Censuses and Surveys of Governments: A Workshop on the Research and Methodology behind the Estimates

Progress on Addressing the Committee on National Statistics Recommendations

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Abstract

In 2007, the Committee on National Statistics issued State and Local Government Statistics at a Crossroads. In the report the Committee issued 21 recommendations that covered dissemination, quality, and timeliness of the data. In this paper we discuss the progress to date and the work that is left to do.

1.0 Introduction

In 2007, the Governments Division faced several challenges after receiving the final report from the Committee on National Statistics. In this paper, we examine the efforts of the Governments Division (GOVS) to improve the quality of its statistical programs, as well as the dissemination of an increasing number of products to its data users. Progress towards addressing the 21 recommendations from the Committee on National Statistics (CNStat) is discussed. The Background (Section 2.0) covers the recent history of the challenges discussed in the paper. Beginning with Section 3.0, we examine the progress on addressing CNStat's recommendations on data use and data users of state and local government statistics. Section 4.0 discusses at the progress towards improving the data quality and the improvement of statistical methods. In Section 5.0, we examine issues of dissemination, which include analysis, website presentation, and timeliness. In Section 6.0, we consider the Committee's concerns about the Census Bureau's Challenges for the Future. In the Section 7.0, we present a more updated view of our challenges and future research that we plan to do to address those challenges.

2.0 Background

In 2007, the Committee on National Statistics released *State and Local Government Statistics at a Crossroads* following a two year study by the Panel on Research and Development Priorities for the U.S. Census Bureau's State and Local Government Statistics Program. The panel concluded that the program was at a crossroads: either the Census Bureau could continue to cut back on its data series or plan for ways to "improve survey efficiency; build up its user base; enhance timeliness, relevance, and quality of its data series; and add back valuable explanatory material." The panel urged the Census Bureau to head in a positive direction. The panel suggested 21 recommendations that addressed maintenance of basic time series, improvements in timeliness, additional explanatory materials, and collaboration with data users to determine the changes that would improve data relevance.

The Census Bureau decided to take the positive route. The Governments Division reorganized to place emphasis on the areas that most concerned the Committee. An Outreach and Education Branch was established to build partnerships with various associations of data providers as well as to reach out to data users to assess their needs. A Special Projects Staff was established to carry out cross-cutting projects and to carry out projects that did not fit into the existing Division structure. To address the quality issues, the Statistical Research and Methodology (SRM) area was established with three branches: the Statistical Methods Branch (SMB), the Program Research Branch (PRB), and the Sampling Frame Research and Development Branch (SFRDB). SMB provides the edit and imputation methodology for individual units after conducting the appropriate methodology research. The branch also conducts edit and imputation evaluation studies, nonresponse bias studies, conducts quality assurance, puts together quality profiles, and implements dashboards to guide nonresponse follow-up. See Craig (2012). PRB provides cutting edge research on sample design and estimation as well as data visualization. The Sampling Frame Research and Development Branch maintains the frames for the Division's surveys. They also conducted the directory survey for the Census of Governments, the Government Units Survey (GUS). They are responsible for the coverage improvement efforts in the Division's Quality Improvements Program (QuIP) trips. They will conduct coverage evaluations for the 2012 Census of Governments.

In addition to reorganizing the Division, GOVS approached the problem with a three-prong strategy: a series of data user exchanges to maintain relevance, a research program to evaluate current programs and study improvement to data collection and processing, and a modernization and re-engineering structure to maintain governance over all of the business processes, research efforts, information technology, and quality improvements. The modernization and re-engineering effort is headed by a Steering Committee comprised of the Division Chief and Assistant Division Chiefs. The branch chiefs comprise the Project Management Group that decides specific work to be completed and selects teams to complete the work. The Steering Committee sets the direction of the work and ensures that the recommendations of the CNStat panel are addressed, Census Bureau and Office of Management and Budget Statistical Quality Standards are considered, schedules are set, and resources are obtained.

The progress to date from this three-prong approach is presented in the remainder of the paper.

3.0 Data Users and Uses

The first section of recommendations from CNStat dealt with the concerns of the data users that they had interviewed about the relevance of the data the Census Bureau produced. The content of most of the questionnaires had not been changed since 1957. The data users were most concerned about the timeliness of the data, but closely following that was the lack of needed detail and improvements in the classification structure. The data users appreciated and understood the need for consistency of definitions across governments and time, but some classification issues that have arisen since 1957 must be addressed. Finally, the data user community stressed the importance of avoiding gaps in time series, such as the 2001 and 2003 cutback of the annual survey to national estimates only. Specifically, the recommendations are addressed individually in the following pages.

RECOMMENDATION 3-1: OVER THE NEXT TWO TO THREE YEARS, THE GOVERNMENTS DIVISION SHOULD SEEK INPUT FOR AND WIDELY CIRCULATE A WORKING PAPER THAT DESCRIBES POTENTIAL IMPROVEMENTS TO THE DETAIL AND CLASSIFICATION OF THE DIVISION'S DATA ON STATE AND LOCAL GOVERNMENT FINANCES AND EMPLOYMENT, THE ISSUES THAT EACH MAY RAISE, AND THE PROS AND CONS OF CHANGES. BASED ON FEEDBACK FROM USERS, THE DIVISION SHOULD DEVELOP A PLAN WITH WELL-JUSTIFIED PRIORITIES FOR IMPROVEMENTS TO BE MADE IN THE 2012 CENSUS OF GOVERNMENTS AND SUBSEQUENT ANNUAL SURVEYS.

