Taint 3	1.21	1.21	1.01	1.02	1.18	1.18

Table H 3.6 Design Effect of Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.86	0.79	0.70	0.69	0.48	0.53
Taint 2	0.87	0.80	0.71	0.71	0.51	0.56
Taint 3	0.88	0.82	0.70	0.70	0.51	0.56
Error Rate 2						
Taint 1	0.94	0.90	0.80	0.80	0.54	0.58
Taint 2	0.95	0.92	0.80	0.80	0.54	0.57
Taint 3	0.96	0.92	0.81	0.82	0.55	0.57
Error Rate 3						
Taint 1	0.90	0.88	0.82	0.83	0.67	0.67
Taint 2	0.95	0.94	0.81	0.82	0.64	0.65
Taint 3	0.99	1.00	0.81	0.82	0.64	0.65
Error Rate 4						
Taint 1	0.93	0.94	0.94	0.95	0.60	0.60
Taint 2	0.92	0.94	0.94	0.95	0.60	0.60
Taint 3	0.93	0.94	0.97	0.97	0.62	0.62
Error Rate 5						
Taint 1	0.96	0.97	1.02	1.02	0.71	0.71
Taint 2	0.96	0.97	1.00	1.00	0.70	0.70
Taint 3	0.97	0.97	1.01	1.00	0.70	0.70

Table H 4.1 Design Effects of Systematic Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.97	0.97	1.01	0.91	0.92	0.91	0.80	0.80	0.79
Taint 2	0.97	0.97	0.98	0.91	0.91	0.89	0.80	0.80	0.82
Taint 3	0.97	0.97	0.97	0.88	0.89	0.85	0.79	0.79	0.83
Error Rate 2									
Taint 1	0.93	0.94	0.92	1.02	1.01	0.99	0.83	0.83	0.83
Taint 2	0.94	0.94	0.93	1.02	1.02	0.99	0.82	0.83	0.88
Taint 3	0.92	0.91	0.95	1.00	1.00	1.01	0.84	0.84	0.84
Error Rate 3									
Taint 1	0.87	0.87	0.86	0.97	0.97	0.99	0.90	0.90	0.92
Taint 2	0.86	0.86	0.87	0.96	0.97	0.96	0.85	0.85	0.91
Taint 3	0.86	0.86	0.85	0.95	0.95	0.92	0.88	0.88	0.90
Error Rate 4									
Taint 1	0.86	0.86	0.86	0.66	0.66	0.64	0.69	0.69	0.70
Taint 2	0.86	0.86	0.86	0.65	0.66	0.68	0.70	0.70	0.71
Taint 3	0.86	0.86	0.86	0.66	0.65	0.69	0.75	0.75	0.74
Error Rate 5									
Taint 1	0.75	0.75	0.73	0.67	0.63	0.64	0.91	0.91	0.92
Taint 2	0.75	0.75	0.74	0.63	0.63	0.63	0.92	0.92	0.92
Taint 3	0.79	0.79	0.78	0.65	0.64	0.64	0.98	0.98	0.98

Table H 4.2 Design Effects of Systematic Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	1.02	1.02	1.02	0.52	0.52	0.48	0.26	0.26	0.30
Taint 2	1.02	1.04	1.01	0.54	0.54	0.49	0.25	0.25	0.29
Taint 3	1.02	1.03	0.96	0.57	0.57	0.53	0.27	0.26	0.30
Error Rate 2									
Taint 1	1.27	1.28	1.29	0.59	0.59	0.56	0.27	0.27	0.27
Taint 2	1.27	1.27	1.28	0.58	0.58	0.55	0.27	0.27	0.29
Taint 3	1.25	1.25	1.25	0.59	0.59	0.55	0.29	0.29	0.31
Error Rate 3									
Taint 1	1.07	1.07	1.00	0.64	0.64	0.62	0.45	0.45	0.45
Taint 2	1.09	1.09	1.04	0.70	0.70	0.68	0.42	0.42	0.42
Taint 3	1.08	1.08	1.04	0.76	0.79	0.84	0.44	0.44	0.45
Error Rate 4									
Taint 1	1.29	1.29	1.25	0.84	0.85	0.85	0.53	0.53	0.52
Taint 2	1.27	1.27	1.25	0.85	0.85	0.85	0.52	0.52	0.53
Taint 3	1.25	1.25	1.24	0.84	0.84	0.84	0.52	0.53	0.52
Error Rate 5									
Taint 1	0.77	0.77	0.78	0.47	0.47	0.48	0.78	0.78	0.79
Taint 2	0.76	0.76	0.77	0.44	0.44	0.44	0.74	0.74	0.76
Taint 3	0.76	0.76	0.77	0.40	0.40	0.41	0.62	0.62	0.62

Table H 4.3 Design Effects of Cell Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.83	0.84	0.76	1.04	1.04	1.06	0.91	0.91	0.88
Taint 2	0.83	0.83	0.77	1.03	1.03	1.06	0.92	0.92	0.88
Taint 3	0.84	0.83	0.81	1.02	1.02	1.04	0.93	0.93	0.97
Error Rate 2									
Taint 1	0.85	0.85	0.77	0.94	0.95	0.94	0.87	0.87	0.88
Taint 2	0.85	0.85	0.78	0.94	0.94	0.94	0.87	0.87	0.88
Taint 3	0.85	0.85	0.83	0.94	0.94	0.94	0.89	0.88	0.89
Error Rate 3									
Taint 1	0.91	0.91	0.86	0.94	0.94	0.94	0.87	0.87	0.89
Taint 2	0.91	0.91	0.87	0.94	0.94	0.94	0.87	0.88	0.90
Taint 3	0.91	0.91	0.90	0.94	0.94	0.95	0.88	0.88	0.88
Error Rate 4									
Taint 1	0.92	0.92	0.91	0.95	0.95	0.95	0.97	0.97	0.97
Taint 2	0.92	0.92	0.91	0.95	0.95	0.95	0.97	0.97	0.98
Taint 3	0.93	0.93	.95	0.97	0.97	0.97	0.97	0.97	0.98
Error Rate 5									
Taint 1	0.92	0.92	0.93	0.93	0.93	0.93	0.94	0.94	0.94
Taint 2	0.93	0.93	0.91	0.93	0.93	0.93	0.94	0.94	0.94
Taint 3	0.95	0.95	0.94	0.94	0.93	0.93	0.95	0.945	0.95
	0.96	0.96	0.95						

Table H 4.4 Design Effects of Cell Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.89	0.89	0.82	0.83	0.83	0.82	0.63	0.63	0.65
Taint 2	0.89	0.89	0.82	0.84	0.84	0.84	0.63	0.63	0.65
Taint 3	0.89	0.89	0.92	0.84	0.84	0.84	0.63	0.63	0.65
Error Rate 2									
Taint 1	0.98	0.98	0.98	0.87	0.87	0.89	0.68	0.68	0.70
Taint 2	0.98	0.98	0.98	0.87	0.87	0.89	0.67	0.67	0.70
Taint 3	0.98	0.98	0.98	0.87	0.87	0.90	0.67	0.67	0.70
Error Rate 3									
Taint 1	0.97	0.97	0.98	0.88	0.88	0.88	0.74	0.64	0.74
Taint 2	0.96	0.96	0.97	0.88	0.85	0.86	0.72	0.72	0.73
Taint 3	0.96	0.96	0.96	0.87	0.86	0.89	0.71	0.71	0.73
Error Rate 4									
Taint 1	0.86	0.86	0.87	0.88	0.86	0.88	0.71	0.71	0.71
Taint 2	0.86	0.86	0.87	0.88	0.89	0.88	0.70	0.70	0.70
Taint 3	0.84	0.89	0.86	0.88	0.89	0.88	0.70	0.70	0.70
Error Rate 5									
Taint 1	0.97	0.97	0.97	0.90	0.90	0.90	0.72	0.72	0.75
Taint 2	0.97	0.97	0.97	0.89	0.89	0.90	0.72	0.72	0.75
Taint 3	0.95	0.95	0.95	0.87	0.87	0.86	0.73	0.72	0.76

Table H 4.5 Design Effects of Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	1.00	1.00	1.06	1.05	1.05	1.14	0.92	0.92	0.91
Taint 2	1.01	1.01	1.06	1.04	1.02	1.14	0.92	0.92	0.92
Taint 3	1.02	1.01	1.07	1.03	1.04	1.07	0.92	0.92	0.92
Error Rate 2									
Taint 1	0.97	0.97	0.94	1.00	1.00	1.01	0.88	0.88	0.90
Taint 2	0.97	0.97	0.94	1.00	1.00	1.01	0.89	0.88	0.97
Taint 3	0.98	0.98	0.97	1.00	1.00	1.01	0.89	0.89	0.89
Error Rate 3									
Taint 1	0.96	0.96	0.91	1.10	1.10	1.11	0.97	0.99	0.99
Taint 2	0.95	0.96	0.92	1.09	1.09	1.10	0.97	0.97	0.97
Taint 3	0.97	0.97	0.95	1.09	1.09	1.09	0.96	0.97	0.98
Error Rate 4									
Taint 1	1.06	1.06	1.06	0.97	0.97	0.96	1.15	1.14	1.14
Taint 2	1.07	1.07	1.05	0.97	0.97	0.96	1.13	1.15	1.14
Taint 3	1.05	1.05	1.02	0.98	0.98	0.99	1.18	1.18	1.17
Error Rate 5									
Taint 1	1.07	1.07	1.01	0.95	0.95	0.94	1.07	1.06	1.06
Taint 2	1.08	1.08	1.03	0.95	0.95	0.95	1.08	1.08	1.08
Taint 3	1.14	1.13	1.11	0.97	0.97	0.97	1.13	1.11	1.12

Table H 4.6 Design Effects of Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.87	0.87	0.83	0.70	0.71	0.71	0.43	0.43	0.49
Taint 2	0.87	0.87	0.88	0.72	0.72	0.71	0.43	0.43	0.47
Taint 3	0.86	0.86	0.81	0.72	0.72	0.72	0.44	0.43	0.51
Error Rate 2									
Taint 1	0.96	0.96	0.95	0.77	0.77	0.78	0.51	0.50	0.55
Taint 2	0.96	0.95	0.93	0.77	0.78	0.80	0.51	0.51	0.55
Taint 3	0.95	0.95	0.95	0.77	0.79	0.77	0.52	0.52	0.55
Error Rate 3									
Taint 1	1.00	1.00	1.00	0.85	0.85	0.84	0.61	0.61	0.63
Taint 2	1.00	1.00	1.00	0.85	0.85	0.86	0.61	0.61	0.63
Taint 3	1.00	1.00	1.00	0.85	0.85	0.85	0.62	0.62	0.64
Error Rate 4									
Taint 1	1.02	1.02	1.01	0.85	0.85	0.84	0.63	0.62	0.62
Taint 2	1.01	1.02	1.01	0.85	0.85	0.86	0.62	0.62	0.62
Taint 3	1.00	1.01	1.00	0.85	0.85	0.86	0.60	0.60	0.60
Error Rate 5									
Taint 1	1..0	1.10	1.10	0.91	0.92	0.91	0.74	0.74	0.74
Taint 2	1.08	1.08	1.09	0.91	0.91	0.91	0.73	0.73	0.79
Taint 3	1.06	1.08	1.07	0.92	0.92	0.91	0.73	0.73	0.72

Table H 5.1 Design Effect of Systematic Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.03	1.04	0.93	0.89	0.86	0.84
Taint 2	1.03	1.00	1.00	0.99	0.87	0.87
Taint 3	0.95	0.87	0.89	0.84	0.90	0.89
Error Rate 2						
Taint 1	0.91	0.85	0.90	0.82	0.88	0.92
Taint 2	0.92	0.88	0.90	0.81	0.88	0.91
Taint 3	0.92	0.90	0.90	0.83	0.89	0.90
Error Rate 3						
Taint 1	0.78	0.73	0.90	0.84	0.87	0.91
Taint 2	0.80	0.74	0.89	0.84	0.87	0.92
Taint 3	0.82	0.79	0.83	0.80	0.94	0.95
Error Rate 4						
Taint 1	0.84	0.85	0.71	0.72	0.70	0.70
Taint 2	0.81	0.82	0.72	0.73	0.71	0.71
Taint 3	0.81	0.81	0.78	0.79	0.80	0.79
Error Rate 5						
Taint 1	0.82	0.82	0.67	0.70	0.94	0.94
Taint 2	0.86	0.86	0.71	0.71	0.95	0.95
Taint 3	0.90	0.90	0.75	0.75	1.05	1.05

