

Progress on the Redesign of the Quarterly Tax Survey

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Abstract

In 2007, the Committee on National Statistics released a report that evaluated the state and local government surveys conducted by the Census Bureau. The panel recommended a complete redesign of the Quarterly Tax Survey. This paper discusses the progress made so far in light of the panel's recommendations. The survey has undergone a sample redesign for both the property tax and the local non-property tax components. Dual processing of the new and old property tax samples was started in January 2009, while the local non-property tax collection forms have been redesigned and have undergone cognitive testing. Additionally, all components of the survey have new editing procedures and techniques for dealing with unit and item nonresponse. For background information on the Quarterly Tax Survey, including technical documentation, please visit <http://www.census.gov/govs/www/qtax.html>.

Key Words: Questionnaire Design, Survey Improvements, Imputation, and Editing

1. Introduction

In 2007, the National Research Council (2007) issued a report entitled *State and Local Government Statistics at a Crossroads*, thus culminating a two-year review of the U.S. Census Bureau's Governments Division's programs that survey the economic activity of state and local governments. After reviewing all aspects of the programs, which measure state and local government finances, activities of public employee retirement systems, and employment and payroll of public employees, the Committee on National Statistics (CNSTAT) issued 21 recommendations on data quality, statistical methodology, dissemination, analysis, and challenges for Governments Division to tackle in the future. The Quarterly Tax Survey, which provides national-level quarterly estimates of state and local tax revenue, as well as detailed tax revenue data for individual states, was mentioned in the background discussion of several recommendations, but it also received a recommendation that was totally devoted to its concerns: The Governments Division should use the redesign of the Quarterly Tax Survey to assess the quality of the sample frame, to develop a probability sample of local governments for non-property tax measurement, to streamline questionnaires, and to develop cost-effective variance estimation, editing, and imputation procedures that meet Census Bureau standards.

In response to the recommendation, the Governments Division made the redesign of the Quarterly Tax Survey a priority. The sampling frame, an update of the sample design for property tax estimation, a change to the methodology for calculating non-property taxes to incorporate a probability sample of tax imposers, questionnaire research on the best way to ask for non-property tax data, new edit procedures to reduce unnecessary edit

¹ This report is released to inform interested parties of research and to encourage discussion of work in progress. Any views expressed on statistical, methodological, or operational issues are those of the authors and not necessarily those of the U.S. Census Bureau.

failures, new unbiased imputation procedures, new estimation and variance estimation procedures, and a new dissemination format are all planned for the redesign. In this paper we address the issues raised by CNSTAT as well as issues that we have since encountered. We also report on the progress made to date on the sample design, questionnaire, and editing and imputation methodology. We finish with our conclusions and a brief sketch of our future plans.

2. Sample Design

The sample design for the Quarterly Tax Survey is separated into three sections according to the three questionnaires used (F71, F72, F73). The F71 uses a sample of county-areas to obtain local government property tax data from tax collectors. On the F72, state governments' taxes are obtained by sampling all state governments. For the F73, which obtains non-property taxes from local governments, we are replacing a nonprobability sample with a probability sample that will yield statistically valid estimates.

2.1 Sampling to Obtain Estimates of Local Property Taxes (F71)

The sample to obtain local property tax estimates is a stratified sample of county-areas, i.e., all governments in a county. The form is mailed to all tax collectors in the selected county-area. Prior to sampling, we knew an approximate number of tax collectors, but the exact number was not known until research was done on the sampled county-areas to obtain a mail list. There was enough knowledge about the number of units in the county-area to develop strata defined as small (one tax collector), medium (2 to 5 tax collectors), or large (6 or more tax collectors). Within these strata, the county-areas were further stratified by population. Each county-area with a population greater than 350 million and an annual property tax collection of at least \$165 million was included in the sample with certainty. There were 289 initial certainty county-areas and 320 noncertainty county-areas selected into the property tax sample. The number of tax collectors in these 609 county-areas was 5,407.

We explored the possibility of selecting a sample that would yield regional and national rather than just national estimates of property tax. The number of county-areas (810) needed to yield reliable estimates with a coefficient of variation of less than 3 percent for each region precluded our use of a regional sample. Since all collectors in the county-area were being surveyed, and the number of tax collectors in those counties was estimated to be about 10,000, resource constraints prevented us from moving forward with the regional estimates. Our plans for the future are to examine the possibility of obtaining an accurate listing of property tax collectors prior to sample design in order to sample collectors rather than the clustered county-areas. Another alternative would be to examine the possibility of measuring property tax data with a sample of tax imposers rather than tax collectors. This option would make the quarterly data comparable to the annual tax data from the Annual Finance Survey.

