

Patented Continuous Audit Process

Rutgers' 21st WCAS

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Audit Risk Model (SAS 107, 111)

- Inherent Risk
 - Control Risk
- Risk of Material Misstatement

Further Audit Procedures

- **Analytical Procedures Risk**
- Substantive Detail Test Risk

Objective – a low risk of material misstatement

Positioning the Continuous Process in the GAAS Audit

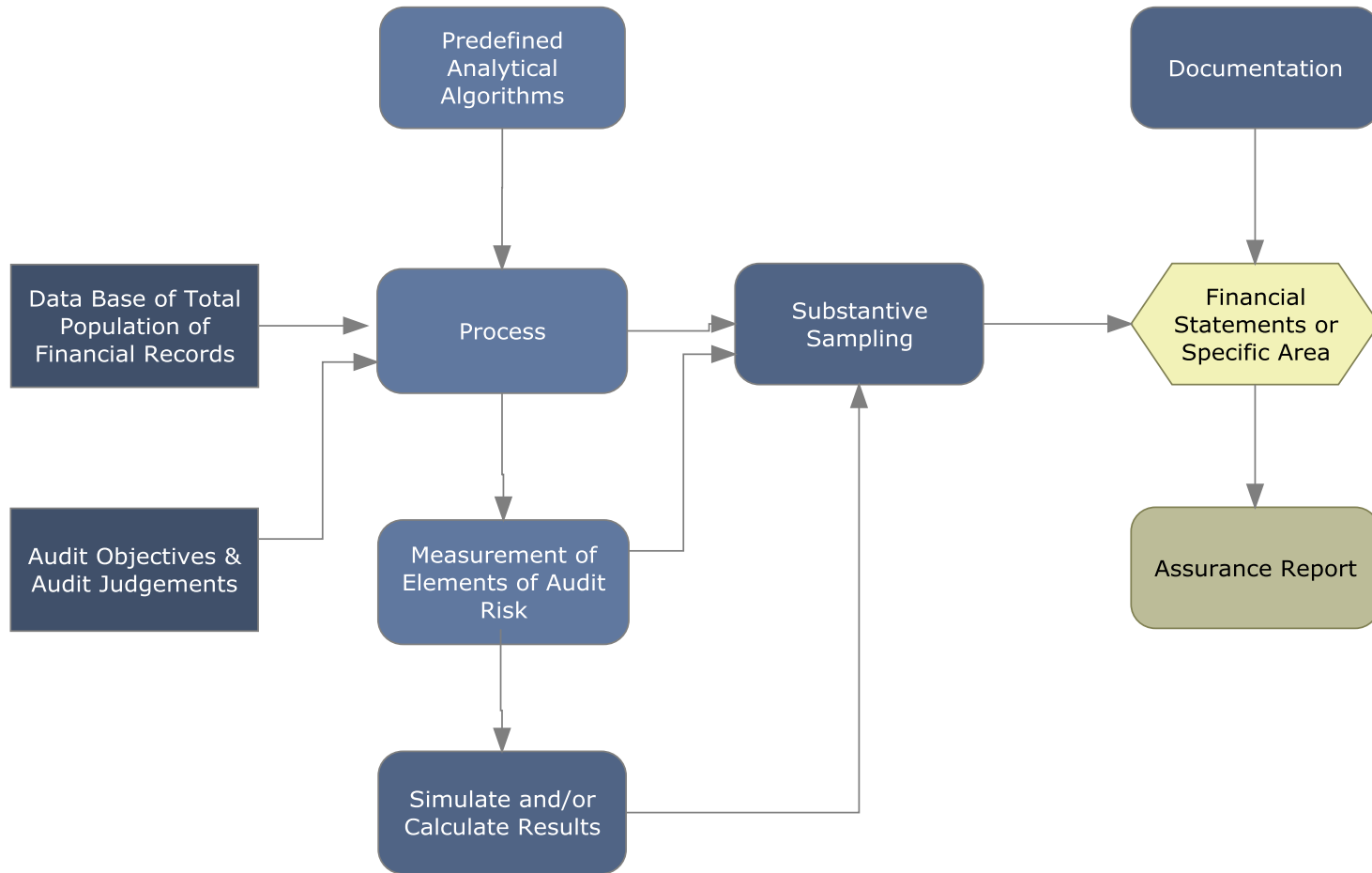
- CA -an **analytical technique** to identify anomalies
- Auditor needs **reliance** on COSO I&C component to rely on analytics (SAS 56)
- CA insufficient unless controls and analytics are both highly effective
- Need some evidence on non-anomalous transactions and other processes not modeled.