In 2009-10, Governments Division held data user workshops with the Bureau of Economic Analysis, the Federal Reserve, the Committee on National Statistics, policy analysts and academia, and with state and local government data providers. This series of workshops ended with a large data user conference in March 2010. The purpose of these workshops was to examine the relevancy of the statistics that were being disseminated and to determine whether the questionnaires were asking for information that the respondents could provide. From this series, we learned that our data users considered the data to be very important for a variety of purposes, and they considered the Census Bureau data to be the "gold standard." Although all data users expressed an interest in having more timely data from Census, several realized that more timely data might jeopardize the quality of the data. These users expressed a desire for Census to maintain high quality data.

In 2010, Census also held a series of questionnaire content exchanges with the Bureau of Economic Analysis (BEA) and the Federal Reserve. These exchanges were beneficial in helping Census understand which statistics were being used, the reason why some data were not being used, and data gaps that BEA and the Federal Reserve were seeking to fill. These exchanges were very useful in guiding the records-keeping studies that were being started. See Latimore and Hogue (2012).

Additional workshops in 2011 reviewed sector designations and direction for 2017. A workshop in February 2012 exhibited the dissemination plans for the 2012 Census of Governments. The various publications, data tools (American FactFinder and Data Ferrett), and data visualizations were shown to the data users.

Additionally, Governments Division hosted two academic data users for the Census Bureau's Summer at Census in 2011. In this program, the data user presents their use of the data and remains at the Census Bureau for at least a week to work with Census Bureau staff.

The Governments Division has increased its presence with relevant stakeholder groups and professional organizations between 2009 and 2012. We have presented several papers at the National Tax Association meetings. Likewise, we have increased our presence at the National Conference on Public Employee Retirement Systems and the National Association of State Retirement Administrators. We also attend the Association of Public Data Users meetings, the Joint Statistical Meetings, and the

American Association for Public Opinion Research. We have recently strengthened the outreach component of our Quality Improvement Program (QuIP) trips.

RECOMMENDATION 3-2: THE GOVERNMENTS DIVISION SHOULD GIVE PRIORITY TO MAINTAINING BASIC TIME SERIES ON STATE AND LOCAL GOVERNMENT FINANCES AND EMPLOYMENT. IT SHOULD AVOID GAPS AND INTERRUPTIONS IN BASIC TIME SERIES, WHICH UNDERMINE THE ABILITY OF USERS TO MAKE CONSISTENT COMPARISONS OVER TIME AND ACROSS JURISDICTIONS. WHEN NEW OR MODIFIED CONTENT IS INTRODUCED, THE DIVISION SHOULD USE SUCH METHODS AS OVERLAPPING SERIES OR BRIDGES BETWEEN NEW AND OLD SERIES TO ASSIST IN MAKING THE TRANSITION.

As we have been introducing changes to our methodology, we have been attempting to ensure that these changes have been publicized on our Intranet site. When the actual change is made, a bridge study is usually provided, if resources permit. Bridge studies have been issued for the new panel for the Quarterly Pensions Survey. This survey is a census of the 100 largest public employee retirement systems as of the last Census of Governments: Finance component. Beginning in 2009, the panel changed based on results from the 2007 Census. Five units were released from the panel and five new units took their place. The two-quarter bridge study processed the retiring systems along with the new systems to determine the change. Likewise, with the change in the new sample and estimation methodology for the Quarterly Tax Survey (QTax), a six-quarter overlap produced a bridge study for the property tax portion. Due to delays in processing, the non-property tax portion of the survey is still being researched. This portion of the QTax is undergoing sample design, estimation, edits, and imputation changes. There is more on this topic in the discussion of Recommendation 4-11. Even for our reimbursable surveys, we have used bridge studies. When the imputation methodology was introduced for the Public Libraries Survey, a bridge study showed the differences between the old methodology and the new.

When cost or lack of human resources prohibits Census from conducting an overlap, papers that are available about supporting research are published in the Division's Report Series on the Census Bureau's Internet site. Such papers are available for the change in sample design and estimation for the Annual Survey of Public Employment and Payroll and the Annual Finance Survey. Both surveys are too costly to run an overlap.

RECOMMENDATION 3-3: IN VIEW OF THE IMPORTANCE OF CONSISTENT, COMPARABLE, OBJECTIVE DATA ON PROPERTY TAX VALUATION AND OTHER FEATURES OF PROPERTY TAXATION BY STATE AND LOCAL GOVERNMENTS, THE GOVERNMENTS DIVISION SHOULD CARRY OUT A PROGRAM OF RESEARCH AND TESTING TO EXPLORE CONCEPTUALLY SOUND AND COST-EFFECTIVE MEANS OF COLLECTING THESE DATA, WHICH COULD BE IN CONJUNCTION WITH, OR INDEPENDENT FROM, THE CENSUS OF GOVERNMENTS.

