



Predictive Modeling for Audit Selection – A Year of Results

Presented by:

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Introduction



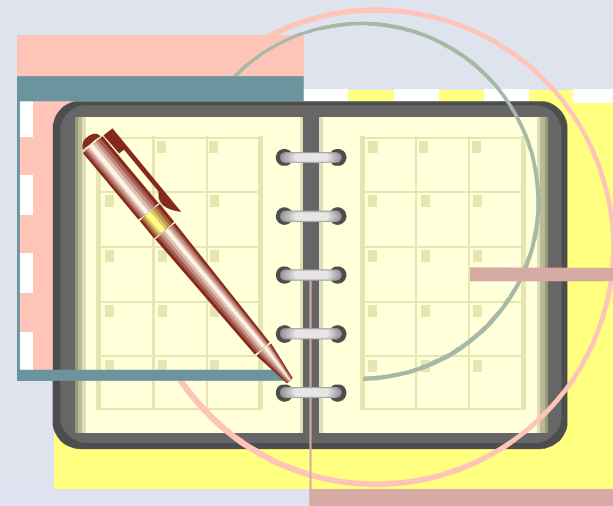
- Tom Kaminski
 - Primary DRS analyst and Liaison with Project and Subsequent Implementation
- John McCalden
 - RSI Project Manager