Patents

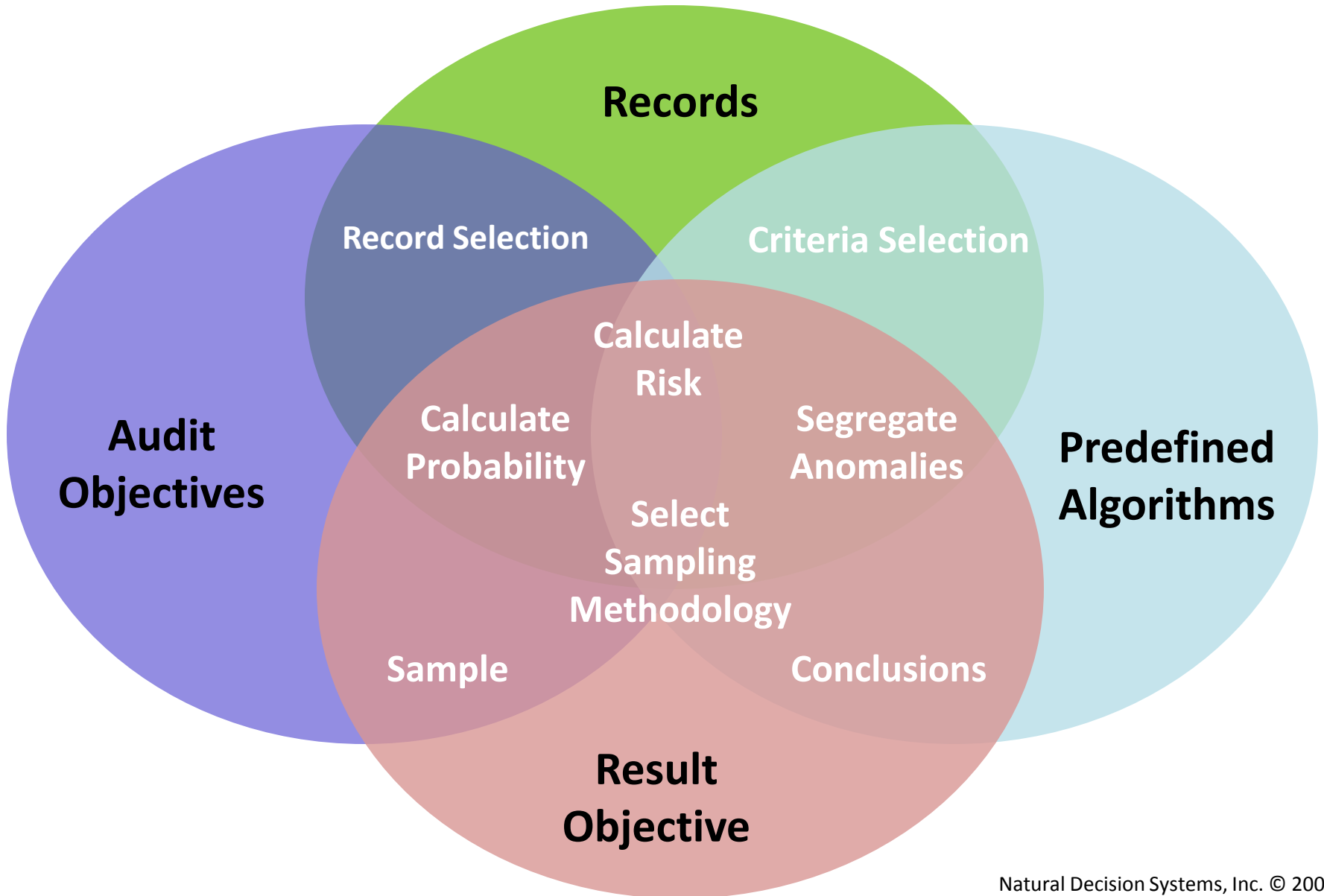
- **System & Method of Continuous Assurance**
 - Audit
 - US Patent 7,676,427
 - Issued March 9, 2010
- **System & Method of Continuous Assurance for Internal Control**
 - Internal Control
 - US Patent 7,720,751
 - Issued May 18, 2010



Condensed Overview



Process



First Analyze Population Distribution

- **Actual Distribution** *Whenever Possible*
 - Higher Accuracy for Measuring Risk
 - Higher Reliability of Monetary Strata
 - Higher Reliability of Clustering
- **Discrete Normal Distribution**
 - Lower Accuracy for Measuring Risk
 - Lower Reliability of Monetary Strata
 - Lower Reliability of Clustering

Understanding & Comparing Distributions

Discrete Normal Lower Range		Discrete Normal Upper Range		Events	Clusters
\$	(10,300,977.00)	\$	(8,240,781.60)	4	0.05%
\$	(8,240,781.60)	\$	(6,180,586.20)	4	0.05%
\$	(6,180,586.20)	\$	(4,120,390.80)	32	0.37%
\$	(4,120,390.80)	\$	(2,060,195.40)	31	0.36%
\$	(2,060,195.40)	\$	-	2081	24.02%
\$	-	\$	2,060,195.40	6433	74.27%
\$	2,060,195.40	\$	4,120,390.80	36	0.42%
\$	4,120,390.80	\$	6,180,586.20	35	0.40%
\$	6,180,586.20	\$	8,240,781.60	4	0.05%
\$	8,240,781.60	\$	10,300,977.00	2	0.02%