Table H 5.2 Design Effect of Systematic Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.11	1.00	0.53	0.50	0.29	0.34
Taint 2	1.11	1.04	0.55	0.51	0.28	0.32
Taint 3	1.04	1.07	0.58	0.55	0.31	0.35
Error Rate 2						
Taint 1	1.26	1.27	0.63	0.61	0.30	0.32
Taint 2	1.27	1.27	0.64	0.61	0.29	0.31
Taint 3	1.24	1.24	0.65	0.62	0.32	0.34
Error Rate 3						
Taint 1	1.00	0.93	0.71	0.71	0.53	0.54
Taint 2	0.98	0.92	0.73	0.72	0.49	0.50
Taint 3	0.98	0.92	0.84	0.82	0.50	0.51
Error Rate 4						
Taint 1	1.34	1.34	0.88	0.88	0.54	0.54
Taint 2	1.31	1.31	0.88	0.89	0.53	0.53
Taint 3	1.27	1.30	0.88	0.88	0.55	0.55
Error Rate 5						
Taint 1	0.76	0.79	0.45	0.47	0.77	0.77
Taint 2	0.72	0.75	0.43	0.44	0.71	0.71
Taint 3	0.74	0.76	0.41	0.41	0.60	0.60

Table H 5.3 Design Effect of Cell Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.98	0.94	0.85	0.77	1.03	1.04
Taint 2	1.04	1.02	0.92	0.86	1.04	1.06
Taint 3	0.91	0.81	0.91	0.86	1.02	1.02
Error Rate 2						
Taint 1	1.03	1.04	0.82	0.78	1.01	1.06
Taint 2	1.04	1.08	0.82	0.79	0.99	1.03
Taint 3	1.01	1.02	0.93	0.92	0.97	1.00
Error Rate 3						
Taint 1	0.96	0.94	0.78	0.78	0.87	0.89
Taint 2	0.98	0.96	0.80	0.81	0.89	0.91
Taint 3	1.08	1.09	0.79	0.81	0.90	0.90
Error Rate 4						
Taint 1	1.02	0.99	0.94	0.95	0.93	0.94
Taint 2	1.00	0.98	0.91	0.91	0.93	0.93
Taint 3	0.94	0.92	0.95	0.96	0.92	0.92
Error Rate 5						
Taint 1	1.05	1.03	0.90	0.91	1.00	1.00
Taint 2	1.08	1.06	0.89	0.90	1.03	1.03
Taint 3	1.02	1.01	0.94	0.94	1.09	1.09

Table H 5.4 Design Effect of Cell Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.94	0.92	0.78	0.78	0.64	0.66
Taint 2	0.92	0.89	0.78	0.78	0.64	0.66
Taint 3	0.93	0.89	0.76	0.76	0.64	0.67
Error Rate 2						
Taint 1	0.96	0.94	0.85	0.87	0.64	0.66
Taint 2	0.96	0.94	0.85	0.87	0.64	0.66
Taint 3	0.96	0.94	0.86	0.88	0.64	0.66
Error Rate 3						
Taint 1	0.91	0.89	0.86	0.88	0.72	0.72
Taint 2	0.91	0.90	0.86	0.87	0.71	0.71
Taint 3	0.93	0.92	0.87	0.89	0.71	0.73
Error Rate 4						
Taint 1	0.90	0.92	0.88	0.86	0.73	0.74
Taint 2	0.89	0.92	0.86	0.86	0.72	0.73
Taint 3	0.89	0.94	0.87	0.87	0.72	0.73
Error Rate 5						
Taint 1	0.93	0.94	0.87	0.87	0.75	0.76
Taint 2	0.90	0.91	0.84	0.84	0.73	0.72
Taint 3	0.91	0.91	0.84	0.84	0.75	0.72

Table H 5.5 Design Effect of Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.06	1.09	0.91	0.84	1.02	1.04
Taint 2	1.17	1.25	0.98	0.96	1.07	1.12
Taint 3	1.03	1.02	0.93	0.91	1.02	1.05
Error Rate 2						
Taint 1	1.04	1.07	0.85	0.81	1.08	1.12
Taint 2	1.04	1.07	0.88	0.85	1.07	1.09
Taint 3	1.10	1.15	0.92	0.90	1.12	1.13
Error Rate 3						
Taint 1	0.98	0.97	0.92	0.91	1.07	1.07
Taint 2	0.99	0.98	0.96	0.98	1.10	1.10
Taint 3	1.05	1.06	0.96	0.95	1.07	1.07
Error Rate 4						
Taint 1	1.04	1.04	1.05	1.04	1.08	1.08
Taint 2	1.01	1.02	1.08	1.07	1.08	1.07
Taint 3	0.95	0.95	1.02	1.02	1.12	1.12
Error Rate 5						
Taint 1	1.14	1.13	1.07	1.07	1.13	1.12
Taint 2	1.18	1.16	1.10	1.10	1.18	1.17
Taint 3	1.22	1.21	1.00	1.01	1.19	1.18

Table H 5.6 Design Effect of Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.86	0.79	0.69	0.68	0.48	0.52
Taint 2	0.86	0.80	0.70	0.69	0.49	0.58
Taint 3	0.88	0.82	0.70	0.69	0.50	0.54
Error Rate 2						
Taint 1	0.93	0.89	0.79	0.80	0.53	0.57
Taint 2	0.95	0.92	0.80	0.79	0.54	0.56
Taint 3	0.96	0.92	0.81	0.81	0.54	0.56
Error Rate 3						
Taint 1	0.90	0.87	0.82	0.82	0.64	0.67
Taint 2	0.95	0.94	0.80	0.81	0.64	0.65
Taint 3	0.99	1.00	0.81	0.81	0.64	0.65
Error Rate 4						
Taint 1	0.93	0.94	0.94	0.94	0.60	0.60
Taint 2	0.92	0.94	0.94	0.94	0.60	0.60
Taint 3	0.93	0.94	0.97	0.97	0.60	0.62
Error Rate 5						
Taint 1	0.96	0.98	1.03	1.03	0.70	0.71
Taint 2	0.96	0.97	1.00	1.00	0.70	0.70
Taint 3	0.97	0.98	1.00	1.00	0.70	0.70

APPENDIX I

The Design Effects of Lahiri Sampling using the Upper Bound Estimates of the Total Error Amount with the Taint Error Assignment at the 85% and 70% Nominal Confidence Levels and with the AON Error Assignment at the 95%, 85% and 70% Nominal Confidence Levels

Table I 1.1 Design Effect of Lahiri Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str	Cell Mom	Str	Cell Mom	Str	Cell Mom
Error Rate 1						
Taint 1	1.02	1.07	0.94	0.89	0.97	0.98
Taint 2	1.08	1.14	0.98	0.96	1.02	1.04
Taint 3	1.02	1.02	0.90	0.85	0.92	0.90
Error Rate 2						
Taint 1	1.05	1.10	0.82	0.77	1.00	1.04
Taint 2	1.09	1.16	0.84	0.80	0.97	1.01
Taint 3	1.08	1.14	0.90	0.89	0.97	0.98
Error Rate 3						
Taint 1	1.02	1.01	0.93	0.91	0.98	1.00
Taint 2	1.03	1.02	0.95	0.96	0.95	0.96
Taint 3	1.10	1.10	0.85	0.87	1.00	1.01
Error Rate 4						
Taint 1	1.05	1.02	0.99	0.99	1.05	1.05
Taint 2	1.03	1.00	1.00	1.00	1.06	1.06
Taint 3	1.00	0.97	0.94	0.94	1.02	1.0
Error Rate 5						
Taint 1	1.07	1.05	1.00	1.00	1.00	1.00
Taint 2	1.09	1.07	1.06	1.05	1.02	1.02
Taint 3	1.02	1.00	0.98	0.96	1.02	1.07

Table I 1.2 Design Effect of Lahiri Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str	Cell Mom	Str	Cell Mom	Str	Cell Mom
Error Rate 1						
Taint 1	1.15	1.26	0.92	0.94	1.08	1.05
Taint 2	1.13	1.22	0.94	0.95	1.07	1.05
Taint 3	1.13	1.22	0.90	0.91	1.06	1.04
Error Rate 2						
Taint 1	1.20	1.27	0.98	1.00	1.06	1.05
Taint 2	1.19	1.27	0.99	1.00	1.04	1.03
Taint 3	1.20	1.28	1.00	1.01	1.04	1.02
Error Rate 3						
Taint 1	1.11	1.11	0.98	0.99	1.05	1.05
Taint 2	1.09	1.10	1.00	1.00	1.03	1.02
Taint 3	1.08	1.10	1.02	1.03	1.04	1.04
Error Rate 4						
Taint 1	1.07	1.10	1.04	1.06	1.09	1.10
Taint 2	1.07	1.10	1.06	1.08	1.08	1.08
Taint 3	1.07	1.10	1.07	1.08	1.06	1.06
Error Rate 5						
Taint 1	1.08	1.09	1.04	1.04	1.09	1.09
Taint 2	1.04	1.06	1.05	1.05	1.05	1.05
Taint 3	1.03	1.04	1.05	1.05	1.07	1.07

Table I 2.1 Design Effects of Lahiri Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	1.01	1.01	1.04	1.12	1.12	1.21	0.99	0.99	1.00
Taint 2	1.03	1.04	1.03	1.12	1.12	1.20	0.99	0.99	0.97
Taint 3	1.04	1.05	1.03	1.10	1.10	1.14	0.97	0.97	0.98
Error Rate 2									
Taint 1	0.92	0.92	0.87	1.01	1.02	1.04	0.88	0.89	0.89
Taint 2	0.92	0.92	0.88	1.01	1.01	1.03	0.88	0.85	0.89
Taint 3	0.91	0.91	0.91	1.00	1.01	1.02	0.89	0.89	0.89
Error Rate 3									
Taint 1	0.87	0.87	0.81	1.04	1.04	1.05	0.95	0.95	0.97
Taint 2	0.87	0.87	0.82	1.04	1.04	1.00	0.95	0.95	0.97
Taint 3	0.88	0.88	0.81	1.02	1.02	1.03	0.95	0.95	0.98
Error Rate 4									
Taint 1	1.00	1.00	0.96	1.00	1.00	0.99	1.10	1.10	1.10
Taint 2	1.01	1.01	0.97	1.00	1.00	1.00	1.10	1.10	1.10
Taint 3	1.03	1.02	1.02	0.99	0.99	0.98	1.10	1.10	1.10
Error Rate 5									
Taint 1	1.00	1.00	0.95	0.99	0.99	0.99	1.05	1.05	1.06
Taint 2	1.01	1.01	0.97	0.99	0.99	0.99	1.05	1.03	1.05
Taint 3	1.03	1.03	1.02	0.98	0.98	0.99	1.04	1.04	1.05

Table I 2.2 Design Effects of Lahiri Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.92	0.92	0.87	0.98	0.98	0.92	0.96	0.96	0.94
Taint 2	0.92	0.92	0.87	1.00	1.00	0.98	0.94	0.94	0.93
Taint 3	0.92	0.92	0.87	1.00	1.00	0.96	0.94	0.94	0.94
Error Rate 2									
Taint 1	1.01	1.01	1.01	1.02	1.02	0.97	0.98	0.98	0.98
Taint 2	1.01	1.01	1.01	1.04	1.04	1.04	0.98	0.98	0.98
Taint 3	1.01	1.01	1.01	1.04	1.03	1.01	0.98	0.98	0.98
Error Rate 3									
Taint 1	1.02	1.02	1.02	1.08	1.08	1.07	1.01	1.02	1.03
Taint 2	1.04	1.04	1.05	1.06	1.07	1.07	1.00	1.01	1.01
Taint 3	1.05	1.05	1.06	1.04	1.04	1.02	0.99	1.00	1.00
Error Rate 4									
Taint 1	1.04	1.04	1.02	1.03	1.03	1.03	1.07	1.07	1.06
Taint 2	1.04	1.04	1.04	1.02	1.03	1.03	1.06	1.06	1.06
Taint 3	1.04	1.04	1.04	1.04	1.04	1.04	1.06	1.06	1.06
Error Rate 5									
Taint 1	1.11	1.10	1.09	1.06	1.06	1.06	1.11	1.11	1.11
Taint 2	1.10	1.10	1.08	1.06	1.07	1.07	1.08	1.08	1.07
Taint 3	1.06	1.06	1.06	1.06	1.06	1.07	1.09	1.09	1.09

Table I 3.1 Design Effect of Lahiri Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str	Cell Mom	Str	Cell Mom	Str	Cell Mom
Error Rate 1						
Taint 1	1.03	1.07	0.93	0.89	0.97	0.97
Taint 2	1.08	1.13	0.98	0.96	1.02	1.03
Taint 3	1.02	1.02	0.89	0.88	0.92	0.90
Error Rate 2						
Taint 1	1.06	1.11	0.93	0.91	1.00	1.04
Taint 2	1.10	1.17	0.95	0.96	0.98	1.01
Taint 3	1.09	1.15	0.85	0.86	0.97	0.98
Error Rate 3						
Taint 1	1.02	1.02	0.99	0.99	0.99	1.00
Taint 2	1.04	1.03	1.00	0.99	0.95	0.97
Taint 3	1.10	1.12	0.94	0.94	1.00	1.01
Error Rate 4						
Taint 1	1.05	1.03	1.00	1.00	1.05	1.05
Taint 2	1.03	1.01	1.05	1.05	1.06	1.06
Taint 3	0.99	0.97	0.95	0.95	1.02	1.02
Error Rate 5						
Taint 1	1.06	1.04	1.00	1.00	1.01	1.00
Taint 2	1.09	1.07	1.05	1.05	1.02	1.02
Taint 3	1.02	1.00	0.95	0.95	1.07	1.07