2.2 Sampling to Obtain Estimates of Local Non-property Taxes (F73)

Our initial plan for surveying governmental units to obtain non-property taxes was to select a sample of county-areas and survey all tax collectors within the county-area, thus following the same methodology as for the property tax collections. It was believed that tax collectors would be able to provide the most accurate data in a timely manner.

Because we did not have a national list of tax collectors, and resources prevented us from obtaining one, we had to sample county-areas and research the tax collectors within the county-area. In most county-areas, there is a large tax collector that is affiliated with the county or city government. In other county-areas, there are numerous smaller collectors affiliated with the smaller townships, cities, school districts, or special districts within the county-area. Under the proposed methodology, these smaller units are all brought into the sample if the county-area is brought into the sample. All of these small units add significantly to the sample size but yield similar data from similar-sized governments in a localized area.

Following our initial plans, we selected a stratified sample of 316 county-areas. The initial certainty stratum included all county-areas with a population of 350,000 or greater, a total non-property tax of \$209,565,000 or greater, or stock transfer plus other taxes greater than \$35,905,000 (limits determined by subject matter experts and through review of the data distribution). There were 181 county-areas selected into sample with certainty using these criteria. The noncertainty units were stratified by type of non-property tax (sales and income, sales only, income only, neither sales nor income) and within type by total non-property tax. The total number of noncertainty units selected into the sample was 135. The sample was designed to yield coefficients of variation that were less than 1.0 percent for most national estimates of non-property taxes.

During the forms design for the non-property tax portion of the survey, we tested the questionnaire using cognitive interviewing methods. When cognitive interviewing revealed that the tax imposers could provide the data as quickly, and possibly more accurately, than the collectors, we decided to sample tax imposers rather than collectors. It is also possible to obtain a listing of all tax imposers before sampling, to avoid the more expensive county-area sampling. After the sampling frame has been constructed, we will look at the possibility of using a stratified, or possibly a probability proportional to size, sample of tax imposers. We will also examine the possibility of producing regional as well as national estimates.

3. Forms Design

The forms design to date has dealt mainly with the F73 Quarterly Survey of Selected Local Taxes for the collection of nonproperty taxes. The current form does not meet statistical standards in terms of the items collected compared to the lines in the publication for the national estimates. Currently the form requests information in three parts; general sales tax, individual income tax, and all other taxes collected by the agency. In contrast the national estimate includes six specific collections for local government nonproperty taxes ranging from individual income to alcoholic beverage sales, a combined motor vehicle and operator's licenses estimate, and an all other category. To derive the specific categories that were not collected separately on the form we derived the data from the Annual Survey of State and Local Government Finances, or, for those states where all general sales taxes imposed by local governments and collected by the state, the local portion of the general sales taxes was collected on the F72. This resulted in local non-property tax data collected or derived from three separate surveys.

In the initial re-design of the F73 we separated the form into four main categories: Sales Taxes, License Taxes, Income Taxes, and Other Taxes, and included a Total Taxes category so that in the event that the government could not separate them out, we would at least get a total for non-property taxes. Next we included specific questions within

each category for the lines in the publication as well as any taxes that collected substantial amounts based on reviewing the estimates for the Annual State and Local Government Finance survey. We also included all other items within the Sales Taxes and License Taxes categories and listed examples of taxes types to increase the likelihood that all taxes collected would be reported on the form. The resulting form expanded the total number of collection items from three to twelve. The F73 was designed to be mailed to governments in a county-area that collected taxes rather than those that impose the taxes to reduce the response burden and overall mail-out size. This is based on the premise that a government may collect taxes on behalf of another government and therefore not require us to mail a form to all governments within a county-area. To highlight the fact that the form is requesting information on taxes collected, two probing questions were added to instruct respondents to include taxes they collected on behalf of another government and to exclude those taxes collected on their behalf by another government.

We conducted cognitive interviews for the new F73 form for approximately 25 large and small governments in the Washington D.C., Philadelphia, and Chicago metro areas. The interview protocol was designed to judge the understanding of each question on the form, and to research data collection methodology factors such as whether the requested information is available in cases where governments collect on behalf of other governments, when the data are available during the quarter, and the comprehension of the terminology. In addition, we learned that some governments use private entities to collect their taxes and incorporated this into the form and testing research.