Agenda



- Review of Analytics Performed
- Review of 2008 Results
- Summary Conclusions

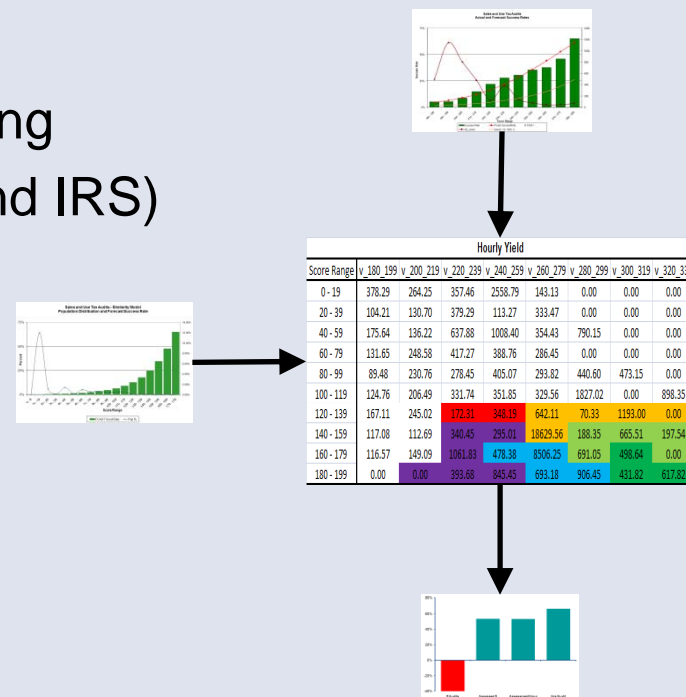


2008 Recap

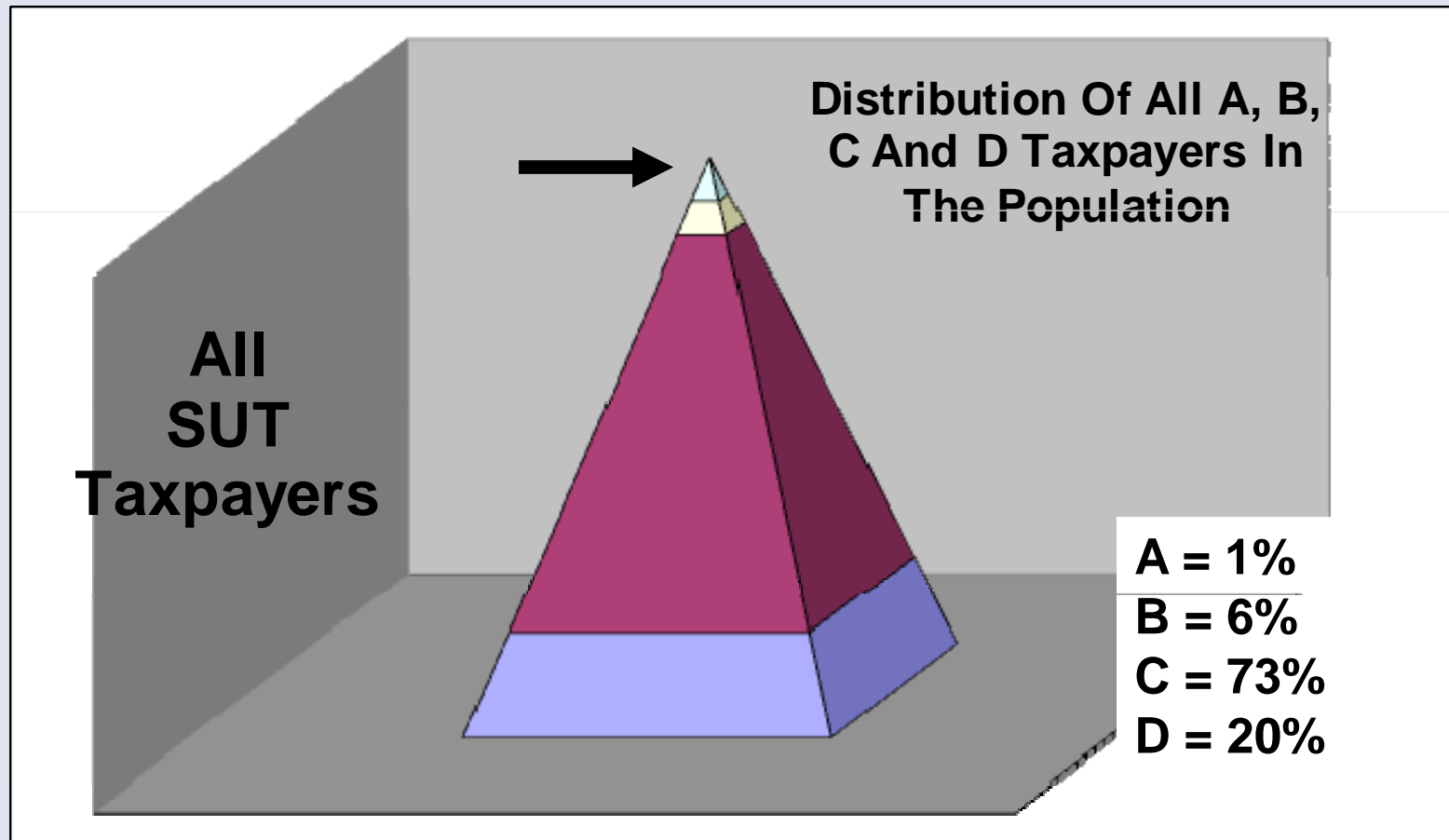


Decision Analytics Experience – Connecticut

- Sales and Use Tax Audit Modeling
- Data in Data Warehouse (ITS and IRS)
- 2 primary models
 - \$400+ per auditor hour
 - Population similarity
- CT developed grading system
 - ‘A’ – average of \$400 per hour
 - ‘B’ – average of \$300 per hour
 - ‘C’ – average of \$200 per hour
 - ‘D’ – average less than \$200 per hour



- Stratifying Audit Candidates



2008 Recap



- Results: How is the model being used?
 - Prioritize audit selections
 - Identify previously unnoticed high potential audit candidates
 - Avoid potentially unproductive audits
 - Quicker reviews for Tax Clearances