In Fiscal Year 2011, the first phase of a Taxable Property Values feasibility study was completed. This study included an evaluation of third-party data to select a third-party vendor's data for the study. A comparative study of the third-party data to data received from local assessment and deeds offices in a small study of 150 assessment and 150 deeds offices showed that the quality of the sales data were incomplete and much did not match the data provided by the deeds offices. The coverage of the third-party vendor's data was inadequate in eleven nondisclosure states. Other means such as a mail survey to buyers and sellers of the property would have to be conducted in the nondisclosure states. A review of 100 Websites showed that only two sales offices had adequate data, but none of the assessment offices did. The data could be used for verification purposes only as most did not have files of data available, but had only tools for examining one assessment or sales parcel at a time. A paper on the feasibility study was presented at the 2011 National Tax Association meetings. A paper focused on the feasibility study methodology was given at the Federal Committee on Statistical Methodology in January 2012. See Schillings and Zamperini (2012).

4.0 Data Quality and Statistical Methodology

CNStat was examining six facets of quality: relevance, which was addressed in the previous section; accuracy, which is usually discussed in terms of systematic bias and variance; timeliness, which was a recurring theme throughout the recommendations; accessibility of the data and information about the data, which will be addressed in Section 5 on dissemination; interpretability or the availability of documentation to aid in data user understanding; and transparency or the publication of metadata (response rates, coefficients of variation, assumptions, etc.) to assist the data user in understanding the quality of the data.

The Committee concluded that the sampling frame coverage was complete for virtually all analytical purposes. Since the conclusion of the Committee's work, the Governments Division uncovered areas of concern about coverage. Although state governments, counties, municipalities, and townships are generally well covered, smaller systems of these systems, like dependent state agencies may not all appear in the sampling frame. It was discovered that pension systems in five states were definitely under-covered, thus leading to questions about the pensions systems in the other states. An additional problem with the frame was the lack of an integrated system. The Governments Integrated Directory or GID was not integrated. Changes that were made to one survey were not carried through to other GOVS surveys. Consequently, GOVS established the Sampling Frame Research and Development Branch in the Statistical Research and Methodology area. This branch has successfully developed the new Governments Master Address File (GMAF), which is an integrated listing of the Division's frames. Although the focus has been on including the units for the 2012 Census of Governments, the GMAF plans to eventually house the frames for all reimbursable surveys, too. This branch also conducted the Government Units Survey (GUS), a directory survey. This survey was designed specifically to remove duplicative units and disincorporated units. New units are added via legislative research and via contacts from state governments and other outreach activities. The GUS was also designed to give minimal information on financial size of the unit for sample design purposes. See Coaxum and Reeder (2012). Finally, the survey is gathering characteristics of the units that will be used in small area estimation and imputation. The new branch will also conduct coverage studies and studies of duplication of the frame with other frames in the Census Bureau.

Our progress on the eleven recommendations that focused on data quality and statistical methodology are covered below.

RECOMMENDATION 4-1: WITH RESPECT TO FUTURE MODIFICATIONS OF ITS METHODOLOGIES, THE GOVERNMENTS DIVISION SHOULD CONDUCT RESEARCH TO DETERMINE THE EFFECTS OF ANY REDESIGNS OF ITS SURVEYS OR CHANGES IN SAMPLE SIZES ON THE ACCURACY OF THE DATA, ESPECIALLY THE ACCURACY OF MEASURES OF CHANGE. THE DIVISION SHOULD PROVIDE INFORMATION TO USERS, INCLUDING STANDARD ERRORS AND CONFIDENCE INTERVALS, TO HELP THEM ASSESS THE EFFECTS OF REDESIGNS AND CHANGES IN SAMPLE SIZES ON THE ACCURACY AND USEFULNESS OF TIME SERIES.

GOVS is now providing coefficients of variation in almost all tables from sample-based surveys. Currently, the lone exception is one component of the Quarterly Tax Survey which is being changed from a nonprobability survey to a probability survey. When the bridge study is complete later in 2012, the tables will be released with coefficients of variation (CV). Explanatory text has been added to the websites to assist the data user in interpreting the CVs. Tables of response rates are also provided on the Internet site.

In its major redesign efforts, the Division has provided papers in its new Report Series to explain new methodologies such as the modified cutoff sampling, small area estimation, and Decision-based Estimation that the Finance and Employment surveys are using. Work that is still in progress includes ensuring that significance tests are conducted on all Census Bureau reports and the provision of CVs for estimates of period to period change in all sample surveys.

RECOMMENDATION 4-2: THE GOVERNMENTS DIVISION SHOULD EVALUATE THE DATA RECEIVED FROM STATES THAT HAVE CENTRAL COLLECTION TO ENSURE THAT HIGH RESPONSE RATES ARE ASSOCIATED WITH HIGH QUALITY OF THE DATA. THE DIVISION SHOULD RIGOROUSLY ASSESS THE COSTS AND BENEFITS OF CENTRAL COLLECTION COMPARED WITH OTHER COLLECTION MODES.