During the first round of cognitive interviews, we discovered issues with both the collection methodology and certain questionnaire items. The respondents were confused as to why we were asking for only the portions of their revenue they directly collected rather than all of their revenue. Additionally, we had assumed that we would find that not all of the approximately 7,300 governments within the 316 sampled county-areas would collect taxes on their own behalf and thus the sample size would be reduced. This was not the case, however, and all governments were going to have to be included in the mailing. We also learned the governments had access to monthly or quarterly reports with sufficient detail on their imposed taxes, regardless if they were collected directly, by another government, or by a private entity.

In terms of specific questionnaire items, many respondents were confused by the License Taxes category as they considered these licenses to be fees and not taxes. The term License Taxes is specific to the Census Bureau and is meant to represent license and permit fees “exacted (either for revenue raising or for regulation) as a condition to the exercise of a business or non-business privilege.”² Respondents were also confused by the last two questions, Other Taxes and Total Taxes. Some either did not see, or were confused by, the instructions to exclude property taxes and as a result were looking for a place to report property taxes in the Other Taxes line. Others were confused by the Total Taxes line and did not understand this to ask for a total non-property tax figure.

Based on the results of the cognitive interviews we have developed a second version of the F73 form. We have switched the collection methodology from collectors of taxes to those that impose and retain the taxes. This will eliminate the confusion we encountered

² “2006 Government Finance and Employment Classification Manual” available at www.Census.gov

in the interviews and should substantially reduce the overall sample size by allowing us to sample at the national level rather than by county-areas. It will also eliminate the need to mail to private collection firms and reduce the number of special districts in the sample. We have replaced the License Taxes term with License and Permit Fees, which better represents government accounting terminology. To reduce the confusion of why we do not include property taxes in the F73, we will state in the instructions and/or a FAQ section that property taxes are collected in a separate survey (F71). In addition we have changed the title of the survey from Quarterly Survey of Selected Local Taxes to Quarterly Survey of Non-Property Taxes. Finally, we have removed the final question asking for Total Taxes to reduce the likelihood that property taxes would be included in the response. A second round of cognitive interviews will be completed during the summer of 2009 to evaluate the revised form.

4. Editing

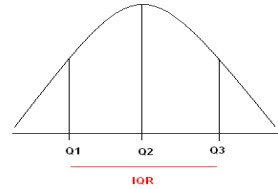
We began editing research with Form 71 which collects information only on local property tax. The editing system for this form consisted of a single ratio edit which compared each unit's reported amount for the current quarter to the reported amount in the same quarter last year. The bounds were set to 0.80 and 1.20. The smallest reporting units, those reporting less than \$100,000 in property tax collections in both the current quarter and the same quarter last year, were automatically passed. However, even with the automatic passing of small respondents, close to one third of the data were flagged for analyst review, yielding too many units for the analysts to follow-up on within the survey time constraints. Therefore, the top priority was to reduce the workload of the analysts to a level allowing them to follow-up on flagged cases and increase the timeliness of the editing process.

For the new editing system, three ratio edits were considered: the ratio of the current quarter to the same quarter last year (Ratio 1), the ratio of the change from current quarter to prior quarter this year compared to the same change last year (Ratio 2), and the four-quarter sum for the year ending in the current quarter to the sum from the same time period of the previous year (Ratio 3). Four methods for developing bounds for the above ratios were tested: resistant fences (RF), asymmetric resistant fences (AF), symmeterized resistant fences (SRF) and Hidioglou-Berthelot (HB).

The bounds produced from resistant, asymmetric, and symmeterized resistant fences are based on the distribution of the ratios that are being edited³. For example, consider the ratio of the current quarter to the same quarter last year. To calculate bounds, that ratio would be computed for each reporting unit and then the distribution of all of those ratios would be analyzed. For all methods, the first, second, and third quartiles of the distribution are calculated. With resistant fences, in order to determine the upper and lower bounds, the distance between Q1 and Q3 (called the inter-quartile range or IQR) is measured. The lower bound is then set equal to the first quartile minus a predetermined constant, k , times the inter-quartile range. Similarly, the upper bound is set equal to the third quartile plus k times the inter-quartile range. Any ratio falling outside of these bounds is flagged for analyst review. For the ratio of the current quarter to the same quarter last year the bounds would be:

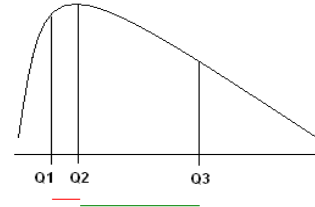
³ Thompson, Katherine Jenny, & Sigman, Richard S. (1999).

$$Q1 - k * IQR < Ratio < Q3 + k * IQR$$



This method assumes that the distribution of the ratios is roughly symmetric, however in practice most economic data are skewed rather than symmetric. Because of this skewness, the asymmetric resistant fences method utilizes the distance between the first and second quartile for the lower bound and the distance between the second and third quartile for the upper bound. In the example above, the bounds would now be:

$$Q1 - k * (Q2 - Q1) < Ratio < Q3 + k * (Q3 - Q2)$$



Calculating the bounds in this manner pulls the upper bound out towards the tail of the distribution of the ratios.

An alternative method for creating bounds for skewed distributions is to use the resistant fences bounds on the ratios after they have been symmeterized by some type of power transformation. In the editing research conducted for the F71, the distribution of the ratios was symmeterized by taking the natural log of each ratio prior to the calculation of the quartiles. Then the formula for the bounds given in the resistant fences example was applied.

The fourth bounds development method tested was HB⁴. Editing is a resource intensive process. It takes time for the analysts to follow up on the data that are flagged for review; it increases burden when respondents are contacted by analysts during follow up; and this all slows down the editing process as a whole. With HB bounds, priority is placed on capturing data errors that will have the largest impact on the estimate. Through transformations of the ratios, bounds are developed that tolerate larger changes in small reporting units while restricting the acceptable amount of change allowed in larger reporting units. It should be noted here that the HB method was not used for Ratio Two because the ratio itself consisted of ratios. This resulted in units with a higher weight being more sensitive to failure, and these are often the smallest reporting units.

Using historical data from four time periods beginning with 2007 quarter 2 and ending with 2008 quarter 1, the bounds and failure rates obtained using each of the above methods and the existing edit bounds of 0.80 and 1.20 were analyzed. The failure rates are given in Table 1:

⁴ Hidioglou, M.A., & Berthelot, J.M. (1986).

Table 1: Comparison of Edit Failure Rates (in percents)

Method	2007 Quarter 2			2007 Quarter 3			2007 Quarter 4			2008 Quarter 1		
	Ratio			Ratio			Ratio			Ratio		
	1	2	3	1	2	3	1	2	3	1	2	3
RF, k=2	17.2	12.3	12.8	17.8	11.2	14.4	13.3	10.9	14.6	15.2	11.9	14.9
RF, k=3	12.4	8.8	9.9	12.8	8.1	9.7	8.7	8.1	10.3	10.5	8.2	10.4
SRF, k=2	18.6	15.3	31.7	18.3	15.7	31.3	13.9	14.8	32.0	15.9	14.7	31.2
SRF, k=3	12.9	10.1	29.1	13.2	10.8	28.8	9.8	10.5	29.8	11.1	9.6	29.1
AF, k=4	17.8	13.3	14.7	19.0	13.5	14.9	13.5	10.6	14.7	15.2	12.2	15.0
AF, k=6	12.7	8.4	9.7	13.3	7.4	9.7	8.5	8.3	10.5	10.5	7.9	10.7
HB	9.1	N/A	3.5	9.4	N/A	3.3	9.0	N/A	3.3	9.2	N/A	3.4
(0.8, 1.2)	39.8	50.6	24.0	40.8	50.2	25.8	38.3	49.5	20.8	35.5	50.1	20.8

Source: U.S. Census Bureau, Quarterly Tax Survey

To select the final ratio edits for local property tax several things were considered. Analyst and respondent burden as reflected in the failure rates from each method of bounds development was of utmost importance. Also taken into account was the number of units that were failing more than one of the ratio edits. It was important that the new editing system capture key data errors but not have so many failures that the analysts could not properly review the flagged data. Therefore, it was vital that if more than one ratio edit was to be used that there be as little redundancy in the edits as possible. An additional consideration was that in the existing editing system, all small reporting units pass automatically. In the end, two ratio edits were chosen, Ratio One and Ratio Three, and HB was chosen as the bounds development method because it automatically allowed for more tolerance of variation in small reporting units thus decreasing the overall failure rates while still capturing the most significant data errors.