Table I 3.2 Design Effect of Lahiri Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str	Cell Mom	Str	Cell Mom	Str	Cell Mom
Error Rate 1						
Taint 1	1.15	1.26	0.92	0.93	1.08	1.05
Taint 2	1.14	1.23	0.94	0.95	1.07	1.05
Taint 3	1.14	1.23	0.90	0.91	1.06	1.04
Error Rate 2						
Taint 1	1.21	1.28	0.98	1.00	1.06	1.05
Taint 2	1.20	1.28	0.99	1.00	1.03	1.02
Taint 3	1.21	1.29	1.00	1.01	1.03	1.02
Error Rate 3						
Taint 1	1.11	1.12	0.98	0.99	1.05	1.04
Taint 2	1.09	1.11	1.00	1.00	1.02	1.02
Taint 3	1.09	1.11	1.02	1.03	1.04	1.03
Error Rate 4						
Taint 1	1.08	1.10	1.04	1.05	1.10	1.10
Taint 2	1.07	1.10	1.06	1.07	1.08	1.09
Taint 3	1.08	1.11	1.07	1.08	1.08	1.06
Error Rate 5						
Taint 1	1.09	1.10	1.04	1.04	1.09	1.09
Taint 2	1.05	1.07	1.05	1.05	1.05	1.05
Taint 3	1.04	1.04	1.05	1.05	1.07	1.07

Table H 4.1 Design Effects of Lahiri Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	1.03	1.04	1.06	1.12	1.12	1.21	1.00	0.99	0.97
Taint 2	1.03	1.04	1.04	1.12	1.12	1.20	0.99	0.99	0.97
Taint 3	1.04	1.05	1.01	1.10	1.10	1.14	1.00	1.01	0.97
Error Rate 2									
Taint 1	1.08	1.11	1.17	1.01	1.02	1.04	0.88	0.89	0.89
Taint 2	1.08	1.11	1.14	1.01	1.01	1.03	0.88	0.85	0.89
Taint 3	1.08	1.11	1.08	1.00	1.01	1.02	0.89	0.89	0.89
Error Rate 3									
Taint 1	1.01	1.02	1.13	1.04	1.04	1.05	0.96	0.95	0.97
Taint 2	1.01	1.02	1.01	1.04	1.04	1.05	0.95	0.95	0.97
Taint 3	1.02	1.03	0.99	1.02	1.02	1.03	0.95	0.95	0.98
Error Rate 4									
Taint 1	1.00	1.00	0.96	1.00	1.00	1.00	1.10	1.10	0.89
Taint 2	1.01	1.01	0.97	1.00	1.00	0.98	1.10	1.10	1.10
Taint 3	1.03	1.02	1.03	0.99	0.99	0.98	1.10	1.10	1.10
Error Rate 5									
Taint 1	1.00	1.00	0.95	0.99	0.99	1.00	1.05	1.05	1.07
Taint 2	1.01	1.01	0.97	0.99	0.99	0.99	1.05	1.03	1.05
Taint 3	1.03	1.03	1.02	0.98	0.98	0.99	1.04	1.04	1.05

Table I 4.2 Design Effects of Lahiri Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.91	0.92	0.87	0.98	0.98	0.98	0.96	0.96	0.94
Taint 2	0.92	0.92	0.87	1.00	1.00	0.95	0.94	0.94	0.93
Taint 3	0.92	0.92	0.87	1.00	1.00	0.96	0.98	0.98	0.98
Error Rate 2									
Taint 1	1.01	1.01	1.01	1.02	1.02	0.97	0.98	0.98	0.98
Taint 2	1.01	1.01	1.01	1.04	1.04	1.04	0.98	0.98	0.98
Taint 3	1.01	1.01	1.01	1.04	1.03	1.01	0.98	0.98	0.99
Error Rate 3									
Taint 1	1.03	1.02	1.02	1.08	1.08	1.07	1.02	1.02	1.03
Taint 2	1.04	1.04	1.05	1.06	1.07	1.07	1.00	1.01	1.01
Taint 3	1.05	1.05	1.06	1.04	1.04	1.02	0.99	1.00	1.00
Error Rate 4									
Taint 1	1.04	1.04	1.02	1.03	1.03	1.02	1.07	1.07	1.06
Taint 2	1.04	1.04	1.04	1.04	1.04	1.03	1.06	1.06	1.06
Taint 3	1.04	1.04	1.04	1.04	1.04	1.04	1.06	1.06	1.06
Error Rate 5									
Taint 1	1.11	1.11	1.10	1.06	1.06	1.04	1.11	1.11	1.11
Taint 2	1.10	1.10	1.07	1.06	1.07	1.07	1.08	1.08	1.07
Taint 3	1.07	1.07	1.07	1.06	1.06	1.06	1.09	1.09	1.09

Table I 5.1 Design Effect of Lahiri Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str	Cell Mom	Str	Cell Mom	Str	Cell Mom
Error Rate 1						
Taint 1	1.03	1.07	0.93	0.89	0.97	0.97
Taint 2	1.09	1.14	0.98	0.96	1.02	1.04
Taint 3	1.02	1.03	0.89	0.84	0.91	0.89
Error Rate 2						
Taint 1	1.06	1.12	0.80	0.76	1.00	1.04
Taint 2	1.10	1.18	0.82	0.78	0.98	1.02
Taint 3	1.10	1.17	0.89	0.87	0.97	0.98
Error Rate 3						
Taint 1	1.02	1.02	0.92	0.92	0.99	1.01
Taint 2	1.04	1.03	0.95	0.96	0.96	0.97
Taint 3	1.11	1.14	0.85	0.86	1.00	1.01
Error Rate 4						
Taint 1	1.05	1.03	0.99	0.98	1.05	1.06
Taint 2	1.02	1.00	1.00	0.99	1.07	1.07
Taint 3	0.99	0.97	0.94	0.94	1.02	1.02
Error Rate 5						
Taint 1	1.06	1.04	1.00	1.05	1.01	1.01
Taint 2	1.09	1.07	0.95	0.95	1.02	1.02
Taint 3	1.02	1.00	0.97	0.98	1.07	1.07

Table I 5.2 Design Effect of Lahiri Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str	Cell Mom	Str	Cell Mom	Str	Cell Mom
Error Rate 1						
Taint 1	1.16	1.27	0.92	0.93	1.07	1.05
Taint 2	1.14	1.23	0.94	0.95	1.06	1.04
Taint 3	1.15	1.24	0.90	0.90	1.06	1.04
Error Rate 2						
Taint 1	1.22	1.29	0.98	1.00	1.06	1.04
Taint 2	1.21	1.29	0.99	1.00	1.03	1.02
Taint 3	1.23	1.31	1.00	1.01	1.03	1.02
Error Rate 3						
Taint 1	1.11	1.12	0.99	0.99	1.04	1.04
Taint 2	1.09	1.12	1.00	1.00	1.02	1.01
Taint 3	1.09	1.12	1.02	1.03	1.03	1.03
Error Rate 4						
Taint 1	1.09	1.11	1.04	1.05	1.10	1.10
Taint 2	1.08	1.11	1.05	1.06	1.08	1.08
Taint 3	1.09	1.12	1.07	1.07	1.06	1.06
Error Rate 5						
Taint 1	1.10	1.11	1.04	1.04	1.09	1.09
Taint 2	1.06	1.08	1.05	1.05	1.05	1.05
Taint 3	1.04	1.05	1.05	1.05	1.07	1.07

APPENDIX J

The Design Effects of Stabilised Sieve Sampling and the Efficiency of Stabilised Sieve Sampling Relative to Sieve Sampling using the Upper Bound Estimates of the Total Error Amount with the Taint Error Assignment at the 85% and 70% Nominal Confidence Levels and with the AON Error Assignment at the 95%, 85% and 70% Nominal Confidence Levels

Table J 1.1 Design Effect of Stabilised Sieve Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.10	1.20	0.95	0.90	0.97	0.97
Taint 2	1.16	1.28	0.98	0.95	0.97	0.99
Taint 3	1.06	1.08	0.93	0.89	0.93	0.92
Error Rate 2						
Taint 1	1.03	1.05	0.91	0.86	0.95	0.99
Taint 2	1.00	1.00	0.92	0.88	0.92	0.95
Taint 3	1.02	1.03	0.95	0.93	0.97	0.97
Error Rate 3						
Taint 1	0.94	0.90	0.94	0.93	0.92	0.94
Taint 2	0.92	0.88	0.94	0.94	0.90	0.91
Taint 3	0.97	0.95	0.90	0.90	0.97	0.98
Error Rate 4						
Taint 1	0.97	0.95	1.03	1.02	0.95	0.95
Taint 2	0.94	0.93	1.00	0.99	0.94	0.93
Taint 3	0.90	0.89	0.91	0.91	0.93	0.92
Error Rate 5						
Taint 1	1.04	1.03	0.94	0.94	1.06	1.05
Taint 2	1.04	1.03	0.95	0.95	1.08	1.07
Taint 3	1.00	0.98	0.91	0.91	1.01	1.01

Table J 1.2 Efficiency of Stabilised Sieve Sampling compared to Sieve Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.04	1.11	1.03	1.05	0.92	0.89
Taint 2	1.00	1.02	0.99	0.98	0.92	0.88
Taint 3	1.03	1.08	0.99	0.98	0.89	0.89
Error Rate 2						
Taint 1	1.00	0.99	1.05	1.04	0.87	0.88
Taint 2	0.96	0.93	1.03	1.02	0.87	0.87
Taint 3	0.94	0.91	1.01	1.02	0.87	0.89
Error Rate 3						
Taint 1	0.96	0.92	1.02	1.02	0.83	0.85
Taint 2	0.93	0.90	0.98	0.97	0.92	0.92
Taint 3	0.93	0.91	0.95	0.95	0.89	0.90
Error Rate 4						
Taint 1	0.93	0.92	0.97	0.98	0.87	0.88
Taint 2	0.93	0.91	0.92	0.92	0.83	0.83
Taint 3	0.94	0.93	0.89	0.90	0.95	0.95
Error Rate 5						
Taint 1	0.92	0.91	0.88	0.87	0.92	0.92
Taint 2	0.88	0.89	0.86	0.88	0.86	0.86
Taint 3	0.83	0.82	0.89	0.89	0.95	0.93

Table J 1.3 Design Effect of Stabilised Sieve Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.91	0.87	0.65	0.67	0.54	0.54
Taint 2	0.92	0.87	0.67	0.69	0.54	0.60
Taint 3	0.90	0.86	0.67	0.69	0.54	0.60
Error Rate 2						
Taint 1	0.97	0.97	0.83	0.87	0.58	0.62
Taint 2	0.98	0.98	0.84	0.88	0.58	0.62
Taint 3	0.98	0.99	0.84	0.89	0.57	0.61
Error Rate 3						
Taint 1	1.02	1.06	0.87	0.91	0.70	0.71
Taint 2	1.01	1.05	0.86	0.89	0.69	0.69
Taint 3	1.03	1.07	0.87	0.90	0.69	0.69
Error Rate 4						
Taint 1	1.03	1.05	0.91	0.91	0.66	0.66
Taint 2	1.02	1.05	0.91	0.91	0.66	0.66
Taint 3	1.01	1.03	0.91	0.91	0.67	0.67
Error Rate 5						
Taint 1	1.07	1.08	0.90	0.88	0.77	0.76
Taint 2	1.03	1.03	0.90	0.88	0.77	0.76
Taint 3	1.04	1.03	0.88	0.87	0.77	0.76

Table J 1.4 Efficiency of Stabilised Sieve Sampling compared to Sieve Sampling for Bounds at the 95% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.06	1.10	0.93	0.96	1.12	1.11
Taint 2	1.05	1.09	0.93	0.97	1.05	1.05
Taint 3	1.02	1.04	0.94	0.97	1.07	1.06
Error Rate 2						
Taint 1	1.03	1.08	1.03	1.07	1.09	1.09
Taint 2	1.02	1.07	1.04	1.10	1.09	1.09
Taint 3	1.02	1.06	1.02	1.07	1.06	1.05
Error Rate 3						
Taint 1	1.13	1.20	1.06	1.08	1.06	1.09
Taint 2	1.06	1.11	1.06	1.07	1.06	1.08
Taint 3	1.03	1.08	1.06	1.08	1.08	1.08
Error Rate 4						
Taint 1	1.11	1.11	0.97	0.96	1.11	1.11
Taint 2	1.11	1.12	0.97	0.96	1.12	1.12
Taint 3	1.09	1.03	0.94	0.93	1.09	1.09
Error Rate 5						
Taint 1	1.13	1.12	0.88	0.87	1.08	1.08
Taint 2	1.08	1.07	0.90	0.88	1.10	1.09
Taint 3	1.08	1.07	0.88	0.87	1.10	1.10