This is one area where GOVS has not produced a rigorous study yet. An intern project in the summer of 2011 provided the beginning of an evaluation, but this project lacked the rigor that is needed to truly assess this mode of collection. After a rigorous study is conducted, meetings with the State Representatives must be conducted to review and discuss the quality of the existing arrangement and determine what measures should be taken to correct any shortcomings.

RECOMMENDATION 4-3: THE GOVERNMENTS DIVISION SHOULD PROVIDE MORE COMPLETE DOCUMENTATION OF UNIT AND ESPECIALLY ITEM NONRESPONSE FOR ITS SURVEYS OF STATE AND LOCAL GOVERNMENTS.

Unit and key item Total Quantity Response Rates (TQRR) are calculated and published for each survey. More detailed item response rates are sometimes available as these are used in nonresponse evaluations. The TQRR is a measure of the total quantity of a key variable that is coming from respondents divided by the total quantity of that key variable from all respondent and nonrespondent units. By the Census Bureau's Quality Standards, this rate must be 70 percent for all key variables. The Census Bureau's minimum unit response rate for Economic surveys is 60 percent. The unit response rate measures how many mailed forms resulted in an acceptable response from the unit. An acceptable response varies from survey to survey. Nonresponse bias study results are released when estimates do not meet the Statistical Quality Standards.

RECOMMENDATION 4-4: THE GOVERNMENTS DIVISION SHOULD CONDUCT RESEARCH ON BARRIERS TO RESPONSE TO ITS CENSUS OF GOVERNMENTS AND ANNUAL AND QUARTERLY SURVEYS, SUCH AS DIFFERENCES IN ACCOUNTING SYSTEMS AMONG GOVERNMENTS AND WITH THE DEFINITIONS USED BY THE DIVISION. IT SHOULD USE THE RESULTS TO DEVELOP STRATEGIES TO IMPROVE RESPONSE.

In the summer of 2010, GOVS started a series of Quality Improvement Program (QuIP) trips that had questionnaire research and coverage improvement as major pillars in an effort to improve the quality of surveys of state and local governments. The Division is undertaking several re-engineering projects at once, and this approach coordinates the research so the state and local governments will not be unduly burdened. More recently outreach and nonresponse followup have been added to the components of a QuIP trip. A QuIP trip team is an interdisciplinary group of analysts from Governments Division's Outreach and Education Branch, Sampling Frame Research and Development Branch, and subject-matter branches, and survey methodologists from the Response Improvement Research Staff in the Economic Directorate. This team conducts research and outreach predominantly in state capitals across the United States. To date, the group has made trips to eight states where records keeping practices were studied for the Finance and Retirement surveys, cognitive interviewing was conducted for the Government Units Survey and the Local Finance and Retirement components of the 2012 Census of Governments. In general, the research showed that most small governments found the Finance Survey forms to be overwhelming. They were "turned off" by the complicated terms that were used on the forms. Most respondents liked the option to use the Internet. The results were used to improve the survey questionnaires. Coverage issues were also researched in all states. Some units that were chronic nonrespondents to all surveys were followed up, and it was usually found that the contact information was incorrect. In future QuIP trips for 2012, alternative questionnaire designs will be cognitively tested for the Employment Survey and the Quarterly Tax Survey. Coverage improvement will always be a component of every QuIP trip. Chronic nonrespondents and influential nonrespondents will also be followed up. See Latimore and Hogue (2012).

The Government Units Survey also conducted a small pilot study of 498 units to test two different versions of the questionnaire. Paradata will also be studied to yield further information on barriers to response. Paradata from the Centurion web-based questionnaire will be studied to determine possible hesitance or breakoffs in the questionnaire. Paradata from edit and imputation evaluations will be used to determine possible questions on the forms that caused an excessive number of edit failures or high nonresponse. Any problems surfaced in these evaluations can be studied in the QuIP trips.

RECOMMENDATION 4-5: THE GOVERNMENTS DIVISION SHOULD REVIEW THE PROCEDURES USED BY OTHER AGENCIES THAT HAVE CONDUCTED NONRESPONSE ANALYSIS TO DETERMINE THEIR APPLICABILITY TO THE STATE AND LOCAL GOVERNMENT STATISTICS PROGRAMS AND SHOULD CONDUCT EXPERIMENTAL STUDIES OF NONRESPONSE BIAS.

In June 2009, two staff members attended a Workshop on How to Do Nonresponse Bias Analyses in Household and Establishment Surveys hosted by the Federal Committee on Statistical Methodology. Research studies from several statistical agencies were presented at the conference. With the Office of Statistical Methods and Research for Economic Programs, we completed a nonresponse bias study for the Academic Libraries Survey. We also released partial nonresponse bias studies with data releases that did not meet the Census Bureau's Statistical Quality Standards. For example, the first release of the 2007 Census of Governments: Finance component did not meet the response rate standards in Delaware and Texas because of the low response among the drainage ditch districts. A nonresponse bias study showed that the Total Quantity Response Rates were high despite the very low unit response rates. On the other hand, in 2006, a nonresponse bias study showed that the local government estimates for the Annual Survey of Public Employment and Payroll for Louisiana and Mississippi should not be released because there was a very low response rate and the nonrespondents were substantially different from the respondents.