In addition to the two ratio edits, a consistency edit was also added to the new system. The majority of data errors were being captured by the Ratio One edit. However, if the reported amount from last year is zero, the ratio becomes undefined and does not get edited. Therefore, the top 20 percent of units that reported some amount greater than zero in the current quarter and reported none in the same quarter last year as well as the top 20 percent of units that reported no property tax collection in the current quarter but reported some amount greater than zero in the same quarter last year are flagged for analyst review. In the four quarters tested, this edit added approximately 60 to 70 units to the total number of failures.

5. Imputation

The development of new, statistically defensible methods for dealing with nonresponse also began with the F71. Prior to the redesign, the imputation procedure was to pull forward the property tax amount from the same quarter in the prior year for the missing unit each quarter until a new response was received. In order to choose a more appropriate method of imputation, various methods were tested on datasets that contained simulated nonresponse.

To begin, we created a dataset of all original, reported data from the F71 audit trail files. It contained data for 12 consecutive quarters beginning with 2005 quarter 2 and ending with 2008 quarter 1. From that base data set, 40 sample data sets were created with simulated random nonresponse of 30 percent (the ideal maximum for nonresponse during

any given quarter). Once the data sets were created, multiple methods of imputing the missing data were tried. However, before imputing, the definitions of the imputation cells had to be determined. This was a challenging undertaking as every county acts according to its own tax collection rules and therefore has unique tax collection patterns. Reviewing the distribution of the sample by Census Bureau defined regions and divisions by type of government (cities, counties, townships, special districts, and school districts) seemed to be the best place to start because reporting units in the same geographic area generally have similar laws governing the collection of local taxes. Keeping in mind that there needed to be a balance between imputation cells being too small to be able to adequately impute missing data within the cell and also the need for units to be as similar as possible (in terms of type of government, region, division, and population) 65 distinct cells were defined. However, it was stipulated that if the number of respondents within any given cell was less than 15 or the total cell response rate was lower than 50 percent, that the cell be collapsed or combined into another cell prior to imputation.

After imputation cells were determined, imputation was run using all of the above methods. Three measures of performance were calculated for each imputation method:

- Average mean deviation (a measure of the bias of the estimate)

$$\left[\sum_{i=1}^{40} \left(\sum_{j=1}^n (\hat{y}_i - y_i) / n \right) \right] / 40$$

- Average mean absolute deviation (a measure of the closeness of the estimate to the actual reported amount)

$$\left[\sum_{i=1}^{40} \left(\sum_{j=1}^n |(\hat{y}_i - y_i)| / n \right) \right] / 40$$

- The ratio of the sum of predicted values, \hat{y}_i , to the sum of the actual values, y_i , (a measure of the effect that the estimated values will have on the final aggregate estimates.)

$$\left[\sum_{i=1}^{40} \left(\sum_{j=1}^n \hat{y}_i / \sum_{j=1}^n y_i \right) \right] / 40$$

The table below summarizes the performance of each imputation method. The methods were separated into two categories, those that required historical data and those that did not. Because the new imputation procedures will be used on the newly selected F71 sample, which contains only some of the same units as the old sample, prior reported data for use during imputation may not exist for all units in the new sample for the first several quarters after the initial mail-out.

