MODERNIZATION OF THE ANNUAL SURVEY OF STATE GOVERNMENT TAX COLLECTIONS*

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INTRODUCTION

THE CENSUS BUREAU'S GOVERNMENTS DIVISION provides information on the revenues, expenditures, cash and securities holdings, indebtedness, employment, payrolls and other key economic activities of the Nation's federal, state, and local governments. The Division conducts the quinquennial Census of Governments (CoG) as well as numerous related surveys on an annual, and in some cases, a quarterly basis. The Governments Division conducts two surveys that specialize in statistics on tax revenues, the Annual Survey of State Government Tax Collections (STC) and the Quarterly Summary of State and Local Government Tax Revenues (QTax). The STC survey covers the fifty state governments, and provides a summary of annual taxes collected for 25 tax categories. This paper discusses the differences between the two tax surveys conducted by the Governments Division, and describes an initiative to modernize the STC. This paper further discusses the current processing and research plan for the STC and the proposed expansion of data products.

DIFFERENCES BETWEEN THE QTAX AND STC

Both STC and QTax began as special studies by the Governments Division in order to provide additional value beyond the statistics developed in the Annual Survey of State Government Finances. The STC was originally introduced in 1939, and was designed to show details on the largest revenue sources for states. Up until 1992 an annual STC summary report provided a national overview of state tax collections, as well as detailed notes and appendices detailing each state's particular revenue line items. The QTax was introduced in 1962 and was designed as a type of "indicator" to provide earlier estimates of state and local revenues.

The STC is a census of state fiscal year tax revenue for state governments. Where STC reflects state government fiscal years that end on June 30, the QTax represents revenue on the four quarters of the calendar year.[1] The STC includes statistics on tax measurement of sales and gross receipts taxes, individual and corporate income taxes, license taxes, and other sub-category taxes such as motor fuels, alcoholic beverages, tobacco, and severance. Similar statistics are collected on the QTax, however, QTax also includes a sample survey of local tax revenue.

Despite using the same classification schema and methodology, the STC and QTax surveys operate autonomously from one another and are intended to serve unique purposes. Although Census Bureau staff often work cooperatively to reconcile any gaps in tax collection, the data produced by the surveys, by their independent nature, may still vary. These differences may be attributed to classification distinctions, or where in the revision cycle each of the two surveys fall at any given point in time.

Classification

Classification differences may exist depending on how a state (or state's entities) classifies and reports a 'tax.' Under Census Bureau classification rule a tax means that along with property, income, and sales and gross receipts, taxes exacted as a condition of the exercise of a business or nonbusiness privilege are also included within Census Bureau statistics. In many cases, individual state agencies collect these license taxes, as opposed to a centralized Department of Revenue. These organizational differences in the collection of taxes may contribute to classification differences between the two surveys, as each survey may, in theory, be gathering data from different governmental agencies that collect these license taxes. In addition, given the timeliness of the QTax survey's data collection cycle, some data may not be available from these decentralized state collection offices in a timeframe that meets the QTax survey's needs.

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While QTax provides indications of trends in revenues, STC allows for more comprehensive coverage of state tax activities. The annual cycle of STC has extended processing cycles compared to the QTax. This extended processing cycle enables STC analysts the opportunity to further define where new taxes exist, and identify additional tax collecting authorities, within a given jurisdiction. These findings are often initiated in STC and later reconciled in QTax data.

Timing

Other factors that make the STC distinct from QTax relate to timing. QTax reflects a particular quarter, whereas the STC survey is intended to reflect a state's fiscal year. This difference in periodicity affects the type of accounting method used in each survey. Due to QTax's frequency, data are commonly reported in an unaudited format, and on a cash basis of accounting. This leads to one difference between the surveys, where a cash basis of accounting and unaudited revenues may lead to large fluctuations that are intended to represent a fiscal year's revenue but are reported largely in one quarter. Furthermore, as STC's reporting follows the close of a state's fiscal year, the survey tracks closely with an audited, modified accrual basis of accounting, representing all financial activities within the full fiscal year. This difference in accounting can affect how data are reported, and create differences in data reported at any particular point in time.