In the future, after the Division's new edit and imputation flags are available, a nonresponse bias study will be used to study Employment and Finance Central Collections nonresponse to see if there is systematic nonresponse bias.

RECOMMENDATION 4-6: THE GOVERNMENTS DIVISION SHOULD REVIEW ITS PROGRAMS FOR EDITING AND IMPUTATION OF DATA TO EVALUATE THE COSTS AND BENEFITS COMPARED WITH OTHER METHODS. THE REVIEW SHOULD INVESTIGATE:

- **THE POTENTIAL LIMITATIONS OF USING PRIOR-YEAR DATA WITH AN ASSUMED GROWTH RATE FOR EDITING AND IMPUTING VALUES FOR NONRESPONDING GOVERNMENTS AND**
- **THE MERITS OF WEIGHTING AS AN ALTERNATIVE TO IMPUTATION TO COMPENSATE FOR UNIT RESPONSE AMONG NONSELF-REPRESENTING LOCALITIES.**

The Statistical Methods Branch has completed imputation research and edit parameter research for most of the Education and Libraries reimbursable surveys. For the Division's Recurring Programs surveys, the research has been completed for the Quarterly Tax Survey and the Pension surveys.

For the future, similar research must be done on the Employment and Finance surveys. Because the individual unit data are released for most of GOVS surveys, nonresponse weighting adjustment as an alternative to imputation is not possible, but weighting adjustments can be considered as a means to provide preliminary estimates in a more timely manner. The Program Research Branch and Statistical Methods Branch will work together to examine using selective editing, outlier detection, and estimation methods to provide preliminary estimates without editing and imputation. The estimates from this approach will be compared with our more traditional approach to see if the preliminary estimates will be of a quality that can be released much earlier than the current methodology allows. Imputation and editing will be used in the final revised estimates and in the release of the individual unit files since many of our data users have requested that we provide the imputes. In the near future, weighting will be studied as an alternative for the Quarterly Tax Survey.

RECOMMENDATION 4-7: THE GOVERNMENTS DIVISION SHOULD EVALUATE THE EFFECTIVENESS OF A MODEL-BASED APPROACH OR OTHER METHODS OF BORROWING STRENGTH IN YIELDING IMPROVED ESTIMATES FOR SMALL DOMAINS FROM STATE AND LOCAL GOVERNMENT SURVEYS. OVERALL, THE APPLICATION OF REGRESSION-BASED ADJUSTMENTS TO DIRECT SAMPLE ESTIMATES SHOULD BE REVIEWED TO DETERMINE WHICH ADJUSTMENTS PRODUCE THE MOST IMPROVEMENT.

This is perhaps the area where the Division has taken a very creative approach to a problem. A team from the Program Research Branch designed a Modified Cutoff Sampling approach to yield fewer small townships and special districts while still representing them. After examining various model-dependent and model assisted approaches, the team developed a Decision-based Estimation methodology to yield major aggregates with various small area estimation approaches to yield detailed estimates for the Annual Survey of Public Employment and Payroll and for the Annual Finance Survey. The team worked with and continues to work with academia and with the Research and Methodology Directorate to fully develop the methodology. See Tran (2012).

Various model-assisted methods will be tried as an improvement for the newly redesigned Quarterly Tax Survey after the estimation production is fully functioning and after more quarters of data are available. The current approach will be discussed more fully in Recommendation 4-11.

Recommendation 4-8: The Governments Division should provide its users with the information needed to correctly calculate the precision of estimates of change between specific pairs of years from its surveys, including years that fall within a 5-year design period and years that cross periods.

This is work that is still in progress. The Division's first priority has been to develop the methodology and estimation processes for estimates of total along with the accompanying coefficients of variation (CVs). The next step will be to provide estimates of change and accompanying CVs. Likewise, estimation of various other derived statistics will also be derived along with the CVs. See Hogue (2012).

Recommendation 4-9: The Governments Division should review its revision policies. The Division should regularly report typical revision levels when initial data are released from its surveys. In addition, if intermediate data are released, such as 1-year revisions when 2-year revisions will be released later, estimates should be provided of the likely final revisions based on past experience.

This issue has been discussed with our stakeholders at the Data User Exchanges. As a result of what we have heard, we will notify the public when revisions are released. As far in advance as possible, the public will be notified of an upcoming release of revised data and the reason for the revisions. Likewise, dates of all scheduled data releases and planned revisions have been added to the Website. Among the actions that are needed on this recommendation is the finalization of the Revision Policy. Once we have enough data to estimate the size of likely revisions, we will publish the likely revisions with each revision release.

Recommendation 4-10: The Governments Division should carefully document and assess the results of the cognitive redesign of the 2005 Annual Finance Survey to determine the cost-benefit trade-off of implementing a policy calling for conducting a similar pretesting process for other questionnaires. In future redesigns, major revisions in survey instruments should be implemented using a bridge sample or other technique to isolate changes in the survey instrument from changes in the economic phenomena that are being measured.