Table J 2.1 Design Effect of Stabilised Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.85	0.84	0.85	1.06	1.06	1.13	0.91	0.91	0.94
Taint 2	0.85	0.84	0.84	1.06	1.06	1.13	0.91	0.91	0.93
Taint 3	0.85	0.84	0.87	1.06	1.06	1.08	0.93	0.93	0.93
Error Rate 2									
Taint 1	0.91	0.91	0.87	0.93	0.94	0.95	0.91	0.90	0.93
Taint 2	0.91	0.91	0.87	0.92	0.93	0.95	0.91	0.91	0.93
Taint 3	0.91	0.91	0.90	0.93	0.93	0.93	0.93	0.93	0.93
Error Rate 3									
Taint 1	0.91	0.91	0.88	0.99	1.00	0.99	0.94	0.94	0.99
Taint 2	0.91	0.91	0.90	0.99	1.00	0.99	0.94	0.94	0.98
Taint 3	0.92	0.91	0.91	0.99	0.99	0.99	0.95	0.95	0.91
Error Rate 4									
Taint 1	0.97	0.97	0.97	0.93	0.93	0.95	1.01	1.00	1.04
Taint 2	0.97	0.97	0.98	0.93	0.93	0.95	1.00	1.00	1.01
Taint 3	0.98	0.99	0.98	0.94	0.94	0.95	1.03	1.03	1.04
Error Rate 5									
Taint 1	0.95	0.95	0.94	0.97	0.97	0.98	1.05	1.04	1.04
Taint 2	0.95	0.95	0.97	0.97	0.97	0.98	1.01	1.01	1.01
Taint 3	0.95	0.95	0.94	0.96	0.96	0.97	1.02	1.02	1.02

Table J 2.2 Efficiency of Stabilised Sieve Sampling relative to Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.84	0.84	0.84	1.01	1.01	1.00	1.05	1.05	1.05
Taint 2	0.84	0.85	0.85	1.01	1.01	1.00	1.04	1.05	1.07
Taint 3	0.84	0.84	0.83	1.02	1.02	1.00	1.04	1.04	1.06
Error Rate 2									
Taint 1	0.94	0.94	0.93	0.94	0.94	0.94	1.04	1.04	1.02
Taint 2	0.94	0.94	0.93	0.94	0.94	0.94	1.03	1.04	1.02
Taint 3	0.92	0.93	0.93	0.94	0.93	0.94	1.03	1.05	1.04
Error Rate 3									
Taint 1	0.96	0.96	0.98	0.91	0.91	0.90	0.97	0.96	1.00
Taint 2	0.95	0.95	0.98	0.91	0.91	0.91	0.97	0.97	0.99
Taint 3	0.94	0.94	0.96	0.91	0.91	0.92	0.98	0.98	0.98
Error Rate 4									
Taint 1	0.95	0.95	0.97	0.95	0.95	0.99	0.89	0.89	0.91
Taint 2	0.95	0.95	0.96	0.96	0.96	0.99	0.89	0.89	0.90
Taint 3	0.93	0.93	0.94	0.95	0.95	0.96	0.89	0.89	0.89
Error Rate 5									
Taint 1	0.89	0.89	0.92	1.02	1.02	1.04	0.94	0.94	0.95
Taint 2	0.89	0.88	0.92	1.02	1.02	1.02	0.93	0.93	0.94
Taint 3	0.85	0.85	0.89	0.99	0.99	1.01	0.91	0.91	0.92

Table J 2.3 Design Effect of Stabilised Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.93	0.93	0.90	0.71	0.71	0.68	0.47	0.47	0.52
Taint 2	0.93	0.93	0.89	0.73	0.73	0.71	0.48	0.48	0.52
Taint 3	0.93	0.93	0.89	0.73	0.73	0.71	0.49	0.49	0.53
Error Rate 2									
Taint 1	1.00	1.00	1.01	0.78	0.78	0.77	0.55	0.55	0.59
Taint 2	1.00	1.00	1.03	0.79	0.79	0.80	0.56	0.56	0.59
Taint 3	1.00	1.00	1.03	0.79	0.80	0.83	0.58	0.58	0.60
Error Rate 3									
Taint 1	1.09	1.09	1.11	0.83	0.84	0.83	0.62	0.62	0.64
Taint 2	1.09	1.09	1.11	0.84	0.86	0.86	0.62	0.62	0.64
Taint 3	1.08	1.08	1.09	0.82	0.82	0.83	0.62	0.62	0.63
Error Rate 4									
Taint 1	0.94	0.94	0.97	0.85	0.85	0.86	0.60	0.60	0.59
Taint 2	0.94	0.94	0.96	0.86	0.86	0.86	0.59	0.59	0.59
Taint 3	0.92	0.92	0.94	0.86	0.86	0.86	0.59	0.59	0.59
Error Rate 5									
Taint 1	0.95	0.96	0.96	0.89	0.89	0.89	0.64	0.64	0.64
Taint 2	0.95	0.95	0.95	0.89	0.89	0.89	0.64	0.64	0.64
Taint 3	0.91	0.91	0.90	0.89	0.89	0.90	0.64	0.64	0.64

Table J 2.4 Efficiency of Stabilised Sieve Sampling relative to Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	1.05	1.06	1.09	1.01	1.01	0.98	1.10	1.10	1.09
Taint 2	1.06	1.04	1.10	1.01	1.01	0.97	1.11	1.11	1.09
Taint 3	1.07	1.07	1.10	1.02	1.02	0.98	1.10	1.10	1.09
Error Rate 2									
Taint 1	1.04	1.05	1.07	1.03	1.01	0.99	1.10	1.10	1.08
Taint 2	1.02	1.03	1.08	1.04	1.04	1.00	1.10	1.10	1.09
Taint 3	1.06	1.06	1.09	1.03	1.03	1.01	1.11	1.11	1.08
Error Rate 3									
Taint 1	1.09	1.09	1.13	0.98	0.98	0.99	1.01	1.01	1.02
Taint 2	1.07	1.07	1.11	0.98	0.98	0.97	1.01	1.01	1.01
Taint 3	1.07	1.07	1.10	0.98	0.98	0.97	1.00	1.00	0.99
Error Rate 4									
Taint 1	0.92	0.92	0.96	1.00	1.00	0.99	0.95	0.95	0.96
Taint 2	0.92	0.92	0.96	1.00	1.00	0.99	0.96	0.96	0.96
Taint 3	0.91	0.92	0.95	1.00	1.00	1.00	0.96	0.96	0.97
Error Rate 5									
Taint 1	0.87	0.87	0.88	0.98	0.98	0.98	0.87	0.87	0.88
Taint 2	0.86	0.86	0.88	0.98	0.97	0.98	0.87	0.87	0.88
Taint 3	0.85	0.85	0.86	0.97	0.97	0.98	0.88	0.89	0.88

Table J 3.1 Design Effect of Stabilised Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.10	1.19	0.94	0.89	0.97	0.97
Taint 2	1.17	1.28	0.98	0.95	0.97	0.99
Taint 3	1.06	1.09	0.93	0.89	0.93	0.92
Error Rate 2						
Taint 1	1.03	1.05	0.90	0.86	0.95	0.99
Taint 2	1.00	1.00	0.92	0.88	0.93	0.95
Taint 3	1.02	1.04	0.94	0.92	0.97	0.97
Error Rate 3						
Taint 1	0.93	0.89	0.94	0.93	0.92	0.94
Taint 2	0.92	0.88	0.94	0.94	0.90	0.91
Taint 3	0.97	0.96	0.90	0.90	0.97	0.98
Error Rate 4						
Taint 1	0.96	0.95	1.03	1.02	0.95	0.95
Taint 2	0.93	0.92	0.99	0.99	0.94	0.93
Taint 3	0.89	0.88	0.91	0.91	0.93	0.93
Error Rate 5						
Taint 1	1.04	1.03	0.94	0.94	1.07	1.06
Taint 2	1.04	1.03	0.94	0.95	1.08	1.08
Taint 3	0.99	0.98	0.90	0.91	1.01	1.03

Table J 3.2 Efficiency of Stabilised Sieve Sampling compared to Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.04	1.09	1.03	1.05	0.95	0.93
Taint 2	1.00	1.02	0.99	0.98	0.91	0.89
Taint 3	1.03	1.08	0.99	0.98	0.91	0.88
Error Rate 2						
Taint 1	1.00	0.99	1.05	1.04	0.89	0.88
Taint 2	0.96	0.94	1.03	1.02	0.87	0.88
Taint 3	0.94	0.91	1.01	1.02	0.87	0.86
Error Rate 3						
Taint 1	0.95	0.91	1.02	1.02	0.87	0.88
Taint 2	0.93	0.90	0.98	0.96	0.83	0.84
Taint 3	0.93	0.91	0.94	0.94	0.92	0.92
Error Rate 4						
Taint 1	0.93	0.91	0.97	0.98	0.89	0.89
Taint 2	0.93	0.90	0.92	0.92	0.87	0.88
Taint 3	0.94	0.93	0.89	0.90	0.83	0.83
Error Rate 5						
Taint 1	0.91	0.91	0.88	0.87	0.95	0.95
Taint 2	0.88	0.89	0.86	0.85	0.92	0.92
Taint 3	0.82	0.81	0.90	0.89	0.86	0.86

Table J 3.3 Design Effect of Stabilised Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.91	0.87	0.65	0.66	0.54	0.59
Taint 2	0.91	0.87	0.66	0.68	0.54	0.58
Taint 3	0.90	0.86	0.66	0.68	0.54	0.59
Error Rate 2						
Taint 1	0.97	0.96	0.83	0.86	0.59	0.62
Taint 2	0.98	0.98	0.84	0.88	0.58	0.62
Taint 3	0.98	0.98	0.84	0.88	0.59	0.60
Error Rate 3						
Taint 1	1.03	1.07	0.88	0.91	0.70	0.71
Taint 2	1.01	1.05	0.86	0.88	0.69	0.70
Taint 3	1.03	1.08	0.87	0.90	0.69	0.70
Error Rate 4						
Taint 1	1.03	1.05	0.92	0.92	0.67	0.66
Taint 2	1.03	1.05	0.91	0.91	0.67	0.66
Taint 3	1.02	1.04	0.92	0.91	0.67	0.67
Error Rate 5						
Taint 1	1.09	1.09	0.91	0.90	0.77	0.77
Taint 2	1.04	1.04	0.91	0.90	0.77	0.77
Taint 3	1.05	1.05	0.89	0.88	0.77	0.77

Table J 3.4 Efficiency of Stabilised Sieve Sampling compared to Sieve Sampling for Bounds at the 85% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.06	1.11	0.93	0.96	1.12	1.12
Taint 2	1.05	1.09	0.93	0.97	1.05	1.08
Taint 3	1.02	1.04	0.94	0.97	1.07	1.06
Error Rate 2						
Taint 1	1.03	1.08	1.04	1.08	1.09	1.09
Taint 2	1.03	1.07	1.05	1.10	1.09	1.09
Taint 3	1.02	1.06	1.03	1.07	1.06	1.06
Error Rate 3						
Taint 1	1.14	1.21	1.07	1.09	1.07	1.06
Taint 2	1.06	1.12	1.07	1.08	1.08	1.08
Taint 3	1.04	1.08	1.06	1.09	1.08	1.08
Error Rate 4						
Taint 1	1.11	1.12	0.97	0.97	1.11	1.11
Taint 2	1.12	1.13	0.97	0.97	1.12	1.12
Taint 3	1.10	1.11	0.95	0.94	1.09	1.09
Error Rate 5						
Taint 1	1.13	1.13	0.89	0.88	1.08	1.08
Taint 2	1.09	1.08	0.91	0.90	1.09	1.09
Taint 3	1.08	1.08	0.88	0.88	1.10	1.10