Revision Practices

Differences in revision practices also exist between the QTax and STC. The Census Bureau revises QTax data on a quarterly basis as far back as seven quarters prior to the current quarter. The annual nature of STC tends toward less frequent revisions, identified corrections are updated bi-annually in the spring and then again in the fall, ahead of the state finance data release. Both surveys may revise back two years from the current fiscal year and both surveys' revisions may occur as a result of the data provider submitting corrections to past data. However, revisions may come from new information identified through research or survey reconciliation, or from coverage issues brought to the Census Bureau's attention from outside sources. Understanding the differences between STC and QTax helps to better understand the role of STC, and how that role influences STC's modernization plan.

CURRENT PROCESSING AND OPERATIONS

Over the past three years the Governments Division has developed a new focus of modernizing the process and collection of the STC. This initiative comes from structural changes within the Division, as well as the opportunity to learn from QTax's experience in revision and re-engineering of operations, now that the survey nears the end of its initial restructuring plan. This focus has allowed for more attention to be paid to coverage and data products for the STC. Such attention includes the expansion of tax research, upgrading of internal processing tools, and a focus on dissemination opportunities.

Tax Research

In regard to classification and coverage improvements, the Census Bureau has initiated a research focus in between survey cycles to ensure complete and accurate coverage of taxes for the states. This includes research for specific taxes that may be in need of clarification in order to determine how they are to be correctly classified. For example, such research led to Cap and Trade permit auction revenues, casino and gaming licenses, blue sky filing fees, and medical provider taxes being included, or corrected, in the Fiscal Year 2009 data. In continuing on with this tax research, STC analysts recognize the challenge in not only identifying changes in tax policy, but also working to identify if such changes are included when reported data are highly aggregated.

Processing System

In coordination with the process modernization and re-engineering of the Census of Governments and its related surveys, the Governments Division documented STC's current processing system in order to understand the operational flow and existing pain points that could be improved through a re-engineering effort. This evaluation of the current process presented opportunities for operational efficiency improvement in areas of data collection and processing, editing methodology, imputation, and coverage analysis. It has provided a clear path for the improvements that have been made, such as a more automated processing system, and will be made throughout the duration of the re-engineering process.

Edit Flags and Parameters

Improvements for the STC began in the 2009 survey cycle with the introduction of new edit flags and parameter settings. This was important because it allowed STC analysts a more structured setting to investigate edit failures before the data were released. Prior to the introduction of these parameters for the 2009 survey cycle, a statistically valid editing procedure did not exist. This new method consists of using a ten-year historical average deviation of annual percent changes. This measure of variability estimates the average absolute deviations of data points from their mean. These parameters are dynamic in nature and will change with each survey cycle based upon the reported data.

Response Rates

In addition to the enhancements to the internal processes, the 2009 survey cycle also included the development of additional measures for the calculation of response rates. In cases where the Census Bureau obtained tax information from financial statements or cash reports, these sources were verified by contacts within that state to ensure that this was the best method of obtaining the tax data necessary for the survey. The overall unit response rate for the 2008 and 2009 STC was 100 percent. This unit response rate was calculated for the total U.S., and shows the percentages of the states in the eligible universe that responded to the survey.

For the first time, the Total Quantity Response Rate (TQRR) was calculated for the tax categories for each state in the Fiscal Year 2009 survey. This response rate is the proportion of the total of each category reported by units in the survey or from sources determined to be equivalent quality-to-reported data expressed as a percentage. TQRRs were calculated for the 25 tax categories for each state. The Census Bureau's quality standard on releasing data products requires a 70 percent TQRR for key items. The 2009 STC had a TQRR of 100 percent for all but one tax category.[2]

Additional improvement for the Fiscal Year 2009 processing year includes the introduction of a data dashboard. This dashboard provides an interactive tool that allows analysts to visually compare historic figures for each state. Highlights of this dashboard include the ability to focus on trends of a specific tax code and to reconcile that STC tax code trend to the historical trend of QTax. The introduction of the dashboard facilitates the development of a higher quality statistical data product.