According to the Census Bureau's Statistical Quality Standards as well as the Office of Management and Budget Standards, all substantive changes to existing questions and additions of new questions must be pretested. The Division has made definite positive strides towards compliance with the pretesting standard. As a part of the content determination for the Finance and Pensions questionnaires, extensive records-keeping studies have been conducted. Cognitive interviews had been conducted for the Quarterly Non-property Tax Survey, Census of Governments : Finance Component, Annual Survey of Public Pensions, Census of Governments: Employment Component, and the Government Units Survey, usually as a part of a QuIP trip. Likewise, a split-panel pretest of GUS was conducted and the selection of the form was made based on the results of the pretest. All Centurion web instruments were usability tested. The Division has made extensive use of bridge studies when feasible. For example, a bridge study is currently being conducted on the Quarterly Tax Survey.

RECOMMENDATION 4-11: 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 QUESTIONS, AND TO DEVELOP COST-EFFECTIVE VARIANCE ESTIMATION, EDITING, AND IMPUTATION PROCEDURES THAT MEET CENSUS BUREAU STANDARDS.

A new Property Tax sample was introduced with a six-quarter overlap bridge study. New time-saving edits were introduced which cut the analyst workload to a quarter of what it had been. Quality of the data improved because the analysts could spend the time to fully resolve edit failures. For the first time, the coefficients of variation were also calculated for Property Tax. The nonprobability sample for the Non-property Tax portion of the Quarterly Tax Survey was replaced by a probability sample and a new questionnaire was designed and pretested to provide better estimates of non-property taxes (income, sales, severance, corporate income tax, etc.). An overlap sample is being conducted now and the new estimates will be released with a bridge study later in the summer of 2012.

A processing system must be developed and tested to provide imputations, estimates, and coefficients of variation for the Quarterly Tax Survey. A bridge study will have to be released with the new estimates. The Statistical Methods Branch and Program Research Branch will work together to determine if a weighting adjustment may be more efficient than imputations in producing the estimates. Another project that will be completed after the release will be to determine if it is feasible to combine the Property and Non-property surveys into one survey, thus saving resources and reducing respondent burden by having a smaller sample. Tax imposers rather than tax collectors would be providing the information on property tax, if this is feasible. QuIP trips in the summer will be used to test the wording of a new question to imposers. The question and methodology would then be more comparable to the Annual Survey of Local Government Finance, as that survey also asks for information from imposers.

5.0 Dissemination and Analysis

In this section of the recommendations, the Committee reiterated the importance of disseminating the data in a more timely manner, perhaps releasing the data immediately as each state is ready rather than waiting until all states are final. Timeliness was heard as a theme from all data users (federal, state, local governments, academia, and policy makers). A second dissemination theme was improvement of the Website to improve access to the data and metadata, mapping tools, graphical analysis tools, and tabulation systems. Finally, the Committee encouraged Census to conduct more in-house analyses. Value-added information is needed to assist data users in understanding the data, particularly derived statistics. Descriptive analysis and graphics were encouraged.

RECOMMENDATION 5-1: THE GOVERNMENTS DIVISION SHOULD GIVE HIGH PRIORITY TO A PROGRAM OF RESEARCH ON THE BENEFITS AND COSTS OF ADOPTING EARLIER RELEASE PROCEDURES FOR THE ANNUAL FINANCE SURVEY AND OTHER SURVEYS BY SUCH METHODS AS RELEASING PRELIMINARY ESTIMATES OR RELEASING ESTIMATES AS THEY ARE COMPILED. THE RESEARCH SHOULD INCLUDE EVALUATION OF THE ABILITY OF PRELIMINARY RELEASES TO REPLICATE PRIOR-YEAR DATA AND ANALYSIS OF PRELIMINARY-TO-FINAL DIFFERENCES ATTAINED BY USING DIFFERENT ESTIMATION TECHNIQUES.

Work has started on this recommendation with a series of workshops and conferences that were held with GOVS data users from 2009 to 2012. Data users were asked for their comments on various proposals for releasing estimates earlier. One proposal is to release state area data as they are completed rather than releasing as we currently do, i.e., waiting for all state areas to be completed before releasing the data. Governments Division is also looking for greater efficiencies in the processing system, which could also lead to earlier releases of the data.

After the estimation methods are final for the Annual Finance Survey, a research project will be undertaken that will research the possibility of producing early Time Series projections of national aggregates that will be improved as more data are received. Data will be released in groups of states as they are completed. An evaluation of expected revisions will be evaluated at each proposed stage of release. Estimates will not be released until the expected revisions are within a tolerable range as specified by our major data users. This research proposal will link also to Recommendation 4-9.

