

# Joint Cost of Collection Study

Presentation to:

Small Seller/Compensation Task Force  
Streamlined Sales Tax Governing Board

August 21, 2008

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## Agenda

- Overview
- Phase I Results
- Phase II Results
- Q&A

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## Overview

- In 2004, the Joint Cost of Collection Study (JCCS), a public-private partnership, retained PricewaterhouseCoopers (PwC) to conduct a two-part study of U.S. retail sales tax compliance costs.
- In addition to PwC, study team included:
  - Dr. Joel Slemrod, University of Michigan
  - Dr. Fritz Scheuren, National Opinion Research Corp.
  - Dr. Brian Erard, B. Erard & Associates
- Academic Advisory Counsel retained by JCCS consisted of:
  - Dr. James Alm, Georgia State University
  - Dr. Gary Cornia, Brigham Young University
  - Dr. Therese McGuire, Northwestern University

## Overview

### Project objectives – Phase I

1. Conduct survey to obtain data required to develop baseline estimate of, and to model retailers' 2003 cost of complying with state/local retail sales tax.
  - National scope (unlike prior studies)
  - Exclude use tax collection on own purchases
  - Include both single state and multistate retailers
  - Include both store and non-store based retail channels
  - Retail sector generally defined under SIC system but excludes eating and drinking places
2. Prepare report based on survey including national compliance cost estimates

## Overview

### Project objectives – Phase II

1. Estimate “drivers” of compliance costs based on econometric analysis of survey data including taxpayer and sales tax system characteristics as explanatory variables
2. Develop microsimulation model capable of estimating impact of retail tax system changes on compliance costs
3. Use model to estimate potential effects of SSTP reforms on compliance costs

## Overview

### Project timeline

- 6/11/2004 Contract with PwC signed by all JCCS parties
- 8/30/2004 1<sup>st</sup> JCCS Steering Committee and AAC meeting
- 9/29/2004 First of three waves of survey sent
- 4/30/2005 Survey closed
- 12/09/2005 Phase I draft final report distributed
- 1/18/2006 2<sup>nd</sup> JCCS Steering Committee and AAC meeting
- 4/7/2006 Phase 1 report finalized
- July 2006 Phase II econometric analysis authorized
- June 1, 2007 Phase II econometric report distributed

## Phase I

### Definition and Measurement of Sales Tax Compliance Costs

- Cost of compliance is the incremental costs *over and above* what would be incurred if no sales tax
  - Internal personnel costs (time or money)
  - Internal non-personnel costs
  - External costs
- Distinction between *true resource costs* (capital, labor) and *net implicit transfers* (e.g., vendor discounts, “float”)
- The ultimate incidence of compliance costs is not the focus of the study

## Phase I

### Definition and Measurement of Sales Tax Compliance Costs

- Retail sales tax compliance activities:
  1. Training personnel
  2. Programming register systems
  3. Documenting tax-exempt sales
  4. Handling audits and appeals
  5. Other data collection and document retention
  6. Preparing forms, collecting and remitting tax

## Phase I

### Definition and Measurement of Sales Tax Compliance Costs

- Drivers of compliance costs: **State sales tax systems**
  - Statutory exemptions (goods, purchasers, sellers, uses, tax holidays)
  - Variation in bases/rates among jurisdictions
  - Local administration in "home rule" states
  - Treatment of remote sales

## Phase I

### Definition and Measurement of Sales Tax Compliance Costs

- Drivers of compliance costs: **retailer characteristics**
  - Type of retailer
  - Number of stores in each state
  - 2003 gross sales, taxable sales, remittances
  - Full time equivalent employees, cashiers, others
  - Exempt sales
  - Remote sales
  - Filing frequency
  - Audit frequency
  - Other