Revisions

Despite the annual cycle of the STC, revisions remain necessary to prior year data in order to account for any changes to preliminary data that were received or corrections in classification. Prior to the 2009 survey, revisions occurred either annually or bi-annually, however no detail was provided to users on the state or specific tax categories that had been altered in the revised release. This created a problem in tracking changes, where data users were unable to identify where revisions had occurred. In Fiscal Year 2009 an update to the internal revision procedure occurred that allowed for better tracking of revised data. This update displayed an "R" by the data when figures are revised. All publication materials (i.e., HTML pages, summary tables, and flat data files) have been changed to display these revision flags (figure 1). This update in the revision procedure allows users to see all revisions, by tax category, at the national and state level.

DATA PRODUCTS AND DISSEMINATION

An additional piece of the STC modernization lies in the opportunity for improving data products and dissemination methods. In the data release for the Fiscal Year 2008 survey cycle, a press release was added to increase the visibility of the data. The press release included a national aggregate summary of the data, as well as information on the tax categories that showed the most significant changes for that year. Following the trend of improvements to data dissemination, the press release for Fiscal Year 2009 was expanded from the 2008 version. While providing similar information as the previous year's press release, the 2009 version included some state and regional analysis as well as a detailed table showing a summary of the state tax collections by selected types of taxes.[4]

In Fiscal Year 2009, an iteration of STC's previously released detailed summary reports, which

Figure 1: **Publication Revision Flags**[3]

Item	Amount
Total taxes	117,361 ,976R
Property taxes	2,279,103
Sales and gross receipts	39,807,724R
General sales and gross receipts	31,972,874
Selective sales taxes	7,834,850R
Alcoholic beverages	327,260
Amusements	X
Insurance premiums	2,172,936
Motor fuels	3,421,457
Pari-mutuels	34,949
Public utilities	754,799
Tobacco products	1,037,457
Other selective sales	85,992R

focused on a summary of national trends in tax collection, was released. Although the Fiscal Year 2009 report did not provide the state level detail of its predecessor, it was an initial step toward improvements to the data products for STC and a building block to provide reports with the detail provided in the previously released reports. The combination of the improved press release and the new summary report added value to the STC product and increased the visibility of STC, as the survey saw its largest amount of press coverage in many years.

In addition to data summary reports and press releases, STC has also improved its data accessibility. Beginning in Fiscal Year 2008, mid-cycle revisions for STC were released to reflect any changes made following the initial release. To alert users of revisions that have been posted, the redesign of the survey's web page allows for announcements to provide the dates when data were last revised and when future releases are scheduled.

With the release of the 2009 STC data, revisions released for Fiscal Years 2007 and 2008 included a detailed revisions sheet. For any states that had revisions to their previous year tax statistics, a detailed revision table with three columns was provided in the STC release. These columns showed the current amount that is available on the website, the original amount reported at the time of the data release, and the magnitude of the revision made (figure 2). This provided users with improved documentation of the revisions to prior year data.

In Fiscal Year 2009, a comprehensive downloadable Excel file for the detailed STC data was developed, covering the period of 1951 through 2009. On August 30, 2010, the historical data webpage was updated to include these files for data users. Previously, in order to obtain these data, the user was required to either call the STC staff, or send an email requesting these data. Prior to the development of this new historical data product the extent of the data time series available to users on the Internet only went back as far as 1992.

PLANS FOR THE FUTURE

As STC analysts identify future modernization opportunities, two main paths help formulate this plan. One is reflecting back on what has been produced throughout the historical iterations of STC in order to identify what products of value may have been lost over the years. The second is to recognize where STC is now, in regard to what distinguished value it can offer, and how that value can be met and best disseminated. Both of these paths for modernization place a great deal of focus on data classification, in regard to expanding data

Figure 2: **Detailed Revision Sheet**[5]

State Government Tax Collections: 2008

(Amounts in thousands)