Table 2: Imputation Performance

Average Mean Deviation				
Method	2007 Quarter 2	2007 Quarter 3	2007 Quarter 4	2008 Quarter 1
No Historic Data Required				
adjusted cell mean T01	-1050.43	-490.24	-60.81	-1384.72
adjusted cell median T01	-8654.63	-7734.96	-3497.01	-13356.71
adjusted nearest neighbor hot deck	-2015.02	1228.44	1466.12	-630.40
adjusted random hot deck	-642.67	-191.93	1052.88	3121.22
cell mean T01	-160.33	497.39	172.22	177.10
cell median T01	-8553.19	-7654.66	-3472.96	-13179.48
nearest neighbor hot deck	-4254.04	-2212.18	-620.85	-4867.44
random hot deck	-715.23	1151.28	-24.61	2891.39
Historic Data Required				
Mean growth rate	1553.50	4771.80	12207.42	10515.02
median growth rate	-118.16	-120.01	-265.63	1261.72
nearest neighbor growth rate	117.41	15948.43	10422.56	8173.95
pull forward	-498.72	-401.50	-507.31	407.77
random growth rate	2736.16	2906.90	4626.38	3732.69
Mean growth rate (grow twice)	10073.48	14944.56	26741.33	70899.31
median growth rate (grow twice)	606.95	-568.19	1631.28	-726.74
Average Absolute Mean Deviation				
No Historic Data Required				
adjusted cell mean T01	10058.55	8555.33	7008.27	13548.52
adjusted cell median T01	10296.96	9257.03	6456.79	15644.49
adjusted nearest neighbor hot deck	13269.28	13876.09	8701.64	16896.46
adjusted random hot deck	14104.73	11180.82	9428.53	22559.32
cell mean T01	15518.01	14115.96	7685.96	24095.13
cell median T01	11805.51	10171.41	6351.43	18734.30
nearest neighbor hot deck	14218.37	13303.88	8079.49	22444.62
random hot deck	19226.45	18613.84	10002.07	31880.89
Historic Data Required				
Mean growth rate	2985.59	5321.24	12781.26	10997.21
median growth rate	2257.60	1754.18	1308.10	3033.66
nearest neighbor growth rate	4284.21	17889.24	12334.89	10829.55
pull forward	2294.51	1935.93	1394.28	3054.60
random growth rate	7918.10	7875.22	7848.72	11017.42
Mean growth rate (grow twice)	10889.57	15293.73	27398.62	71588.95
median growth rate (grow twice)	2938.56	2158.37	3595.09	2993.16
Sum of Predicted Values to Sum of Actual Values				
No Historic Data Required				
adjusted cell mean T01	0.974	1.007	1.013	0.970
adjusted cell median T01	0.397	0.327	0.567	0.365
adjusted nearest neighbor hot deck	0.901	1.168	1.206	0.994
adjusted random hot deck	0.985	1.012	1.146	1.185
cell mean T01	0.919	0.962	0.925	0.933
cell median T01	0.001	0.001	0.002	0.001
nearest neighbor hot deck	1.013	2.406	2.325	1.439
random hot deck	1.204	1.266	1.581	1.199
Historic Data Required				
Mean growth rate	1.117	1.429	2.557	1.508
median growth rate	0.996	0.993	0.968	1.059
nearest neighbor growth rate	0.742	0.860	0.941	0.809
pull forward	0.969	0.968	0.937	1.018
random growth rate	0.995	1.182	1.018	1.215
Mean growth rate (grow twice)	1.733	2.333	4.396	4.452
median growth rate (grow twice)	1.049	0.951	1.206	0.967

Source: U.S. Census Bureau, Quarterly Tax Survey

As expected, no single method was the single best performer across all measures of performance, however it was clear that whenever historic data were available, imputation using the median growth rate is the best option. When historical data are not available, the missing data will be imputed using the adjusted cell mean property tax amount.

There was one issue that arose during the imputation research: how should imputation cells that do not meet the stipulated size and response rate requirements be combined with other cells? After much discussion about whether combinations should be made based on the type or size of government within or across regions/divisions or some combination of the above, and research into the reporting patterns of units in each division and region, we decided that the imputation cells will be redefined in such a way that units will be combined by reporting pattern first (for example, all of those units that report only in the first quarter will be together, and those that report in the first and third quarter will be together, etc.) Then, within the reporting pattern groups, units will be further grouped by region, then division, then type, and finally by population. When cells need to be collapsed, collapsing will occur in the opposite order: first by population, then by type, then division, and finally by region if needed. In the coming months, the performance of the newly defined imputation cells as well as the chosen imputation procedures will be tested on the incoming data from the new sample.

6. Conclusions and Future Plans

Governments Division has made many improvements to the Quarterly Tax Survey since CNSTAT released its recommendations. The local property tax component has a new sample, new editing procedure and new imputation procedures that are all statistically defensible as well as in line with the standards of the Census Bureau. Dual processing of this new sample and the existing sample began in January of 2009, and in the months to come all of the new procedures will be continually evaluated.

The local non-property tax component of the survey has a new form that incorporates the change in our sampling from collectors to imposers as well as the information gathered during the cognitive interviews done on the first version of the new form. It is undergoing cognitive testing during the late summer and early fall of 2009. Meanwhile, research is underway to complete a new sampling frame of tax imposers, and once it has been completed, a new sample will be selected. Additionally, research into new editing and imputation procedures for it as well as the state non-property tax components will be conducted.

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