RECOMMENDATION 5-2: THE GOVERNMENTS DIVISION SHOULD CONTINUE TO GIVE HIGH PRIORITY TO THE REDESIGN AND CONTINUOUS IMPROVEMENT OF ITS WEBSITE. THERE SHOULD BE CLEAR ACCESS TO THE SITE FROM THE CENSUS BUREAU'S HOME PAGE AND OTHER ACCESS POINTS. DESIRABLE FEATURES INCLUDE: 1) METADATA THAT ARE COMPLETE AND EASY TO ACCESS, 2) THE CAPABILITY TO CROSSLINK AND COMBINE STATE AND LOCAL GOVERNMENT DATA WITH DATA FROM OTHER SOURCES, INITIALLY WITH DATA FROM OTHER CENSUS BUREAU DATA SERIES AND IN THE FUTURE WITH DATA FROM OTHER FEDERAL AGENCIES, 3) GRAPHICAL ANALYSIS AND MAPPING TOOLS TO FACILITATE COMPARISONS OVER TIME AND AMONG JURISDICTIONS.

The first phase of the redesign of the Website is complete. Work has started on the second phase. Governments Division has released its data on Data.gov and has partnered with external entities to produce data visualizations.

The next phase of the Web redesign will provide further enhancements to the metadata. Pending resources, state and local government data for the 2012 Census will be released in American FactFinder and DataFerrett. This will allow for new graphical analysis and mapping tools, as well as crosslinking with data from other resources. The quarterly data will be placed in the Central Indicators Data Repository or CIDR. We will also release many more visualizations to tell the story of the 2012 Census of

Governments. GOVS has already released treemaps to better explain state and local general expenditures and revenue. We are currently working on an interactive treemap that will give more information about each block in the treemap. A series of maps will be produced in a graphical analysis to make comparisons of percent changes in spending and revenues between states much clearer. Finally, work continues on various infographics that will assist the user in understanding the wealth of data about state and local governments. See Edwards (2012).

RECOMMENDATION 5-3: THE GOVERNMENTS DIVISION SHOULD ADD VALUE TO THE DATA THAT ARE RELEASED ON ITS WEBSITE BY PROVIDING SIMPLE DERIVED MEASURES, SUCH AS PER CAPITA EXPENDITURES AND TAXES, MORE EXPLANATORY MATERIAL, AND COMPARATIVE CONTEXTUAL ANALYSES – FOR EXAMPLE, OF TRENDS BY TYPE OF GOVERNMENT AND REGION. THE DIVISION SHOULD ALSO FACILITATE WIDER DISSEMINATION OF ITS DATA BY REGULARLY ISSUING PRESS RELEASES THAT INCLUDE STATISTICAL COMPARISONS WITH PREVIOUS DATA.

Currently, all annual and quinquennial data are released with a press release. Also, short reports have been disseminated with all Intercensal products since 2008. This practice will continue, and the products will be enhanced as resources allow. Governments Division has also established a Research Report Series online. This series is designed to help the Division be more transparent with their changes in methodology. The School District Finance data have released derived statistics in their publications for several years. The major derived statistic is per pupil expenditure. The data are from a census of all school districts, so there are no coefficients of variation. Rankings are provided with some textual explanation. For the 2010 Employment data release in January 2012, pay per employee was released for the first time. These data were derived from a sample, so coefficients of variation had to be calculated. These data will continue to be released and will be augmented with current to prior ratios as well. Other derived statistics will be released over time also. The appropriate coefficients of variation and statistical testing will accompany each release. The Division must work towards providing more interpretations of anomalies and trends. More explanatory material will be developed and released to assist data users in assessing the quality of the estimates also.

6.0 Challenges for the Future

The Committee said that in an era of constrained resources, Governments Division should not feel compelled to continue to cut valuable data series or sacrifice its “gold standard” estimates. The Division should look to leverage its resources to continue producing the current products more efficiently, freeing up time to work towards improving the data by providing Quality Standards compliant estimates. At the same time, the usefulness of current products should be examined to determine if some products can be cut while producing newer and more innovative products. Efforts should also be made to broaden and empower the Government surveys user community. Finally, GOVS should seek to align itself with established standards boards. The Division was urged to implement a “forward-looking, opportunity-seeking strategic plan” as it will be important to track the economic contributions of state and local governments and their effect on the nation and its people.

RECOMMENDATION 6-1: THE GOVERNMENTS DIVISION SHOULD INCLUDE TWO TRACKS IN ITS STRATEGIC PLAN: ONE TRACK THAT PLANS FOR AN ENVIRONMENT OF CONSTRAINED RESOURCES AND A SECOND TRACK THAT

IDENTIFIES WAYS TO BUILD SUPPORT OVER TIME FOR ENHANCING THE DIVISION'S DATA SERIES AND THE INFORMATION PROVIDED TO USERS ON THE CENSUS BUREAU WEBSITE. THE ECONOMIC DIRECTORATE AND, BY EXTENSION, SENIOR CENSUS BUREAU MANAGEMENT, SHOULD SUPPORT THE GOVERNMENTS DIVISION'S PLANNING EFFORTS IN THIS REGARD AND SHOULD MAKE AVAILABLE SOME RESOURCES TO BEGIN IMPLEMENTING ONE OR MORE ASPECTS OF THE SECOND TRACK OF THE DIVISION'S PLAN.