Summary Results: Before and After Comparison



Discretionary Audits

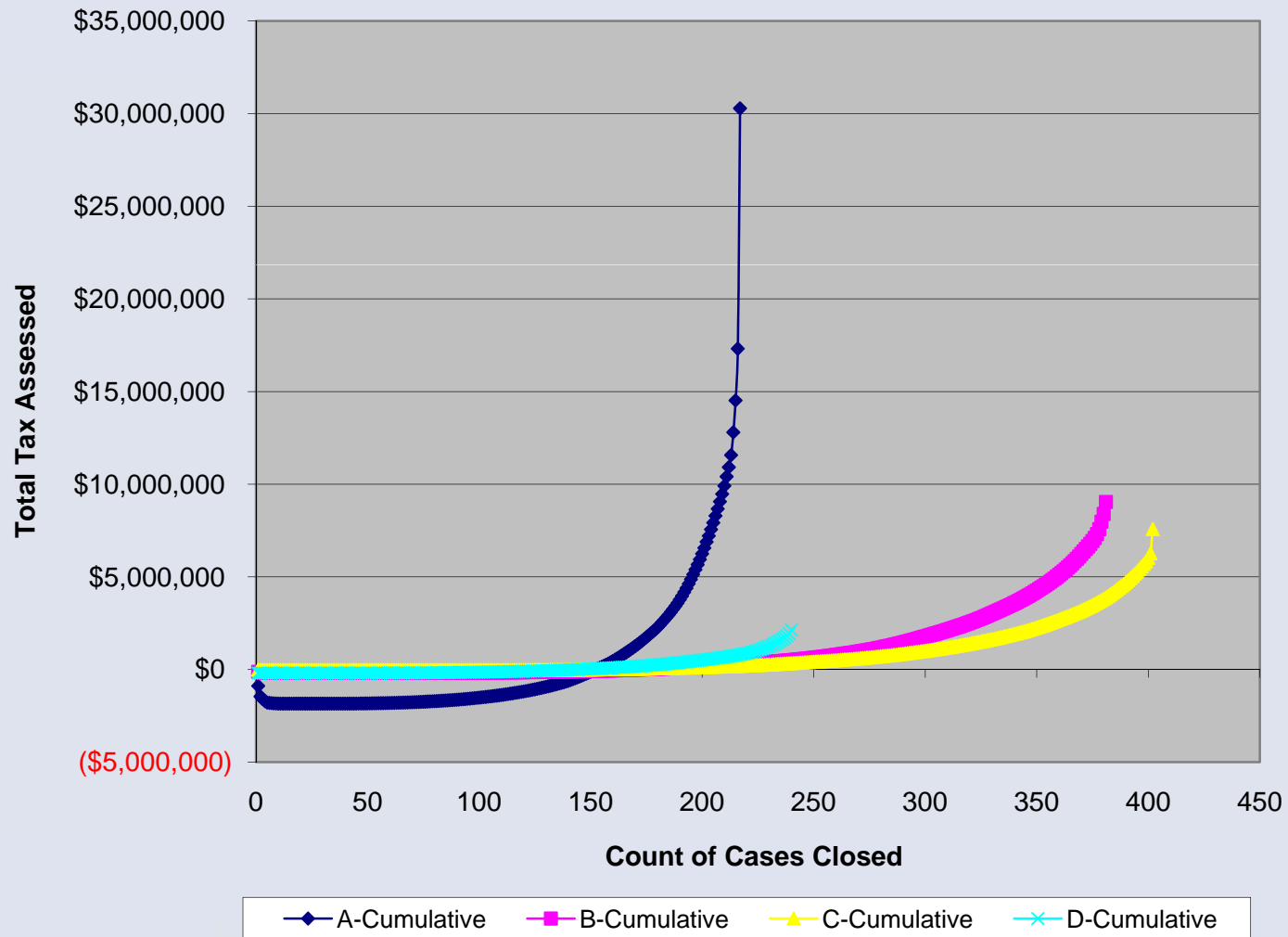
	<u>BEFORE</u> 2005 – 2007	<u>AFTER</u> 2008	% Change
Number of Audits	995	680	-32%
Assessment per Audit	\$13,411	\$18,564	38%
Dollars per Audit Hour	\$281	\$388	38%
% \$400 + per Hour	11.9%	16.3%	37%