Table J 4.1 Design Effect of Stabilised Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.84	0.84	0.83	1.07	1.07	1.12	0.97	0.97	0.96
Taint 2	0.82	0.84	0.83	1.07	1.07	1.12	0.97	0.97	0.96
Taint 3	0.85	0.84	0.84	1.06	1.06	1.08	0.96	0.96	0.96
Error Rate 2									
Taint 1	0.91	0.91	0.85	0.93	0.94	0.94	0.91	0.90	0.93
Taint 2	0.91	0.91	0.86	0.92	0.93	0.94	0.91	0.91	0.93
Taint 3	0.91	0.91	0.88	0.93	0.93	0.96	0.93	0.93	0.94
Error Rate 3									
Taint 1	0.91	0.91	0.87	0.99	1.00	0.99	0.95	0.95	0.99
Taint 2	0.92	0.92	0.88	0.99	1.00	0.99	0.95	0.95	0.98
Taint 3	0.92	0.91	0.90	0.99	0.99	1.01	0.96	0.96	0.97
Error Rate 4									
Taint 1	0.97	0.97	0.97	0.93	0.93	0.94	1.03	1.02	1.04
Taint 2	0.97	0.97	0.97	0.93	0.93	0.94	1.00	1.00	1.01
Taint 3	0.97	0.97	0.97	0.94	0.94	0.95	1.06	1.04	1.04
Error Rate 5									
Taint 1	0.95	0.95	0.93	0.97	0.97	0.98	1.01	1.02	1.02
Taint 2	0.95	0.95	0.94	0.97	0.97	0.98	1.02	1.02	1.02
Taint 3	0.97	0.98	0.96	0.96	0.96	0.97	1.02	1.02	1.03

Table J 4.2 Efficiency of Stabilised Sieve Sampling relative to Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.84	0.84	0.84	1.01	1.01	1.00	1.05	1.05	1.07
Taint 2	0.84	0.85	0.84	1.01	1.01	0.99	1.04	1.05	1.06
Taint 3	0.83	0.83	0.79	1.02	1.02	1.00	1.04	1.04	1.04
Error Rate 2									
Taint 1	0.94	0.94	0.91	0.93	0.93	0.95	1.03	1.03	1.05
Taint 2	0.94	0.94	0.91	0.93	0.93	0.95	1.03	1.03	1.05
Taint 3	0.92	0.93	0.91	0.93	0.93	0.94	1.03	1.05	1.05
Error Rate 3									
Taint 1	0.95	0.95	0.95	0.91	0.91	0.93	0.97	0.97	1.00
Taint 2	0.95	0.95	0.95	0.91	0.91	0.93	0.97	0.97	0.99
Taint 3	0.94	0.94	0.95	0.91	0.91	0.93	0.98	0.98	0.98
Error Rate 4									
Taint 1	0.95	0.95	0.95	0.95	0.95	0.89	0.90	0.90	0.91
Taint 2	0.95	0.95	0.95	0.96	0.96	0.89	0.89	0.89	0.90
Taint 3	0.93	0.93	0.92	0.95	0.95	0.96	0.98	0.89	0.91
Error Rate 5									
Taint 1	0.89	0.89	0.92	1.02	1.02	1.04	0.94	0.94	0.95
Taint 2	0.89	0.88	0.90	1.02	1.02	1.03	0.94	0.94	0.94
Taint 3	0.85	0.85	0.86	0.99	0.99	1.00	0.91	0.91	0.92

Table J 4.3 Design Effect of Stabilised Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	0.93	0.93	0.90	0.70	0.71	0.67	0.47	0.47	0.51
Taint 2	0.93	0.93	0.89	0.71	0.73	0.72	0.48	0.48	0.52
Taint 3	0.93	0.93	0.89	0.73	0.73	0.71	0.49	0.49	0.53
Error Rate 2									
Taint 1	1.00	1.00	1.01	0.78	0.78	0.78	0.55	0.55	0.59
Taint 2	1.00	1.00	1.03	0.79	0.79	0.80	0.56	0.56	0.59
Taint 3	1.00	1.00	1.03	0.80	0.80	0.81	0.58	0.58	0.60
Error Rate 3									
Taint 1	1.09	1.09	1.11	0.83	0.84	0.84	0.62	0.62	0.64
Taint 2	1.09	1.09	1.11	0.84	0.86	0.86	0.62	0.62	0.64
Taint 3	1.09	1.09	1.09	0.82	0.82	0.83	0.62	0.62	0.63
Error Rate 4									
Taint 1	0.94	0.94	0.97	0.85	0.85	0.86	0.60	0.60	0.59
Taint 2	0.94	0.94	0.96	0.89	0.90	0.86	0.59	0.59	0.59
Taint 3	0.92	0.92	0.94	0.86	0.86	0.86	0.59	0.59	0.59
Error Rate 5									
Taint 1	0.98	0.98	0.98	0.89	0.89	0.89	0.64	0.64	0.64
Taint 2	0.96	0.96	0.97	0.89	0.89	0.89	0.64	0.64	0.64
Taint 3	0.93	0.93	0.93	0.89	0.89	0.90	0.64	0.64	0.64

Table J 4.4 Efficiency of Stabilised Sieve Sampling relative to Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the Taint Error Assignment

Sample Size	n = 30			n = 60			n = 100		
Bound	Str	Cell	Mom	Str	Cell	Mom	Str	Cell	Mom
Error Rate 1									
Taint 1	1.05	1.06	1.08	1.01	1.01	0.96	1.10	1.10	1.07
Taint 2	1.03	1.04	1.10	1.01	1.01	0.98	1.11	1.11	1.07
Taint 3	1.02	1.03	1.10	1.02	1.02	1.00	1.10	1.10	1.05
Error Rate 2									
Taint 1	1.04	1.05	1.07	1.00	1.01	1.00	1.10	1.10	1.07
Taint 2	1.02	1.03	1.08	1.04	1.04	1.00	1.10	1.10	1.09
Taint 3	1.06	1.06	1.09	1.03	1.03	1.01	1.11	1.11	1.08
Error Rate 3									
Taint 1	1.10	1.09	1.13	0.98	0.98	0.98	1.01	1.01	1.02
Taint 2	1.07	1.07	1.11	0.98	0.98	0.98	1.01	1.01	1.01
Taint 3	1.07	1.07	1.10	0.98	0.98	0.97	1.00	1.00	0.99
Error Rate 4									
Taint 1	0.92	0.92	0.96	1.00	1.00	0.99	0.95	0.95	0.96
Taint 2	0.92	0.92	0.96	1.00	1.00	0.99	0.96	0.96	0.96
Taint 3	0.91	0.92	0.95	1.00	1.00	1.00	0.96	0.96	0.97
Error Rate 5									
Taint 1	0.88	0.88	0.87	0.98	0.98	0.98	0.87	0.87	0.88
Taint 2	0.86	0.86	0.88	0.98	0.97	0.98	0.87	0.87	0.88
Taint 3	0.85	0.85	0.86	0.97	0.97	0.98	0.88	0.89	0.88

Table J 5.1 Design Effect of Stabilised Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.11	1.19	0.94	0.89	0.97	0.97
Taint 2	1.17	1.28	0.98	0.95	0.97	0.99
Taint 3	1.06	1.09	0.93	0.89	0.93	0.92
Error Rate 2						
Taint 1	1.03	1.05	0.90	0.86	0.95	0.99
Taint 2	1.00	1.00	0.92	0.88	0.93	0.95
Taint 3	1.02	1.04	0.94	0.92	0.97	0.97
Error Rate 3						
Taint 1	0.93	0.99	0.94	0.93	0.92	0.94
Taint 2	0.92	0.88	0.94	0.94	0.90	0.91
Taint 3	0.97	0.96	0.90	0.92	0.97	0.98
Error Rate 4						
Taint 1	0.96	0.95	1.03	1.02	0.95	0.95
Taint 2	0.93	0.92	0.99	0.99	0.94	0.93
Taint 3	0.89	0.88	0.91	0.91	0.93	0.93
Error Rate 5						
Taint 1	1.04	1.03	0.94	0.94	1.07	1.06
Taint 2	1.04	1.03	0.94	0.95	1.08	1.08
Taint 3	0.99	0.98	0.90	0.91	1.01	1.01

Table J 5.2 Efficiency of Stabilised Sieve Sampling compared to Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 1 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.04	1.09	1.03	1.05	0.95	0.93
Taint 2	1.00	1.02	0.99	0.98	0.91	0.89
Taint 3	1.03	1.07	0.99	0.97	0.91	0.88
Error Rate 2						
Taint 1	0.99	0.99	1.05	1.05	0.89	0.88
Taint 2	0.96	0.94	1.03	1.02	0.87	0.87
Taint 3	0.93	0.90	1.01	1.02	0.86	0.86
Error Rate 3						
Taint 1	0.95	0.91	1.02	1.01	0.87	0.87
Taint 2	0.93	0.90	0.97	0.96	0.82	0.83
Taint 3	0.93	0.90	0.94	0.93	0.92	0.91
Error Rate 4						
Taint 1	0.92	0.91	0.98	0.98	o.89	0.89
Taint 2	0.92	0.90	0.92	0.92	0.87	0.88
Taint 3	0.93	0.92	0.89	0.89	0.84	0.84
Error Rate 5						
Taint 1	0.91	0.91	0.88	0.87	0.95	0.95
Taint 2	0.88	0.89	0.86	0.85	0.92	0.92
Taint 3	0.81	0.80	0.90	0.90	0.86	0.86

Table J 5.3 Design Effect of Stabilised Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	0.91	0.87	0.65	0.65	0.54	0.58
Taint 2	0.90	0.87	0.66	0.67	0.54	0.57
Taint 3	0.90	0.86	0.66	0.66	0.54	0.58
Error Rate 2						
Taint 1	0.97	0.96	0.83	0.86	0.59	0.62
Taint 2	0.98	0.98	0.84	0.88	0.58	0.61
Taint 3	0.98	0.98	0.84	0.88	0.57	0.60
Error Rate 3						
Taint 1	1.04	1.07	0.88	0.91	0.70	0.71
Taint 2	1.02	1.06	0.86	0.88	0.69	0.70
Taint 3	1.04	1.09	0.87	0.89	0.69	0.70
Error Rate 4						
Taint 1	1.04	1.06	0.92	0.92	0.67	0.67
Taint 2	1.04	1.07	0.92	0.92	0.67	0.67
Taint 3	1.03	1.06	0.92	0.92	0.67	0.67
Error Rate 5						
Taint 1	1.10	1.11	0.92	0.92	0.77	0.77
Taint 2	1.05	1.06	0.91	0.91	0.77	0.77
Taint 3	1.06	1.07	0.89	0.89	0.77	0.77

Table J 5.4 Efficiency of Stabilised Sieve Sampling compared to Sieve Sampling for Bounds at the 70% Nominal Confidence Level for Audit Populations generated from Population 2 with the AON Error Assignment

Sample Size	n = 30		n = 60		n = 100	
Bound	Str/Cell	Mom	Str/Cell	Mom	Str/Cell	Mom
Error Rate 1						
Taint 1	1.06	1.11	0.93	0.96	1.12	1.12
Taint 2	1.05	1.09	0.93	0.96	1.05	1.05
Taint 3	1.02	1.04	0.94	0.97	1.07	1.06
Error Rate 2						
Taint 1	1.04	1.08	1.04	1.08	1.09	1.09
Taint 2	1.03	1.07	1.06	1.11	1.09	1.09
Taint 3	1.02	1.07	1.04	1.08	1.06	1.06
Error Rate 3						
Taint 1	1.15	1.23	1.08	1.10	1.07	1.06
Taint 2	1.07	1.13	1.07	1.10	1.08	1.08
Taint 3	1.05	1.09	1.07	1.10	1.08	1.08
Error Rate 4						
Taint 1	1.12	1.13	0.98	0.98	1.11	1.11
Taint 2	1.13	1.14	0.98	0.98	1.12	1.12
Taint 3	1.10	1.12	0.95	0.95	1.09	1.09
Error Rate 5						
Taint 1	1.14	1.09	0.90	0.89	1.08	1.08
Taint 2	1.09	1.09	0.91	0.91	1.10	1.09
Taint 3	1.09	0.93	0.89	0.89	1.10	1.10