## Phase I

### State tax "complexity buckets"

Group	Sales tax characteristics	States
1	No local sales tax	CT, DC, HI, IN, KY, MA, MD, ME, MI, MS, NJ, RI, WV
2	Uniform base, state administration Generally uniform local rates Origin based	PA, VA, VT
3	Destination-based Variable local rates	IA, MN, NC, WI
4	Origin based	AR, IL, MO, NM, OH, TN, TX, UT, WA
5	Destination-based	FL, KS, NE, NV, OK, WY
6	Uniform base, variable local rates, local administration, destination-based	CA, GA, SD
7	Variable base, variable rate State administration, destination-based	ND, NY, SC
8	Local administration	AK, AL, AZ, CO, ID, LA
9	No sales tax	DE, MT, NH, OR


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## Phase I

### Survey stratification based on Dun & Bradstreet data

Sales Class	State Group									Total
	1	2	3	4	5	6	7	8	9	
150k - 200k	129	49	57	39	90	146	77	57	93	737
200k - 500k	440	167	183	716	276	403	265	182	287	2,919
500k - 1M	148	56	62	191	81	124	73	59	104	898
1M - 2.5M	220	80	97	270	115	175	105	79	138	1,279
2.5M - 5M	146	59	66	182	71	117	78	56	102	877
5M - 10M	160	68	78	201	74	121	81	50	114	957
10M - 25M	286	127	138	372	133	224	140	97	182	1,699
25M - 50M	254	100	109	348	140	234	112	98	135	1,530
50M - 100M	211	69	85	310	126	221	87	97	47	1,253
100M+	312	121	144	462	169	237	136	104	38	1,723
<b>Total</b>	<b>2,306</b>	<b>896</b>	<b>1,019</b>	<b>3,091</b>	<b>1,275</b>	<b>2,002</b>	<b>1,154</b>	<b>889</b>	<b>1,240</b>	<b>13,872</b>

- 648,000 retailers in Dun & Bradstreet database
- Retailers < \$150,000 sales excluded from survey
- All retailers > \$100 million sales included in survey

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## Phase I

### Survey administration

- Initial pilot survey conducted to test questionnaire.
  - Questionnaire shortened to 8 pages (6 requesting data)
- Survey mailed to D&B address with PwC cover letter noting sponsorship of NRF, COST, MTC, FTA, NCSL, GFOA and endorsements by US Chamber, NFIB and RILA.
  - DMA withdrew sponsorship.
- Initial and follow up telephone calls to encourage participation.
- Data checking and telephone follow-ups as necessary.
- Imputation for missing values.
- Results weighted by sample probabilities with non-response adjustment.
- Checked against Census and BLS controls.

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## Phase I

### Survey response rate

Sales Class	State Group									Total
	1	2	3	4	5	6	7	8	9	
Under 150k	1	-	1	1	1	-	-	-	-	4
150k - 200k	3	2	1	-	2	1	5	1	1	16
200k - 500k	10	10	7	25	7	9	8	9	12	97
500k - 1M	7	5	2	14	6	7	1	-	8	50
1M - 2.5M	18	5	10	21	7	8	6	3	14	92
2.5M - 5M	16	3	6	27	5	14	1	3	8	83
5M - 10M	11	1	2	18	6	9	7	4	9	67
10M - 25M	17	13	12	23	6	13	4	6	13	107
25M - 50M	18	2	9	26	5	14	10	6	5	95
50M - 100M	10	5	7	19	12	7	3	8	1	72
100M+	25	6	12	32	11	8	7	9	3	113
<b>Total</b>	<b>136</b>	<b>52</b>	<b>69</b>	<b>206</b>	<b>68</b>	<b>90</b>	<b>52</b>	<b>49</b>	<b>74</b>	<b>796</b>

Note: Many retailers in Dun & Bradstreet had moved or were no longer in business. Response rate was about 8% of surveys sent to valid addresses.

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## Phase I

### Survey Results—Gross Compliance Costs

Compliance costs as a percentage of:	Annual Retail Sales Size Class			
	\$150,000 - \$1,000,000	\$1,000,000 - \$10,000,000	Over \$10,000,000	Weighted Average
Sales tax collected	13.47%	5.20%	2.17%	3.09%
Taxable sales	0.82%	0.32%	0.13%	0.19%

Note: All results are statistically significant at the 5% level.