Actual Lower Range		Actual Upper Range		Events	Clusters
\$	(2,815,036.00)	\$	(2,307,192.50)	1	0.01%
\$	(2,307,192.50)	\$	(1,799,349.00)	25	0.29%
\$	(1,799,349.00)	\$	(1,291,505.50)	168	1.94%
\$	(1,291,505.50)	\$	(783,662.00)	798	9.21%
\$	(783,662.00)	\$	(275,818.50)	1926	22.24%
\$	(275,818.50)	\$	232,025.00	2688	31.03%
\$	232,025.00	\$	739,868.50	1907	22.02%
\$	739,868.50	\$	1,247,712.00	888	10.25%
\$	1,247,712.00	\$	1,755,555.50	239	2.76%
\$	1,755,555.50	\$	2,263,399.00	22	0.25%

Elements in Calculating Risk

- Assertion Level Risk Areas
 - Financial Statement
 - Financial Statement Area
 - Transaction Strata by Debit & Credit Clusters
- Probability Level Risk Areas
 - Audit Risk (Inherent, Control, Analytical, Substantive)
 - Knowledge Risk
 - Consequence Risk
 - Utility Risk
 - Uncertainty Risk

Examples of Probability Algorithms

- Modifications & Variations of Classics
 - Bayesian
 - Monte Carlo
 - Law of Large Numbers
 - Binomial Random Walks
 - Volatility Beta
 - Markov Chain
 - Samuelson
 - Markowitz
 - Hyper geometric
 - Black Scholes

Examples of Audit Areas

- Financial Reports
 - Financial Statements
 - Financial Statement Areas
 - Special Reports
- Support for Accounting Estimates
 - Substantive Analytical Procedures
 - Optimum Performance of Financial Contracts
 - Intangibles
 - Fair Value
 - Audit Expectations
 - Discounted Cash Flows

Evaluating Risk of Audit Materiality

Risk Level	Amount	
95% \$	1,408,153.78	High
90% \$	1,216,051.57	High
85% \$	1,090,830.99	High
80% \$	994,331.99	High
75% \$	913,988.08	High
70% \$	843,989.60	Moderate
65% \$	781,131.62	Moderate
60% \$	723,433.74	Moderate
55% \$	669,566.66	Moderate
50% \$	618,576.23	Moderate
45% \$	569,734.80	Moderate
35% \$	476,220.76	Moderate
30% \$	430,562.07	Moderate
25% \$	384,990.30	Moderate
20% \$	338,951.56	Moderate
15% \$	291,727.81	Low
10% \$	242,220.32	Low
5% \$	188,263.12	Low

Evaluating CMBS Reserves

Contracts	12/31/2009 Bal	Optimum Balance	Level One Risk	Future Reserve	Future Write Offs	Level Two Risk
18216	\$ 126,144,421	\$ 131,706,712	\$ (5,562,291)	\$ 11,256,841	\$ 10,029,846	\$ (1,226,996)
24485	\$ 198,923,627	\$ 196,732,888	\$ 2,190,738	\$ 46,385,004	\$ 41,329,039	\$ (5,055,965)
5038	\$ 26,331,662	\$ 25,075,760	\$ 1,255,902	\$ 13,211,791	\$ 11,771,706	\$ (1,440,085)
1198	\$ 7,163,066	\$ 6,666,783	\$ 496,283	\$ 5,000,088	\$ 4,455,078	\$ (545,010)
525	\$ 3,169,186	\$ 2,865,025	\$ 304,162	\$ -	\$ 2,552,737	\$ 2,552,737
2466	\$ 16,381,587	\$ 9,024,983	\$ 7,356,604	\$ -	\$ 8,934,733	\$ 8,934,733
51928	\$ 378,113,549	\$ 372,072,152	\$ 11,603,689	\$ 75,853,724	\$ 79,073,139	\$ 3,219,414

Audit Expectation Reserve Absorption

Periods	Reserve Balance
1	\$32,326,000
2	\$27,830,078
3	\$26,873,945
4	\$23,516,080
5	\$22,225,908
6	\$20,724,213
7	\$18,709,676
8	\$17,618,387
9	\$16,455,411
10	\$15,075,085
11	\$13,956,752
12	\$12,469,289
13	\$9,942,901
14	\$7,218,028
15	\$4,603,660
16	\$565,315
17	-\$2,352,884

Completion of Assurance Process

- Substantive Sampling
 - Evidential Support of Results
- Assurance Documentation
 - Objective
 - Frequency
 - Process
 - Conclusions
- Assurance Report