Appendix K

Fortran Programs

PROGRAM 1: FORTRAN PROGRAM FOR BOUND PERFORMANCE USING SIMPLE RANDOM SAMPLING OF MONETARY UNITS

```
      real function amax (x,y)
      amax = 0.5*((x+y) + abs(x-y))
      end

      real erramt, nsam , fin
      double precision covtot, covclt, covcheb, g,y, zsam

      integer g05dyf

c       kkk is the no of categories,. interval width = range/(kkk-2)

      integer inum, ifail, iwt, ind(1000), indw(100), izz(200)
      integer m, kkk
      parameter (kkk = 12)
      real div(kkk),  xli, xlo
      real tabcltaon(kkk), tabcltaonm(kkk)
      real tabclt(kkk), tabcltm(kkk)
      real tabsaon(kkk),tabsaonm(kkk),tabmomaon(kkk)
      real tabmomaonm(kkk)
      real tabs(kkk), tabsm(kkk), tabmom(kkk), tabmomm(kkk)
      real tabgaraon(kkk),tabgaraonm(kkk)
      real tabgar(kkk), tabgarm(kkk)
      real tabcellaon(kkk), tabcellaonm(kkk)
      real tabcell(kkk), tabcellm(kkk)
      external owfrq, umach, uvsta

      dimension iz(200), b(4000),  tot(10000), wt(1000)
      dimension totm(4000), varm(4000), stdm(4000),totaon(1000)
      dimension totaonm(4000),varaonm(4000),stdaonm(4000)
      dimension a(4000, 200), s(4000), nerraon(1000)
      dimension aselect(200),bselect(200),bselaon(200)
      dimension var(1000), std(1000),stderror(1000),rate(20,3)
      dimension varaon(1000),stdaon(1000), aonsel(200)
      dimension clt(1000,20,3),  stderrorm(1000)
      dimension cltaon(1000,20,3),stderraonm(1000)
      dimension cltaonm(1000,20,3)
      dimension cltm(1000,20,3), nerrors(1000), stderraon(1000)
      dimension xerraon(1000,20), pval(3), zval(3)
      dimension xerrors(1000,20),ns(6),taint(200),xns(6),taon(200)
      dimension t(200),tt(200),p(200),ttt(200),tn(10),vector(200)
      dimension stringer(1000,20,3),stringerm(1000,20,3)
      dimension garstka(1000,20,3)
      dimension stringaon(1000,20,3),stringaonm(1000,20,3)
```

```
      dimension garstkaon(1000,20,3)
      dimension garstkam(1000,20,3),xmoment(1000,20,3)
      dimension garstkaonm(1000,20,3),xmomaon(1000,20,3)
      dimension xmomaonm(1000,20,3), diff(4000,20)
      dimension xmomentm(1000,20,3)
      dimension cellaon(1000,20,3),cellaonm(1000,20,3),xaon(1000,14)
      dimension cell(1000,20,3),cellm(1000,20,3), uel(200),x(1000,14)
      dimension xstringaon(1000),xstringaonm(1000)
      dimension xgarstkaon(1000)
      dimension xstringer(1000),xstringerm(1000),xgarstka(1000)
      dimension xgarstkaonm(1000),xxmomaon(1000)
      dimension xxmomaonm(1000)
      dimension xgarstkam(1000),xxmoment(1000),xxmomentm(1000)
      dimension xcellaon(1000),xcellaonm(1000)
      dimension xcltaon(1000),xcltaonm(1000)
      dimension xcell(1000),xcellm(1000),xclt(1000),xcltm(1000)
      dimension stat(15,14), stataon(15,14),erramt(200,3)
      dimension maxerror(20), minerror(20), nsam(20)
      dimension maxerraon(20), minerraon(20), zsam(20)
      dimension covclt(20,3),covcltm(20,3),covstring(20,3)
      dimension covstringm(20,3), k(3)
      dimension covcltaon(20,3),covcltaonm(20,3)
      dimension covstraon(20,3),covstraonm(20,3)
      dimension covcell(20,3), covcellm(20,3)
      dimension  covmom(20,3),covmomm(20,3)
      dimension covcellaon(20,3), covcellaonm(20,3)
      dimension covmomaon(20,3),covmomaonm(20,3)
      dimension covgaraon(20,3), covgaraonm(20,3)
      dimension covgar(20,3), covgarm(20,3)
      dimension errorsam(20),errortot(20),nobs(1000),totsam(1000)
      dimension err(1000, 20), nt(3),y(3), kr(20), kt(20)
      dimension name1(14)

      character name(14)*20

c        the variables in stat
      name(1) ='clt'
      name(2) ='cltm'
      name(3) = 'Stringer'
      name(4) = 'Stringerm'
      name(5) = 'cell'
      name(6) = 'cellm'
      name(7) = 'G/O'
      name(8) = 'G/Om'
      name(9) = 'moment'
      name(10) = 'momentm'
      name(11) = 'no.errors'
      name (12) = 'bv/amt/sam'
```

```
      name(13) = 'line items'
      name(14) = 'err/amt/sample'

        do 4 i = 1, 14
        name1(i) = i
4       continue

      open (unit = 50,file ='p1srssam', status = 'new', recl =400)
      open (unit = 7, file ='p1.dat', status = 'old', readonly)
      open (unit = 34,file ='pop1srs', status = 'new', recl =400)
      open (unit = 35,file ='srsp1', status = 'new', recl =400)
      open (unit = 36,file ='tabsrsp1', status = 'new', recl =400)
      open (unit = 37,file ='pop1tabsrs', status = 'new', recl =400)
      open (unit = 40,file ='p1unmodsrs',status='new',recl =400)
      open (unit = 41,file ='p1modsrs', status = 'new', recl =400)
      open (unit = 42,file ='p1sumsrs', status = 'new', recl =400)
      open (unit = 45,file ='p1sumdatsrs',status ='new',recl =400)

        data (ns(i), i = 1,3)/ 30, 60, 100/
        data(pval(i), i = 1,3)/.95, .85, .70/
        data (zval(i), i = 1,3)/1.645, 1.036, .524/
        data(nt(i),i =1,3)/ 3711,3711,3711/
        data n, m, npop/ 3725, 1000, 15/
        data xlo,xhi/200000, 700000/

        do 3 i1 = 1,3
        do 3 k1 = 1, npop
        erramt(k1,i1) = 0
        rate(k1,i1) = 0
3     continue

        do 1 i = 1, 3
        y(i) = 0
1       continue

      call g05ccf

c       population error rates and taints

        do 705 k1 = 1, npop, 3
        kt(k1) =1
        kt(k1+1) =2
        kt(k1+2) = 3
705     continue

        j = 0
        do 704 k1 = 1, npop, 3
        j = j+1
```

```
        kr(k1) = j
        kr(k1+1) = j
        kr(k1+2) = j
704     continue

c       reading the population data

        do 12 i = 1 ,  n
        read (7, 10 ) b(i), (a(i,j), j = 1, npop)
12      continue

        do 14 i1 = 1, 3
        do 2 k1 = 1, npop
        y(i1) = 0
      do 13 i = 1, nt(i1)
        y(i1) = y(i1) +b(i)
      diff(i,k1) = b(i) - a(i,k1)
      if (diff(i,k1).ne.0) rate(k1,i1) = rate(k1, i1) +1
      erramt(k1,i1) = erramt(k1,i1) + diff(i,k1)
13      continue
 2      continue
14      continue

        do 501 j = 1,3
        do 501  k1 = 1, npop
        rate(k1,j) = rate(k1,j)/nt(j)*100
501     continue

c     ns(i1) = sample sizes... the corresponding pop size is nt(i1)
      do 200, i1 = 1, 3
c     significance levels ii
      do 301, k1 = 1, npop
      do 302 ii = 1,3
        covclt(k1,ii) = 0
        covcltaon(k1,ii) = 0
        covcltm(k1,ii) = 0
        covcltaonm(k1,ii) = 0
        covgar(k1,ii) = 0
        covgaraon(k1,ii) = 0
        covgaraonm(k1,ii) = 0
        covgarm(k1,ii) = 0
        covstraon(k1,ii) = 0
        covstring(k1,ii) = 0
          covstraonm(k1,ii) = 0
          covstringm(k1,ii) = 0
        covmom(k1,ii) = 0
        covmomaon(k1,ii) = 0
        covmomm(k1,ii)= 0
```

```
        covmomaonm(k1,ii)= 0
        covcell(k1,ii) = 0
        covcellaon(k1,ii) = 0
        covcellaonm(k1,ii) = 0
        covcellm(k1,ii) = 0
302     continue
        errorsam(k1) = 0
        errortot(k1) = 0
        minerror(k1) = ns(i1)
        maxerror(k1) =0
        nsam(k1) = 0
301   continue

      serrors = 0
      sgar = 0
      sgarm = 0

      do 40 j = 1, m
c       sample

        bsample = 0
        staint = 0
        s2 = 0
        s22 = 0
          saon = 0
          naon = 0
        k(1) = int(y(1))
          k(2) = int (y(2))
          k(3) = int (y(3))
        nerrors(j) = 0
          nerraon(j) = 0
        totsam(j) = 0
        nobs(j) = 0

c       selecting the samples using simple random sampling

c       partial sums
c
        s(1) = b(1)
        do 20 i=2,n
        s(i) = s(i-1) + b(i)
20        continue

        do 30 i = 1, ns(i1)
26       inum = g05dyf(1,k(i1))

        do 34 l = 1,nt(i1)
        if(inum.lt.s(l)) go to 35
```

```
34       continue
35       izz(i) = l
         imii =  i -1
         if (i.eq.1) go to 38
        do 37 lk = 1, imii
         if (l.eq.izz(lk)) goto 36
37      continue
        totsam(j) = totsam(j)+b(l)
38       nobs(j)= nobs(j)+1
36      bselect(i)=b(l)
        bsample = bsample +bselect(i)
30      continue

        bunsam = y(i1) -totsam(j)
        s22 = 0

c         for each of the  15 populations

         do 800   k1 = 1, npop
        staint = 0
        errortot(k1) = 0
        s2 = 0
        nerrors(j) = 0
         nerraon(j) = 0
        err(j,k1) = 0
         saon = 0
         naon = 0
        do 31  i =1, ns(i1)
        l= izz(i)
         aselect(i)=a(l, k1)
          laon = b(l)
          inum2 = g05dyf(1, laon)
         if (inum2.gt.diff(l,k1)) go to 42
         saon = saon +1
42       continue

      error = bselect(i) - aselect(i)

       imii = i - 1
      if (i.eq.1) go to 96
      do 98 ik = 1, imii
      if (l.eq.izz(ik)) go to 97
98     continue

96     err(j, k1) = err(j, k1) +error
      errortot(k1) = err(j, k1)

97     taint(i) = error/bselect(i)
```

```
      if (taint(i).gt.0) nerrors(j) = nerrors(j) +1

        staint = staint + taint(i)
        s2 = s2  +taint(i)*taint(i)
31     continue


      if (nerrors(j).le.0) nsam(k1) = nsam(k1) +1

c     getting the non-zero taints

      nn = 1
      do 29 i = 1, ns(i1)
      if (taint(i).eq.0) go to 29
      t(nn) = taint(i)
      nn = nn+1
29    continue
      nn = nn - 1

c      nn = no of non-zero taints

      if (nn.eq.0) go to 79

      call svrgn(nn, t, ttt)
c     tt = sorted non-zero taints
c     nn = no of non-zero taints

c     descending order

      do 75 i = 1, nn
75     tt(i) = ttt(nn -i+1)
79     continue
        pvalue = .95
        z = 1.645

c       getting the non zero all or nothings, no of error in the sample

        naon = saon
        nerraon(j) = naon
        if (naon.eq.0) go to 47
        do 46, i = 1, naon
        taon(i) = 1
46      continue
47      taon(0) = 0
        tt(0) = 0

        do 69, i = 1,3
```

```
      z= zval(i)
      pvalue = pval(i)


c     the Stringer bound

      do 76 nn1 = 0, nn
      dfnum = 2*(nn1+1)
       dfden = 2*(ns(i1) -nn1)
       c = fin(pvalue, dfnum, dfden)
       pn = (nn1 +1)*c
       pd = ns(i1) - nn1 +(nn1 +1)*c
       p(nn1) = pn/pd
76     continue
       stringerp = p(0)
       if (nn.eq.0) go to 78
       do 77 nn1 = 1, nn
       kk = nn1 - 1
       stringerp = stringerp +(p(nn1) - p(kk) )* tt(nn1)
77     continue

78    stringer(j, k1,i) = y(i1) *stringerp
     stringerm(j, k1,i) = errortot(k1) +bunsam*stringerp
      stringaon(j,k1,i) = y(i1)*p(naon)
      stringaonm(j,k1,i) = errortot(k1) + bunsam*p(naon)
      nsize = ns(i1)

c     the cell bound

     call cellb(tt,nn, nsize, p,cellbb)
     cell(j, k1,i) = y(i1)*cellbb
     cellm(j, k1,i)  = errortot(k1) +bunsam*cellbb


c     the moment bound

      xnsize = ns(i1)
      tt(0)=0
    call xmomentb(nn, tt, xnsize, z, xmomentp)
      xmoment(j, k1,i) = y(i1)*xmomentp
      xmomentm(j ,k1,i) = errortot(k1) +bunsam *xmomentp

       call xmomentb(naon, taon, xnsize, z, xmomentp)
      xmomaon(j, k1,i)  = y(i1)*xmomentp
      xmomaonm(j, k1,i) = errortot(k1) +bunsam *xmomentp

     if (nerrors(j).eq.0) go to 88
```

```
      s1 = y(i1)
      tot(j) = s1 * staint/ns(i1)
        xnerrors = nerrors(j)


c       the Garstka bound

        call garstkab(xnerrors, nsize, pvalue, bound)

      totm(j) = errortot(k1) +bunsam *staint/ns(i1)
      var(j) = s1**2*(s2 - staint**2/ns(i1))/(ns(i1)-1)
      varm(j) = bunsam *bunsam *(s2-staint**2/ns(i1))/(ns(i1)-1)
      stdm(j) = varm(j)**.5
      std(j) = var(j) **(.5)
      stderror(j) = std(j)/(ns(i1))**.5
      stderrorm(j) = stdm(j)/(ns(i1))**.5
      clt(j, k1,i) = tot(j) +z *stderror(j)
      cltm(j, k1,i) = totm(j) +z *stderrorm(j)
      garstka(j, k1,i) = tot(j) +bound*stderror(j)
      garstkam(j,k1,i) = totm(j) +bound*stderrorm(j)

      go to 89

88      garstka(j, k1,i) = 0
        garstkam(j, k1,i) = 0
        garstkaonm(j, k1,i) = 0
        tot(j) = 0
        totm(j) = 0
        var(j) = 0
        varm(j) = 0
        clt(j, k1,i) = 0
        cltm(j, k1,i) = 0
        std(j) = 0
        stdm(j) = 0


89      if(nerraon(j).eq.0) go to 90
        xnerraon = nerraon(j)
        totaon(j)= s1*saon/ns(i1)


        call garstkab(xnerraon, nsize, pvalue, boundaon)
        totaonm(j) = errortot(k1) + bunsam*saon/ns(i1)
      varaon(j) = s1**2*(saon - saon**2/ns(i1))/(ns(i1)-1)
        varaonm(j) = bunsam*bunsam*(saon-saon**2/ns(i1))/(ns(i1)-1)
      stdaonm(j) = varaonm(j)**.5
      stdaon(j) = varaon(j) **(.5)
      stderraon(j) = stdaon(j)/(ns(i1))**.5
```

```
      stderraonm(j) = stdaonm(j)/(ns(i1))**.5
        cltaon(j, k1,i) = totaon(j) +z *stderraon(j)
      cltaonm(j, k1,i) = totaonm(j) +z *stderraonm(j)
      garstkaon(j, k1,i) = totaon(j) +boundaon*stderraon(j)