Discretionary Audits, by Score

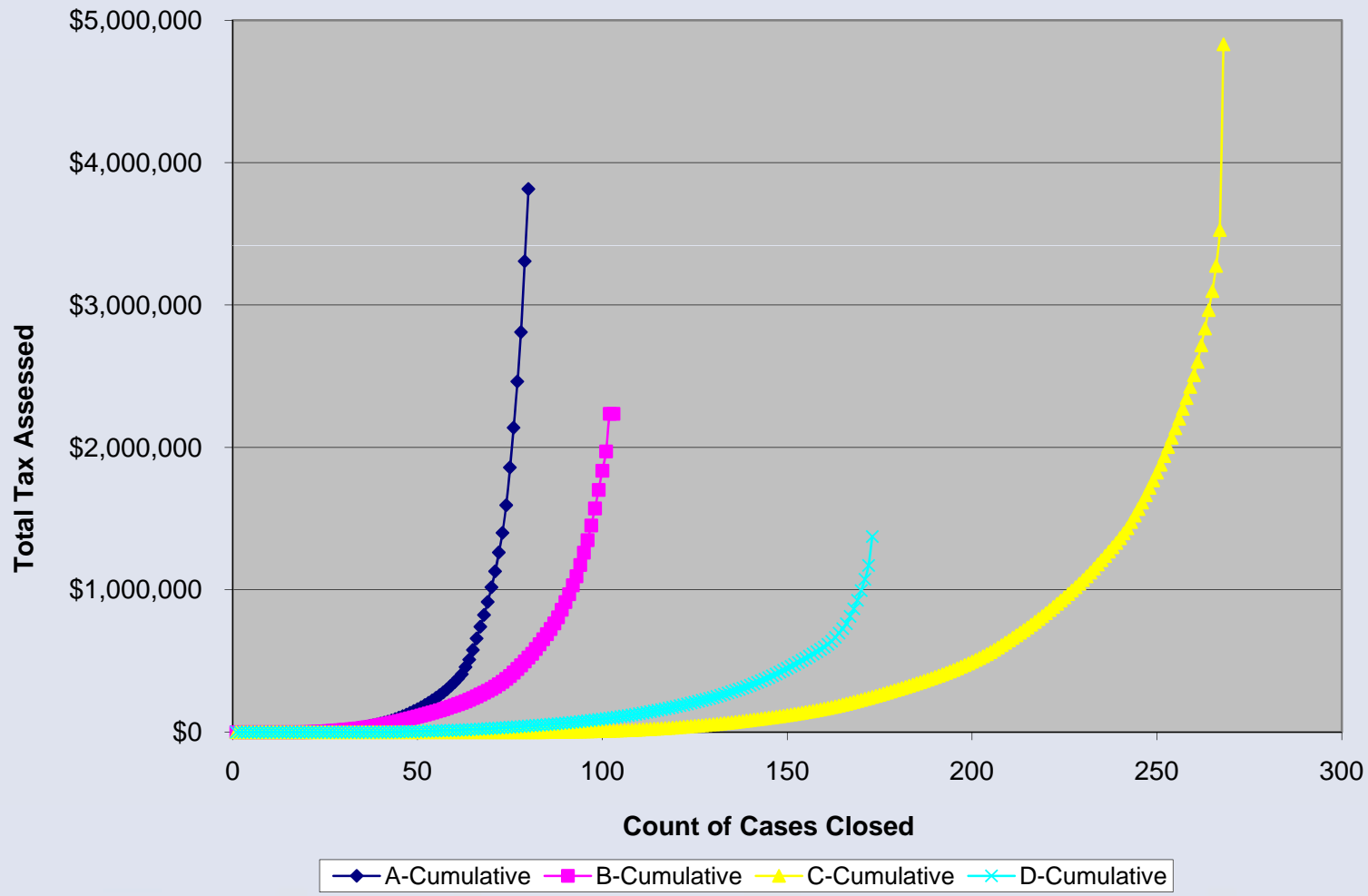


	Discretionary					
	#	No Change	No Change Rate	Total Assessment	Total Hours	Overall Average Hourly Assessment
A	80	20	25%	\$3,814,912	4,824	\$791
B	117	29	25%	\$2,276,296	5,892	\$386
C	268	82	31%	\$4,831,619	11,885	\$407
D	173	38	22%	\$1,373,743	8,568	\$160
N	42	16	38%	\$327,122	1,379	\$237
Totals	680	185	27%	\$12,623,692	32,548	\$388