- Compliance costs for retailers in smallest size category are six times higher as a share of sales or sales tax collected than for retailers in largest size category.
- 1993 *Tax Administrators News* compilation of prior single-state studies found average compliance cost of 3.13% of sales tax collected

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## Phase I

### Survey Results—Net Implicit Transfers

#### Net Implicit Transfers Related to Collection of Sales Tax, 2003 [As a percentage of total state and local sales tax collections]

Net Implicit Transfers	Annual Retail Sales Size Class			
	\$150,000 - \$1,000,000	\$1,000,000 - \$10,000,000	Over \$10,000,000	Weighted Average
Vendor discount*	0.96%	0.68%	0.45%	0.50%
Net float	0.15%	0.14%	0.09%	0.10%
<b>Total</b>	<b>1.11%</b>	<b>0.82%</b>	<b>0.54%</b>	<b>0.60%</b>

\* The vendor discount rates presented in the table represent the national average across all states. Actual vendor discounts allowed in each state, which can differ markedly from the national average, can be found in Appendix D.  
Note: All results are statistically significant at the 5% level.

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## Phase I

### Survey Results—By Type of Compliance Cost

**Gross Compliance Costs by Type and Size of Annual Retail Sales, 2003**  
[As a percentage of total state and local sales tax collections]

Compliance Costs	Annual Retail Sales Size Class			
	\$150,000 - \$1,000,000	\$1,000,000 - \$10,000,000	Over \$10,000,000	Weighted average
<b>For retailers that provided cost breakdown</b>	<b>16.84%</b>	<b>4.21%</b>	<b>1.03%</b>	<b>1.81%</b>
<i>Training of personnel on sales tax</i>	1.87%	0.55%	0.35%	0.41%
<i>Documenting tax-exempt sales</i>	3.80%	0.87%	0.13%	0.31%
<i>Customer service relating to sales tax issues</i>	0.74%	0.21%	0.06%	0.10%
<i>Sales tax-related software and license fees</i>	1.86%	0.36%	0.10%	0.17%
<i>Programming and servicing cash registers</i>	1.17%	0.35%	0.10%	0.16%
<i>Returns, remittances, refund credits, sales tax research</i>	5.35%	1.19%	0.12%	0.38%
<i>Dealing with sales tax audits and appeals</i>	1.03%	0.46%	0.12%	0.18%
<i>Other compliance costs</i>	1.03%	0.23%	0.05%	0.11%
<b>For retailers that did not provide cost breakdown</b>	<b>9.08%</b>	<b>3.41%</b>	<b>1.54%*</b>	<b>2.56%*</b>
<b>Related compliance costs for all retailers</b>	<b>1.85%</b>	<b>1.29%</b>	<b>1.02%</b>	<b>1.09%</b>
<i>Debit/credit card fees on sales tax</i>	0.76%	0.76%	0.64%	0.66%
<i>Unrecovered sales tax paid due to bad debt</i>	1.09%	0.53%	0.38%	0.43%
<b>Total gross compliance costs for all retailers</b>	<b>13.47%</b>	<b>5.20%</b>	<b>2.17%</b>	<b>3.09%</b>
<i>External costs of compliance</i>	3.79%	0.87%	0.14%	0.42%
<i>Internal costs of compliance</i>	9.68%	4.33%	2.03%	2.67%

\* Not statistically significant at the 5% level.

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## Phase I

### Survey Results—By SIC Code

**Gross Compliance Costs by SIC Code and Size of Annual Retail Sales, 2003**  
[As a percentage of total state and local sales tax collections]

SIC Code	Annual Retail Sales Size Class			
	\$150,000 - \$1,000,000	\$1,000,000 - \$10,000,000	Over \$10,000,000	Weighted Average
52: Building and Garden Supplies	11.30%	5.14%	1.76%	2.68%
53: General Merchandise	(D)	(D)	2.28%	2.35%
54: Food Stores	12.02%	18.28%	2.73%	4.56%
55: Auto/Service Stations	10.60%	4.28%	3.27%	3.78%
56: Apparel and Accessories	8.80%	(D)	1.60%	1.82%
57: Furniture and Home Furnishings	19.40%	4.70%	1.52%	2.82%
59 (excluding 5961): Miscellaneous Retail	14.09%	4.09%	2.11%	4.51%
5961: Catalog, Mail-order, Internet Retailers	(D)	(D)	(D)	(D)
<b>Weighted Average</b>	<b>13.47%</b>	<b>5.20%</b>	<b>2.17%</b>	<b>3.09%</b>

(D) = Withheld due to limited number of observations.