      garstkaonm(j,k1,i) = totaonm(j) +boundaon*stderraonm(j)
        go to 91

90      garstkam(j, k1,i) = 0
        garstkaonm(j, k1,i) = 0
        totaon(j) = 0
        totaonm(j) = 0
        varaon(j) = 0
        varaonm(j) = 0
        cltaon(j, k1,i) = 0
        cltaonm(j, k1,i) = 0
        stdaon(j) = 0
        stdaonm(j) = 0


c       the maximum and minimum error

91       if(nerrors(j).gt. maxerror(k1)) maxerror(k1) =nerrors(j)
        if(nerrors(j).lt. minerror(k1)) minerror(k1) =nerrors(j)

        if(nerraon(j).gt.maxerraon(k1)) maxerraon(k1) =nerraon(j)
        if(nerraon(j).lt.minerraon(k1)) minerraon(k1) = nerraon(j)
      xerrors(j, k1)  = nerrors(j)
        xerraon(j,k1) = naon


     if(cltm(j, k1,i).gt.erramt(k1,i1))covcltm(k1,i)=covcltm(k1,i)+1
       if(clt(j, k1,i).gt.erramt(k1,i1)) covclt(k1,i)=covclt(k1,i)+ 1
     if(cltaonm(j,k1,i).gt.erramt(k1,i1))
    *   covcltaonm(k1,i)=covcltaonm(k1,i)+1

     if(cltaon(j,k1,i).gt.erramt(k1,i1))
    *    covcltaon(k1,i)=covcltaon(k1,i) +1

     if (garstkam(j,k1,i).gt. erramt(k1,i1))
    *   covgarm(k1,i)=covgarm(k1,i)+1
     if(garstkaonm(j,k1,i).gt.erramt(k1,i1))
    *   covgaraonm(k1,i)=covgaraonm(k1,i)+1
     if(garstka(j,k1,i).gt. erramt(k1,i1))
    *   covgar(k1,i)=covgar(k1,i)+1
     if(garstka(j,k1,i).gt. erramt(k1,i1))
    *  covgaraon(k1,i)=covgaraon(k1,i)+1
     if(stringer(j,k1,i).gt.erramt(k1,i1))
    *   covstring(k1,i)=covstring(k1,i)+1
```

```
 if(stringaon(j,k1,i).gt.erramt(k1,i1))
*   covstraon(k1,i)=covstraon(k1,i)+1
 if(stringerm(j,k1,i).gt.erramt(k1,i1))
* covstringm(k1,i)=covstringm(k1,i)+1
 if(stringaonm(j,k1,i).gt.erramt(k1,i1))
*  covstraonm(k1,i)=covstraonm(k1,i)+1


   if(xmoment(j,k1,i).gt.erramt(k1,i1))
*    covmom(k1,i) = covmom(k1,i)+1
   if(xmomaon(j,k1,i).gt.erramt(k1,i1))
*     covmomaon(k1,i)=covmomaon(k1,i)+1
   if (xmomentm(j,k1,i).gt.erramt(k1,i1))
*     covmomm(k1, i)=covmomm(k1,i)+1
   if (xmomaonm(j,k1,i).gt.erramt(k1,i1))
*   covmomaonm(k1,i)=covmomaonm(k1,i)+1
   if (cell(j,k1,i).gt.erramt(k1,i1))
*     covcell(k1,i) = covcell(k1,i)+1
   if (cellm(j,k1,i).gt.erramt(k1,i1))
*     covcellm(k1,i) =covcellm(k1,i)+1


69      continue

800     continue

40      continue


        do 603 ii = 1,3
       do 601 k1 = 1, npop
       do 602 j = 1, m

       x(j,1) = clt(j,k1,ii)
       xaon(j,1) = cltaon(j,k1,ii)
       x(j,2) = cltm(j,k1,ii)
       xaon(j,2) = cltaonm(j,k1,ii)
       x(j,3) = stringer(j,k1,ii)
       xaon(j,3) = stringaon(j,k1,ii)
       x(j,4) = stringerm(j,k1,ii)
       xaon(j,4) = stringaonm(j,k1,ii)
       x(j,5) = cell(j,k1,ii)
       xaon(j,5) = stringaon(j,k1,ii)
       x(j,6) = cellm(j,k1,ii)
       xaon(j,6) = stringaonm(j,k1,ii)
       x(j, 7) = garstka(j,k1,ii)
       xaon(j, 7) = garstkaon(j,k1,ii)
       x(j, 8) = garstkam(j,k1,ii)
```

```
      xaon(j, 8) = garstkaonm(j,k1,ii)
      x(j,9) = xmoment(j,k1,ii)
      xaon(j,9) = xmomaon(j,k1,ii)
      x(j,10) = xmomentm(j,k1,ii)
      xaon(j,10) = xmomaonm(j,k1,ii)
      x(j,11) = xerrors(j,k1)
      xaon(j,11) = xerraon(j,k1)
      x(j,12) = totsam(j)
      xaon(j,12) = totsam(j)
      x(j, 13) = nobs(j)
      xaon(j, 13) = nobs(j)
      x(j,14) = err(j, k1)
      xaon(j,14) = err(j, k1)

      xxmoment(j) = xmoment(j, k1,ii)
        xxmomaon(j) = xmomaon(j, k1,ii)
      xxmomentm(j) =xmomentm(j, k1,ii)
      xxmomaonm(j) =xmomaonm(j, k1,ii)
      xstringer(j) = stringer(j,k1,ii)
      xstringaon(j) = stringaon(j,k1,ii)
      xstringaonm(j) = stringaonm(j,k1,ii)
      xstringerm(j) = stringerm(j,k1,ii)
      xcltaon(j) = cltaon(j,k1,ii)
      xclt(j) = clt(j,k1,ii)
      xcltaonm(j) = cltaonm(j,k1,ii)
      xcltm(j) = cltm(j,k1,ii)
      xgarstkaon(j) = garstkaon(j,k1,ii)
      xgarstka(j) = garstka(j,k1,ii)
      xgarstkaonm(j) = garstkaonm(j,k1,ii)
      xgarstkam(j) = garstkam(j,k1,ii)
      xcellaon(j) = stringaon(j,k1,ii)
      xcell(j) = cell(j,k1,ii)
      xcellaonm(j) = stringaonm(j,k1,ii)
602     xcellm(j) = cellm(j,k1,ii)


c       getting the descriptive statistics of the bounds

        iprint = 1
     call uvsta (0,m, 14 ,x,1000, 0,0,1,-1, -1, 1, stat,15,nrmiss)
     call uvsta (0,m,14,xaon,1000, 0,0,1,-1, -1,1,stataon,15,nrmiss)


     per = nsam(k1)/m*100

      covcltm(k1,ii) =  covcltm(k1,ii)/m*100
      covcltaonm(k1,ii) =  covcltaonm(k1,ii)/m*100
      covcltaon(k1,ii) =  covcltaon(k1,ii)/m*100
```

```
covclt(k1,ii) =  covclt(k1,ii)/m*100
covgaraonm(k1,ii) = covgaraonm(k1,ii)/m*100
covgarm(k1,ii) = covgarm(k1,ii)/m*100
covgaraon(k1,ii) = covgaraon(k1,ii)/m*100
covgar(k1,ii) = covgar(k1,ii)/m*100
covstraon(k1,ii) = covstraon(k1,ii)/m*100
covstring(k1,ii) = covstring(k1,ii)/m*100
covstraonm(k1,ii) = covstraonm(k1,ii)/m*100
covstringm(k1,ii) = covstringm(k1,ii)/m*100
covmomaon(k1,ii) = covmomaon(k1,ii)/m*100
covmom(k1,ii) = covmom(k1,ii)/m*100
covmomaonm(k1,ii) = covmomaonm(k1,ii)/m*100
covmomm(k1,ii) = covmomm(k1,ii)/m*100
covcell(k1,ii) = covcell(k1,ii)/m*100
covcellaonm(k1,ii) = covstraonm(k1,ii)
  covcellaon(k1,ii) = covstraon(k1,ii)
covcellm(k1,ii) = covcellm(k1,ii)/m*100

stat(13, 1) = covclt(k1,ii)
stataon(13, 1) = covcltaon(k1,ii)
stat (13, 2) =covcltm(k1,ii)
stataon (13, 2) =covcltaonm(k1,ii)
stat (13,3) = covstring(k1,ii)
stataon (13,3) = covstraon(k1,ii)
stat(13, 4) = covstringm(k1,ii)
stataon(13, 4) = covstraonm(k1,ii)
stat(13,5) = covcell(k1,ii)
stataon(13,5) = covcellaon(k1,ii)
stat(13,6) = covcellm(k1,ii)
stataon(13,6) = covcellaonm(k1,ii)
stat(13,7) = covgar(k1,ii)
stataon(13,7) = covgaraon(k1,ii)
stat(13,8) = covgarm(k1,ii)
stataon(13,8) = covgaraonm(k1,ii)
stat(13, 9) = covmom(k1,ii)
stataon(13, 9) = covmomaon(k1,ii)
stat(13, 10) = covmomm(k1,ii)
stataon(13, 10) = covmomaonm(k1,ii)
stat(13, 11) = 0
stataon(13, 11) = 0
stat(13, 12) = 0
stataon(13, 12) = 0
stat(13, 13) = 0
stataon(13, 13) = 0
stat(13,14) = 0
stataon(13,14) = 0
```

```
      errorsam(k1) = errorsam(k1)/m
        zsam(k1) = nsam(k1)
        zsam(k1) = zsam(k1)/m *100

       if(ii.ne.1) go to 909
c       summary statistics

        write (45, 903) y(i1),erramt(k1,i1), rate (k1, i1),
     *    kr(k1),
     *    kt(k1),ns(i1),zsam(k1), stat(1,12), stat(3,12),
     *     stat(1,13), stat(3,13), stat(6,13), stat(7,13),
     *    stat(1,14),stat(3,14)


        write (42, 919) y(i1),erramt(k1,i1), rate (k1, i1),
     *    kr(k1),
     *    kt(k1),ns(i1),zsam(k1), stat(1,12), stat(3,12),
     *     stat(1,13), stat(3,13), stat(6,13), stat(7,13),
     *    stat(1,14),stat(3,14)

909       write(34, 99) y(i1),erramt(k1,i1),rate(k1,i1),ns(i1),
     *    m,zsam(k1),pval(ii)

          write (34, 809)

        do 805 j = 12, 14
       write(34, 106) k1,name(j),stat(1,j),stat(3,j),stat(6,j),
     *     stat(7,j)

805     continue


c       unmodified bounds

        do 718 j = 3, 10, 2

        write (40, 300) kr(k1), kt(k1), name1(j),
     *    i1,ii, stat(1,j),stat(3,j),stat(13,j),
     *    stataon(1,j),stataon(3,j),stataon(13,j),
     *    erramt(k1,i1)

718     continue

c       modified bounds
        do 918 j = 4, 10, 2

        write (41, 300) kr(k1),kt(k1),name1(j),i1,
     *  ii, stat(1,j),
```

```
*    stat(3,j), stat(13,j), stataon(1,j),
*   stataon(3,j), stataon(13,j),
*   erramt(k1, i1)

918     continue



        do 807 j = 1, 11

      write(34, 100) k1,name(j),stat(1,j),stat(3,j),
*   stat(6,j),
*   stat(7,j),  stat(13,j)

      write (35,500) k1,ns(i1), pval(ii),
*   name(j),stat(1,j),stat(2,j), stat(13, j),
*   stataon(1,j), stataon(2,j), stataon(13,j)
807     continue

        write (34,105)
        do 905 j = 12, 14
905      write(34,106)(k1,name(j),stataon(1,j),stataon(3,j),stataon(6,j),
*       stataon(7,j))
        do 907 j = 1,11
       write(34, 100)(k1,name(j),stataon(1,j),stataon(3,j),
*       stataon(6,j), stataon(7, j), stataon(13,j))

907     continue
        write (34,116)

601      continue
603      continue


        write (50,1000) (ns(i1),tot(j), totsam(j), j = 1,m)

200      continue

c        format statements

10      format ( 8f9.1/ 1x 8f9.1)

99      format(//1h 6x 'mus.p1' / 6x, 'total book value't30,f13.3/
*     6x, 'error amount' t30, f13.3/6x, 'error rate', t30,
*     f13.6/
*     6x, 'sample size't30, i4/6x, 'no of replic' t20, i4/6x,'%
*     zero error samples', t30, f13.3/
*     6x, 'confidence level't30, f4.2 )
```

```
100       format (1x,i4, 1x, a10, 4f12.2, 3x,f6.2)
105       format (////1x, 'aon error assignments')
106       format (1x,i4, 1x, a10, 4f12.2)
116       format(////)



300       format(1x,5i4, 7f13.3)

500       format(1x,2i4,f6.2,1x,a10, f12.2,f20.2,f12.2,f12.2, f20.2,f12.2)
550       format(1x, 2i4,f10.2,  f6.2, 20f6.2)

809       format(/2x,19x, 4hMean,6x, 9hStan.Dev.,6x,7hMinimum,3x,
     *     7hMaximum,5x, 8hCoverage)

903     format (//////1h, 6x 'mus.p1'/
     *   6x, 'total book value't30, f13.3/
     *   6x, 'error amount' t30, f13.3/
     *  6x,  'line item error rate' t30, f13.3/
     *   6x,  'error rate' t36, i4/
     *   6x, 'error taint' t36, i4/
     *   6x, 'sample size' t36, i4/
     *   6x, '% zero error samp' t30, f13.3/
     *   6x,  'aver book sam' t30, f13.3/
     *   6x, 'std book sam' t30, f13.3/
     *   6x, ' ave distinct items' t30, f13.3/
     *   6x, 'std distinct items' t30, f13.3/
     *   6x, 'min distinct items'   t30, f13.3/
     *  6x, 'max distinct items' t30, f13.3/
     *   6x, 'ave error amt' t30, f13.3/
     *   6x, 'std error amt' t30, f13.3 )


919     format(/1h,3f13.3, 3i4, 9f13.3)

1000      format (i4, 3x,f14.3,3x, f14.3)
99995     format( f10.0,4f10.2)
        close(unit=7)
        close(unit = 34)
          close(unit = 35)
          close(unit = 36)
          close (unit = 37)
          close (unit = 50)

              stop
            end
```

```
      subroutine STRb(nn, ns,i1, pvalue, tt, stringerp)
      real fin
      dimension ns(200), p(200), tt(200)
      do 76 nn1 = 0, nn
      dfnum = 2*(nn1+1)
      dfden = 2*(ns(i1) - nn1)
      c = fin(pvalue, dfnum, dfden)
      pn = (nn1 +1)*c
      pd = ns(i1) - nn1 + (nn1 +1) *c
      p(nn1) = pn/pd
76    continue
      stringerp = p(0)
      if (nn.eq.0) go to 78
       uel = stringerp
       do 77 nn1 = 1, nn
       kk = nn1 - 1
      uel = uel + (p(nn1) - p(kk) ) * tt(nn1)
77    continue
       stringerp = uel
78    return
      end


      subroutine cellb(tt,nn, nsize, p, cellbb)
      dimension p(200), uel(200), tt(200)
c      cell
       at = 0
      uel(0) = p(0)
        if (nn.eq.0) go to 3001
         do 3000 nn1 = 1, nn
         kk = nn1 - 1
         at = at +tt(nn1)
         uel1 = uel(kk) +tt(nn1)/nsize
         uel2 = p(nn1) *(at/nn1)
         uel(nn1) = amax(uel1, uel2)
3000       continue
3001     cellbb = uel(nn)
        return
        end

      subroutine xmomentb(nn, tt, xnsize, z, xmomentp)
      dimension tt(200), tn(3)
c     moment bound
       tmb = 0
        if (nn.eq.0) go to 65
        do 60 i = 1,nn
```

```
60      tmb = tmb +tt(i)
        tmb = tmb/nn
65      tstar = .81*(1 - .667*tanh(10*tmb))
        xx = nn
        xx = xx/10
        tstar  = tstar *(1+.667*tanh(xx))


c     error tainting noncentral moments


55      do 61, jj = 1, 3
        tn(jj) = tstar**jj
        if (nn.eq.0) go to 61
        do 62, i = 1, nn
62      tn(jj) = tn(jj) +tt(i)**jj
61      tn(jj) = tn(jj)/(nn+1)


c     error rate noncentral moments

       xnn = nn

        rn1 = (xnn+1)/(xnsize +2)
       rn2 = (xnn+2)/(xnsize +3)*rn1
       rn3 = (xnn +3)/(xnsize +4)*rn2


c       mean error noncentral moments

        un1 = rn1 *tn(1)
     un2 = (rn1 *tn(2) +(xnsize -1)*rn2*tn(1)*tn(1))/xnsize
       aa = rn1*tn(3)
       bb = 3*(xnsize - 1)*rn2*tn(1)*tn(2)
       cc = (xnsize -1) *(xnsize -2) *rn3 *tn(1)**3
       un3 = (aa +bb +cc)/(xnsize*xnsize)
c      mean error central moments
       uc2 = un2 - un1**2
       uc3 = un3 - 3*un1*un2 +2*un1**3

c      gamma distribution parameters
       aa =( 4*uc2**3)/(uc3**2)
       bb = .5*uc3/uc2
       g = un1 - 2*uc2*uc2/uc3
c      95% moment bound
       xmomentp = g +aa*bb*(1+z/sqrt(9*aa) - 1/(9*aa))**3
       return
       end
```

```
      subroutine garstkab(xnerrors, nsize, pvalue, bound)
       real fin
c      garstka
      dfnum =2* (xnerrors +1)
      dfden = 2*(nsize -xnerrors)
      c  = fin(pvalue, dfnum, dfden)
      pn = (xnerrors +1)*c
      pd = (nsize -xnerrors+(xnerrors +1)*c)
      pp = pn/pd
      bound1 = (nsize *pp/xnerrors -1)
      bound2 = (nsize *xnerrors/(nsize - xnerrors))**.5
      bound = bound1*bound2
      return
      end
```