		United States		
		Current	Original	Revision
	Total taxes	781,643,542	780,675,722	967,820
T01	Property taxes	12,687,154	12,719,220	-32,066
	Sales and gross receipts	358,522,421	357,467,135	1,055,286
T09	General sales and gross receipts	241,007,659	240,415,097	592,562
	Selective sales taxes	117,514,762	117,052,038	462,724
T10	Alcoholic beverages	5,292,681	5,291,245	1,436
T11	Amusements	6,376,564	6,377,239	-675
T12	Insurance premiums	15,717,832	15,710,811	7,021
T13	Motor fuels	36,476,852	36,437,108	39,744
T14	Pari-mutuels	225,511	225,511	0
T15	Public utilities	14,794,364	14,525,595	268,769
T16	Tobacco products	16,068,075	16,050,425	17,650
T19	Other selective sales	22,562,883	22,434,104	128,779

detail and updating the classification schema to reflect changes in the tax environment.

Classification Detail

The advantage of the Census Bureau's current classification schema is that it presents the disparate ways that governments conduct business into a single, uniform, comparative basis, allowing for cross-state comparison that would not otherwise be possible using original state-specific data. Although the STC provides details for the 25 standard tax categories described in the *Government Finance and Employment Classification Manual,* often these categories are aggregates of further specific state taxes.[6] Therefore, the detail within aggregates are not readily available for the Census Bureau's statistics on governments. One such example of this is the category Occupation and Businesses License, which is published as a single total despite being a combination of many different types of license taxes (figure 3).

A potential area to expand the information provided through the STC data is to promote the usage of footnotes. Footnotes, as used in the historical STC summary reports, have the opportunity to help explain trend changes within a tax category, including changes resulting from rate changes in an existing line item, or the addition of a line item to the tax category (figure 4). Such information enables data users to better understand what type of detail is being included within the 25 tax categories, and helps data users identify where data are coming from, in the situation where data users are trying to recreate the pieces of the STC data. Footnoting may serve as one of the first steps towards a more detailed STC product.

Another potential area to expand the information provided through the STC data products is to reconfigure the presentation of the data to provide all users with each state's specific sub-categories that contribute to the published line aggregates. For example, in the case of Business Licenses, instead of merely presenting a total line value for each state for this category, some degree of specific license detail may also be provided. In fact, in the historical STC reports this level of detail for states was reported where it was available (figure 5).

The difficulty with providing this level of detail is that it may not be consistently available for all states. As a result, although these details would be valuable to users, the Governments Division will need to evaluate this idea because of the inconsistency across states and tax categories within the existing classification schema.

Classification Modernization

A further goal for the Census Bureau's Governments Division programs, one of which STC is directly related to, is to update and refine the existing classification schema for taxes as public

Figure 3: **Classification of "Occupation and Business License, NEC" (T28)**

Code T28 Occupation and Businesses License, NEC

Definition: Licenses (including examination and inspection fees) required of persons engaged in particular professions, trades, or occupations; taxes on insurance companies based on value of their policies; such taxes on businesses not elsewhere classified; and charges or fees relating to the inspection and marketing of commodities (e.g., seed, feed, fertilizer, gasoline, oil, citrus fruit, etc.).

Figure 4: **Historical State Level Footnotes**[7]

Minnesota

[1]Tax rate increased from 38 to 43 cents per pack effective June 1, 1991.
[2]Telephone gross receipts tax repealed effective January 1, 1990.
[3]Royalty tax eliminated January 1, 1990.
[4]Mortgage registry and documents tax reclassified from a county tax to a state tax effective January 1, 1991.

Mississippi

[1]Tax rate increased from 6 to 7 percent effective June 1, 1992.
[2]Admissions tax was reenacted in 1990.
[3]Detail does not add to total.
[4]Temporary tax rate increase effective January 1, 1991, to July 1, 1992.
[5]Fee increase, effective 1991.

Missouri

[1]Tax rate increased from 11 to 13 cent per gallon effective April 2, 1992.
[2]Certificate of the fees increased effective July 1, 1991.