The Economic Directorate provided resources for a Division reorganization that included an Outreach and Education Branch to address the dissemination needs of the Division and a Statistical Research and Methodology Area to meet the statistical quality issues. Often, changes in the methodology can free resources that could then be used to work on more substantive innovation projects. The Division has also worked to improve stakeholder relationships by reaching out to data users, data providers, associations representing our users, the statistical community, and State Data Centers. Finally, the Division is participating in the Economic Directorate Portfolio Management Governing Process that is overseeing the Directorate's resources, scheduling, priorities, etc.

RECOMMENDATION 6-2: THE CENSUS BUREAU SHOULD EMPOWER THE GOVERNMENTS DIVISION TO ORGANIZE A COMMITTEE OF EXPERTS IN PUBLIC ADMINISTRATION AND STATE AND LOCAL GOVERNMENT FINANCE UNDER THE AUSPICES OF A RELEVANT PROFESSIONAL ASSOCIATION. THE COMMITTEE SHOULD MEET REGULARLY TO REVIEW THE DIVISION'S PROGRAM. IN ADDITION, THE CENSUS BUREAU SHOULD ENSURE THAT METHODOLOGICAL ISSUES FOR THE GOVERNMENTS DIVISION PROGRAM ARE REGULARLY BROUGHT BEFORE THE AMERICAN STATISTICAL ASSOCIATION COMPONENT OF THE CENSUS ADVISORY COMMITTEE OF PROFESSIONAL ASSOCIATIONS AND CONSIDER ADDING ONE OR TWO EXPERTS IN PUBLIC FINANCE TO THE AMERICAN ECONOMIC ASSOCIATION COMPONENT OF THAT COMMITTEE.

In April 2010, the Division made a presentation to the Census Scientific Advisory Committee on Re-Engineering the 2012 Census of Governments. In December 2010, GOVS made a presentation to the Federal Economic Statistics Advisory Committee on its Progress in Addressing the Recommendations of the CNStat panel. In September 2011, a presentation on the Division's Quality Improvement Program (QuIP) trips was made to the Census Scientific Advisory Committee.

In 2009, the Division presented six papers at the Joint Statistical Meetings, with three papers presented the following year, two papers in 2011, and with a paper on small area estimation presented in a topic-contributed session in 2012. In 2011, Governments Division organized and chaired an Invited Session on Decision-based Estimation. Finally, the Division held a Product Line Workshop in February 2012.

RECOMMENDATION 6-3: THE CENSUS BUREAU'S GOVERNMENTS DIVISION SHOULD CONTINUE TO STAY ENGAGED IN THE GOVERNMENT ACCOUNTING STANDARDS BOARD STANDARDS-SETTING PROCESS IN ORDER TO ENSURE MAXIMUM CONSISTENCY BETWEEN THE GASB AND CENSUS BUREAU DEFINITIONS. TO ENSURE CLOSE COORDINATION WITH THIS ACTIVITY, THE DIVISION SHOULD SEEK TO OBTAIN STATUS AS AN ORGANIZATIONAL MEMBER OF THE GOVERNMENTAL ACCOUNTING STANDARDS ADVISORY COUNCIL.

The Chief of Governments Division was appointed to the Governmental Accounting Standards Advisory Council (GASAC) in November 2008 and reaffirmed in August 2010.

RECOMMENDATION 6-4: THE CENSUS BUREAU'S GOVERNMENTS DIVISION SHOULD LEAD A LONG-TERM RESEARCH EFFORT, WITH THE GOVERNMENT ACCOUNTING STANDARDS BOARD, THE GOVERNMENT FINANCE OFFICERS ASSOCIATION, AND OTHER ORGANIZATIONS AS APPROPRIATE, TO EXPLORE THE DEVELOPMENT OF ADVISORY GUIDELINES AND DATA DEFINITIONS IN A WAY THAT WOULD ALLOW THE COLLECTION OF REASONABLY UNIFORM DETAILED FINANCE DATA FROM A VERY LARGE NUMBER OF STATE AND LOCAL GOVERNMENTS ON A REGULAR BASIS.

Currently, the Division is actively participating with GASB through the GASAC. We are in ongoing discussions with the Association of Government Accountants, GASAC, and GASB regarding the XBRL Pilot Study. We are currently serving as a member of the GASAC Task Force on Government Combinations.

7.0 What Does the Future Hold?

The Census Bureau is currently examining ways to re-engineer the way business is being conducted. State and Local Government Statistics at a Crossroads has allowed Governments Division to begin this thought process early. To add to the many research projects that have already been discussed, the Division must examine possibilities of using paradata more effectively in the survey process. See Williams (2012). Nanodata or web scraping should be examined to see if possible relationships exist that can help find turning points in the trends and help build models that can allow us to release early estimates that will be subject to minimal later revision. In order to meet the demands for timely, relevant data with the resources that we have the Division's editing philosophy must be thoroughly discussed and an approach compromise reached in order to meet the needs of our disparate data users. With sparse resources, some difficult decisions will have to be made. The future will be exciting as we delve into areas that are as yet unexplored.

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