PROGRAM 2: FORTRAN MODULE FOR SYSTEMATIC SELECTION OF MONETARY UNITS

```
c       selecting the systematic samples

c       partial sums
        s(1) = b(1)
        do 20 i=2,n
          s(i) = s(i-1) + b(i)
20        continue

        k(1) = int(y(1))
        k(2) = int (y(2))
        k(3) = int (y(3))

c       ns(i1) = sample sizes... the corresponding pop size is nt(i1)

      do 200, i1 = 1, 3

        nbound(i1) = k(i1)/ns(i1)

         nnn = 1

       do 30 jj = 1, k(i1), nbound(i1)
         if (inum.gt.k(i1))  go to 51

        do 34 l = nnn,nt(i1)
        if(inum.le.s(l)) go to 35
34       continue
35       i = i+1
       izz(i) = l
       imii =  i -1
      if (i.eq.1) go to 38
      do 37 lk = 1, imii
      if (l.eq.izz(lk)) goto 36
37     continue

38      nobs(j)= nobs(j)+1
36       bselect(i)=b(l)

        inum = inum + nbound(i1)
        nnn = l
30     continue
51      continue
```

(The remainder of the program is similar to Program 1)

PROGRAM 3: FORTRAN MODULE FOR CELL SELECTION OF MONETARY UNITS

```
c       selecting the cell samples
c       partial sums
        s(1) = b(1)
        do 20 i=2,n
       s(i) = s(i-1) + b(i)
20     continue

        k(1) = int(y(1))
        k(2) = int (y(2))
        k(3) = int (y(3))

c       ns(i1) = sample sizes... the corresponding pop size is nt(i1)

      do 200, i1 = 1, 3

        nbound(i1) = k(i1)/ns(i1)
        nnn = 1
        do 30 jj = 1, k(i1), nbound(i1)

        jjj = jj+(nbound(i1) - 1)
        inum = g05dyf(jj,jjj)
         if (inum.gt.k(i1))  go to 51

        do 34 l = nnn,nt(i1)
        if(inum.le.s(l)) go to 35
34       continue
35        i = i+1
        izz(i) = l
        imii =  i -1
      if (i.eq.1) go to 38
      do 37 lk = 1, imii
      if (l.eq.izz(lk)) goto 36
37     continue

38      nobs(j)= nobs(j)+1
36     bselect(i)=b(l)
        nnn = l
30     continue
51      continue
```

(The remainder of the program is similar to Program 1)

PROGRAM 4: FORTRAN MODULE FOR SIEVE SELECTION OF MONETARY UNITS

```
c       selecting the samples using sieve sampling

        i = 0
        do 30 l = 1, nt(i1)
26       inum = g05dyf(1,nbound(i1))

          z = inum
          if(z.gt.b(l)) go to 28
          i = i + 1
          izz(i) = l
          bselect(i) = b(l)

28      continue
30       continue

        nobs(j) = nsize(j)
```

(The remainder of the program is similar to Program 1)

PROGRAM 5: FORTRAN MODULE FOR LAHIRI SELECTION OF MONETARY UNITS

```
c       selecting the samples using Lahiri sampling
        max = b(nt(i1))
        lah(i1) = 1
26     inum = g05dyf(1,nt(i1))
        ib = g05dyf(1, max)
        ibb(inum) = b(inum)
        lah(i1) = lah(i1) +1
        if (ib.gt.ibb(inum)) go to 26
34      izz(i) = inum
      imi =  i -1
      if (i.eq.1) go to 336
      do 32 ll = 1, imi
      if (inum.eq.izz(ll)) go to 28
32     continue
336    continue
        nobs(j)= nobs(j)+1
28      continue
        if (i.ge.ns(i1)) go to 27
25      i = i+1
        go to 26
27      continue
```

(The remainder of the program is similar to Program 1)

PROGRAM 6: FORTRAN MODULE FOR STABILISED SIEVE SELECTION OF MONETARY UNITS

```
c       selecting the samples using stabilised sieve sampling
        i = 0
c       selecting the initial sample
       do 30 l = 1, nt(i1)
26      inum = g05dyf(1,nbound(i1))
          z = inum
        if(z.gt.b(l)) go to 28
        i = i + 1
       izz(i) = l
        bselect(i) = b(l)
28      continue
30      continue
        nobs(j) = i
        nsize(j) = nobs(j)
229     if (nsize(j).ge.ns(i1)) go to 228
c       increasing the sample
37      lnum = g05dyf(1, nt(i1))
        ib = g05dyf(1, max(i1))
        if (ib - b(lnum)) 25,25, 37
25      i = i+1
        izz(i) = lnum
        bselect(i) = b(lnum)
        do 32 ll = 1 , i-1
        if (lnum - izz(ll)) 32,33,32
32      continue
        nobs(j) = nobs(j) +1
33      continue
        nsize(j) = nsize(j) +1
        go to 229
228     continue
        if(nsize(j).eq.ns(i1)) go to 27
c       decreasing the sample
50      inum = g05dyf(1, nsize(j))
        nobs(j) = nobs(j) - 1
        do 51 ll = inum, nsize(j) - 1
        izz(ll) = izz(ll+1)
        bselect(ll) = bselect(ll+1)
51      continue
        nsize(j) = nsize(j)-1
        if(nsize(j).gt.ns(i1)) go to 50
27      continue
```

(The remainder of the program is similar to Program 1)