Figure 5: **Historical State Level Classification Detail**[8]

Occupations and businesses, n.e.c.	24,488	22,770
Installment loans	4,287	4,250
Insurance department fees	2,317	[5]1,283
Drilling	2,068	1,850
Bank department fees	1,708	1,787
State ports license	1,442	129
Insurance privilege	1,412	1,379
Board of medical licensure	675	614
Rice promotion	671	576
Board of nursing	580	830
Insurance commission assets	524	797
Hazardous waste management tax	506	516
Slot vending machine	457	468
Public contractors	419	413
Feed and fertilizer	339	530
Department of public safety	51	390
Other	7,032	6,958
Hunting and fishing	8,889	8,653
Other—aircraft registration	107	87

Figure 6: **Corporation Net Income Taxes**

Code T41 Corporation Net Income Taxes

Definitions: Taxes on corporations and unincorporated businesses (when taxed separately from individual income), measured by net income, whether on corporations in general or on specific kinds of corporations, such as financial institutions.

Excludes: Income taxes on gross income or receipts of corporations (report at *Sales and Gross Receipts Taxes,* codes T09 – T19) and combined corporation and individual income taxes not separable by type in older, historical data (report at *Individual Income Taxes,* code T40).

finance and tax policy continue to evolve in practice. Classification of taxes for STC has remained relatively unchanged since the existing classification scheme was implemented in the early 1950s. However, in that time, the taxing methods of states has become more complicated.

The recent introduction of a variety of different taxes on corporations, including Business Activity Taxes, that will often tax a corporation on their *gross receipts* rather than their net income, introduces a complication with the current definition of the "Corporate Net Income Taxes". According to the existing definition of T41 (figure 6), taxes on a corporation's gross receipts are not to be included in T41, and should be coded in the area of sales and gross receipts taxes (T09 – T19). If this is the case, these tax revenues will be grouped with the other types of gross receipts taxes (including general sales tax). Therefore, data users looking to compare taxes on corporations across states may not be able to accurately do so under the current classification scheme.

CONCLUSIONS

As the Census Bureau looks toward the future of the STC, one of the primary strengths identified for STC is the ability to provide detailed information on state specific taxes. Because the STC survey is conducted on an annual basis, the Census Bureau can utilize the STC as the principal data product to release a more thorough examination of tax classification and research, expanding its data dissemination products and meeting the needs of a larger group of data users.

To identify additional means of adding value to the STC survey, and broaden its user community through data products, an opportunity exists to look back at Census Bureau history to see what has been done. In particular, what made the survey valuable for users beyond what was similarly presented in other related data series such as the state finance or state and local finance data? While the missions of both QTax and STC have intended to provide data products that cater to a variety of users, the nature of the recent products tends to lend the data products to members of the tax policy communities. The reintroduction of the press release and annual summary report are a few such examples of resurrecting historical value that make data more accessible to the media and casual data users. In addition, looking back at the value of past products also brings to light new opportunities, such as expanding the highlights of data trends at the national, regional, and state levels, and broadening the time series and detail for the more technical users.

This paper has addressed the differences between the STC and the QTax surveys and has offered a discussion of the Census Bureau's approach to modernizing the STC. In particular, this paper has provided discussion on the STC modernization plans for areas of content, improvement in data collection and statistical quality, data products and dissemination.

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Notes

1 The following four states' fiscal years do not end on June 30: New York, March 31; Texas, August 31; and Michigan and Alabama, September 30.

2 Occupational and Business Licenses, Not Elsewhere Classified (T28) had a TQRR of 99.4 percent.

3 U.S. Bureau of the Census, State of California Government Tax Collections, 2008. http://www.census.gov/govs/statetax/0805castax.html.

4 U.S. Census Bureau. Public Information Office. Newsroom Press Release Archives. http://www.census.gov/newsroom/releases/archives/governments/

5 U.S. Bureau of the Census, State Government Tax Collections, 2008. http://www2.census.gov/govs/statetax/2008detailedrevisions.pdf

6 2006 Government Finance and Employment Classification Manual, Section 4-9.

7 U.S. Bureau of the Census, State Government Tax Collections in 1992; Series GF92, No. 1, Page 42.

8 U.S. Bureau of the Census, State Government Tax Collections in 1982; Series GF82, No. 1, Page 23.