Cumulative Tax Assessed by Score-ALL CASES (Data presented in ascending value of assessment)



Cumulative Tax Assessed by Score-DISCRETIONARY (Data presented in ascending value of assessment)



A Measure of Lift - 2008



- Thru conservative approach:
 - Dropped 1400 audits at inception
 - Explicitly selected 'A's (80)
 - Somewhat more rigor in selection process

Sample Discretionary Hours	183K
2008 Discretionary Hours	33K
Ratio	18%
Sample Discretionary Assessment	\$56.4M
Expected 2008 Discretionary Assessment	\$10.0M
Actual 2008 Discretionary Assessment	\$12.6M
Difference	\$2.6M
Lift	26%

- 'Potential' for 'Lift' far from exhausted!
 - 33K hours * \$791 ('A' hourly rate) = \$25.8M - \$10.0M = \$15.8M
 - Many caveats: SOL, Regional Disparities, Etc.

Evolving Business Rules



- Emphasis on ‘Evolving’!
- Honing in on those cases to audit, by excluding those that shouldn’t!
 - ~1,400 existing audits were cancelled when scoring went live, due to low score.
 - ‘D’ cases can virtually no longer be selected, because of poor performance
 - Increased refinement of which cases to audit – even mandatory cases.

Evolving Business Rules



- Further Lift Expected in 2009
 - Dropping the 'D' category cases
 - Redistribute those hours to higher scoring cases

'D' Hours:	8,568
Non 'D' Hourly Average:	\$469
Expected Assessment:	\$4.0M
Former 'D' Assessment:	\$1.4M
Difference:	\$2.6M
Overall Lift:	26%

- Total lift for 2009 could be about 50%

Evolving Business Rules



- Not ALL Non-Discretionary need be audited?
 - Shift some hours to Discretionary!

NON-DISCRETIONARY AUDITS	Assessment Per Hour				
	A	B	C	D	N
BANKRUPTCY AUDIT	\$43	\$105	\$187	\$239	\$0
CLEARANCES	\$556	\$207	\$262	\$169	\$482
DISCOVERY INITIATED	\$0	\$247	\$111	\$936	\$0
LARGE PRIOR ASSESSMENT	\$666	\$551	\$325	\$134	\$349
LIQUOR DISTRIBUTOR	\$0	\$134	\$42	\$177	\$0
OTHER	\$0	\$550	\$321	\$0	\$0
RE-AUDITED TAXPAYER	\$565	\$480	\$422	\$128	\$499
REFUND VERIFICATION	\$2,435	\$56	\$207	\$0	\$0
STANDARD REQUEST FOR AUDIT	\$914	\$498	\$468	\$374	\$377
THIRD-PARTY DATA	\$905	\$391	\$325	\$234	\$28
VOLUNTARY DISCLOSURE	\$0	\$52,509	\$1,037	\$0	\$5,786
Averages:	\$1,353	\$403	\$340	\$156	\$965