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## Phase I

### Survey Results—By Direct Market Sales Percentage

**Gross Compliance Costs by  
Percentage of Direct Market Sales and Size of Annual Retail Sales**  
[As a percentage of total state and local sales tax collections]

Percent of Direct Market Sales	Annual Retail Sales Size Class			
	\$150,000 - \$1,000,000	\$1,000,000 - \$10,000,000	Over \$10,000,000	Weighted Average
Exactly 0%	13.02%	5.13%	2.22%	3.95%
Between 0% and 90%	14.83%	4.71%	2.10%	2.39%
Above 90%	(D)	10.68%	4.85%	7.60%
<b>Weighted Average</b>	<b>13.47%</b>	<b>5.20%</b>	<b>2.17%</b>	<b>3.09%</b>

(D) = Withheld due to limited number of observations.

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## Phase I

### Survey Results—By number of nexus states

**Gross Compliance Costs by  
Number of Nexus States and Size of Annual Retail Sales, 2003**  
[As a percentage of total state and local sales tax collections]

Number of nexus states	Annual Retail Sales Size Class			
	\$150,000 - \$1,000,000	\$1,000,000 - \$10,000,000	Over \$10,000,000	Weighted Average
One	13.50%	5.02%	3.65%	6.17%
Two to Four	(D)	3.47%	1.42%	1.59%
Five to Nine		(D)	1.33%	1.80%
Ten or More			1.94%	1.94%
<b>Weighted Average</b>	<b>13.47%</b>	<b>5.07%</b>	<b>2.15%</b>	<b>3.06%</b>

(D) = Withheld due to limited number of observations.

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## Phase I

### Survey Results—By number of SKUs

**Gross Compliance Costs by  
Number of SKUs and Size of Annual Retail Sales, 2003**  
[As a percentage of total state and local sales tax collections]

Number of SKUs	Annual Retail Sales Size Class			Weighted Average
	\$150,000 - \$1,000,000	\$1,000,000 - \$10,000,000	Over \$10,000,000	
Less than 1,000	11.00%	5.08%	3.11%	5.91%
1,000 to 5,000	13.64%	4.25%	3.79%	5.76%
5,000 to 10,000	34.94%	10.14%	2.26%	3.12%
10,000 to 25,000	16.75%	6.26%	1.32%	2.25%
25,000 to 50,000	(D)	3.24%	2.37%	2.75%
50,000 to 100,000	(D)	3.79%	1.65%	1.79%
100,000 or More	(D)	(D)	2.25%	2.26%
<b>Weighted Average</b>	<b>13.47%</b>	<b>5.20%</b>	<b>2.17%</b>	<b>3.09%</b>

(D) = Withheld due to limited number of observations.


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## Phase I

### Survey Results—By share of taxable sales

**Gross Compliance Costs by  
Taxable Sales Percent and Size of Annual Retail Sales, 2003**  
[As a percentage of total state and local sales tax collections]

Percent of Taxable Sales	Annual Retail Sales Size Class			Weighted Average
	\$150,000 - \$1,000,000	\$1,000,000 - \$10,000,000	Over \$10,000,000	
Less or equal to 25%	46.24%	11.69%	8.07%	12.24%
Between 25% and 100%	11.21%	5.13%	2.13%	2.79%
Exactly 100%	15.50%	4.10%	1.90%	3.70%
<b>Weighted Average</b>	<b>13.47%</b>	<b>5.20%</b>	<b>2.17%</b>	<b>3.09%</b>

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## Phase II Econometric Analysis