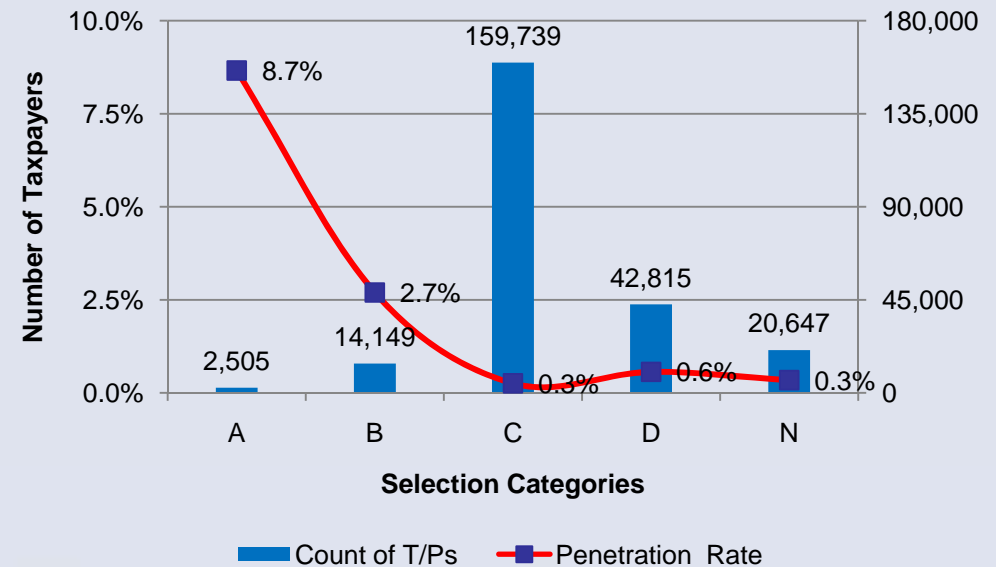
Non-Discretionary	Hours	Assessment	\$ Per Hr
< \$300	13,051	\$969,909	\$74
Total	50,400	\$37,795,617	\$750
%	26%	3%	
Discretionary	13,051	\$6,120,919	\$469
Net Gain		\$5,151,010	

Comparisons with Overall SUT Taxpayer Population



- Not enough 'A's to only work them
 - Plenty of capacity in 'B's
- Enables alternative strategies
 - Revenue
 - 'achieve revenue goals'
 - Voluntary Compliance
 - Dry cleaners, or
 - Pet stores, etc.
 - Or other pet projects!

Number of Taxpayers in Each Selection Category



Decision Analytics - Summary



- Action Must be Taken to Realize a Benefit!
- Non Invasive Technology
- Not Black Magic, Based on Analysis of Your Audits
- Low-Cost, High ROI --- 5:1 +, Ongoing Basis
- In This Economy it Just Makes Sense?

Mission Statement

“Assist revenue agencies to maximize collections, increase compliance, improve customer service and streamline operations through the use of enabling technologies, in particular, integrated tax and tax data warehouse solutions”



www.RevenueSolutionsInc.com

- Incorporated in May 1996
- Headquartered in Pembroke, MA with Solution Centers in Roseville, CA and Charlotte, NC
- Dedicated exclusively to providing products & services to tax agencies
- Over 200 tax professionals with 1000 combined years of revenue systems consulting
- Deep tax administration domain expertise
- Software Solutions for Integrated Tax and Integrated Compliance Management (Data Warehousing, Audit, Collections, Fraud...)
- Committed to client partnerships in delivery of projects



Questions and Contact Information



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Population of audited cases



Audit Type	Cases			Assessments		
	Non Discretionary	Discretionary	Total	Non Discretionary	Discretionary	Total
Bankruptcy	16		16	\$96,792		\$96,792
Clearances	78		78	\$962,195		\$962,195
Discovery Initiated	21	91	112	\$382,448	\$1,084,736	\$1,467,184
Large Prior Assessment	62		62	\$3,061,978		\$3,061,978
Liquor Distributor	20		20	\$167,101		\$167,101
Other	12	77	89	(\$713,193)	\$446,287	(\$266,906)
Re-Audited Taxpayer	122		122	\$4,859,326		\$4,859,326
Refund Verification	62		62	\$20,564,956		\$20,564,956
REITS		35	35		\$496,797	\$496,797
Standard Request for Audit	105	477	582	\$4,814,958	\$10,595,872	\$15,410,830
Third Party Data	121		121	\$2,406,026		\$2,406,026
Voluntary Disclosure	11		11	\$1,193,042		\$1,193,042
Total	630	680	1,310	\$37,795,629	\$12,623,692	\$50,419,321