### Overview

- Multiple regression equation modeling used
- Single-state retailers
  - Compliance costs are a function of retailer and state characteristics
- Multi-state retailers
  - Compliance costs are a function of retailer characteristics and measures of multi-state operation such as
    - number of retail outlets in each of 9 state complexity “buckets”
    - Number of retail outlets in states with particular tax characteristics (e.g., variable local bases, variable local rates)
- Control group approach to estimate certain compliance costs

## Phase II Econometric Analysis

### Overview

- Certain compliance costs can be estimated using a “control group” approach:
  - personnel costs
  - cost of cash register systems
- A regression approach is used to compare the total costs for personnel and registers among retail outlets in states with a sales tax (of varying levels of complexity) to total costs among a control group of retail outlets from states with no sales tax
- Similar to Washington DOR methodology, but amended to allow for multi-state retailers

## Phase II Econometric Analysis

### Overview

- Baseline results based on a weighted analysis of the responses given by 585 retailers nationwide
  - All survey respondents that provided sufficient information and that reported total compliance costs over \$200 were included in the analysis
- Tax compliance is subject to significant economies of scale
  - If all four indicators of size (sales, taxed sales, number of transactions, and employees) increase by one percent, compliance costs are estimated to increase by 0.53 percent
- In general, analysis did not find significant differences in compliance costs related to the extent of a company's operations in states in different "complexity buckets"

## Phase II Econometric Analysis

### Summary Results

- Some aspects of the sales tax regimes do have a significant association with total compliance costs
  - Operating in a local filing jurisdiction increases compliance costs
  - The number of local-option, nonconforming states the company operates in is associated with higher compliance costs
  - The number of states where the company had stores facing no local sales tax is associated with less compliance costs
- The composition of exempt sales also affects total compliance costs
  - Compliance costs are higher, the higher is the fraction of exempt sales due to resale certificates or exempt organizations, and are lower the greater the fraction of exempt sales due to out-of-state sales
  - Holding constant total gross sales, a higher level of taxable sales is associated with lower total compliance costs

## Phase II Econometric Analysis

### Summary Results

#### ➤ Control Group Analysis

- The analysis examined the extent to which state sales taxes influence retailers' decisions with regard to the number and type of cash registers (manual, semi-automatic, or automatic) and the total number of personnel employed
- The results provide some evidence that the total **number of cash registers** tends to be lower as the percentage of stores in non-sales tax states increases, but do not suggest any significant impact of having retail stores in sales-tax states on the **type** of cash registers employed or the **number of employees**

## Phase II

### Use of Econometric Results for Policy Simulations

- Policy simulations could be performed using the following statistically significant explanatory variables
  1. Number of states a retailer is present in that do not have state-local base conformity
  2. Indicator for one local filing jurisdiction
  3. Indicator for two or more filing jurisdictions
  4. Number of states a retailer is present in that do not have a local sales tax
  5. Indicator for having stores in at least one state that held a sales tax holiday
  6. Percent of exempt sales attributable to out-of-state sales

## Phase II

### Use of Econometric Results for Policy Simulations

#### SST Reform Provisions (as of July 2007)

- State level administration
- Uniform tax base
- Seller registration
- Notice of tax changes
- Database of local jurisdictions
- Relief from liability
- Uniform state rates
- Sourcing rules
- Direct pay permits
- Administration of exemptions
- Uniform tax returns
- Uniform remittance rules
- Library of definitions
- Amnesty
- Certified compliance models
- Certified service providers
- Certified automated systems

## Phase II

### Use of Econometric Results for Policy Simulations

- Only one of the statistically valid policy simulations appears to have a direct bearing on the impact of SST reforms
  - Effect of a uniform state-local tax base
- Thus, construction of a compliance cost simulation model based on econometric results of JCCS survey is not likely to provide answers to key SST policy questions
- Alternative approaches to measuring compliance costs under SST include
  - Update of survey with focus on differences between states that conform vs. states that do not conform to SST
  - Survey of costs incurred by companies that use certified service providers

## Q&A

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