HOW TO MAKE STATE AND LOCAL GOVERNMENT STATISTICS MORE RELEVANT, ACCURATE, TIMELY, ACCESSIBLE, INTERPRETABLE, AND TRANSPARENT

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INTRODUCTION

IN 2004, THE NUMBER OF LOCAL GOVERNMENTS IN the United States exceeded 87,000. In that same year the combined expenditures of state and local governments accounted for 12 percent of the gross domestic product. At $1.9 trillion, these expenditures exceeded the nonmilitary expenditures of the federal government by $400 billion. Employees of state and local governments accounted for one of every seven workers in the United States (National Research Council, 2007).

These data documenting the importance of state and local governments in the U.S. economy have their origin in the Governments Division of the U.S. Census Bureau. One of five subject matter divisions under the Bureau's economic directorate, the Governments Division is charged with gathering data on the organization and economic activity of state and local governments, which it does through a census and a series of periodic surveys. (The other four subject matter divisions are the Company Statistics Division, the Service Sector Statistics Division, the Foreign Trade Division, and the Manufacturing and Construction Division.)

Despite its long history, the state and local government statistics program had never had an impartial outside review. In late 2005 the Census Bureau commissioned a panel of the National Academy of Sciences (NAS) to provide such a review and to develop recommendations for research and development priorities. This paper builds on an earlier conference presentation that anticipated the release of the panel's final report and, therefore, could not discuss the panel's recommendations (see Czajka and Marker, 2007). The second section briefly discusses the panel's activities. The third section provides an overview of the Governments Division's work, with an emphasis on its censuses and surveys. The fourth section outlines the major issues the panel addressed, and the fifth section reviews major recommendations.

AN OVERVIEW OF THE PANEL ACTIVITIES

Organization of the Panel

The Panel on Research and Development Priorities for the U.S. Census Bureau's State and Local Government Statistics Program was established by the Committee on National Statistics within the National Research Council's Division of Behavioral and Social Sciences and Education. The National Research Council is the research arm of the NAS.

The panel included eight members who were chosen for their expertise in a variety of relevant fields:

Richard Nathan, State University of New York at Albany, Chair

John L. Czajka, Mathematica Policy Research

John L. Knapp, University of Virginia

Yolanda K. Kodrzycki, Federal Reserve Bank of Boston

David A. Marker, Westat

David Young Miller, University of Pittsburgh

Robert Parker, Government Accountability Office (Retired)

Robert Strauss, Carnegie Mellon University

NAS panels also include a study director, who is a member of the NAS staff. Thomas J. Plewes served in this capacity and was assisted by Caryn E. Kuebler, also of the NAS, who served as the panel staff member. Donald J. Boyd of the State University of New York at Albany served as a consultant to the panel during the preparation of the final report, and Constance F. Citro, director of the Committee on National Statistics, contributed to the writing of the report.

The panel's official charge directed the group to make recommendations regarding priority areas for research and development that could move the state and local government statistics program forward in the face of a number of challenges, which included constrained budget resources. The panel was asked to consider the goals, content, statistical methodology, data quality, and data products from the program's census and periodic surveys.

Panel Milestones

The panel met for the first time in January 2006. In the months that followed, subgroups of the panel met with Governments Division staff and outside users to explore a range of issues. The panel's second meeting, in June 2006, included a workshop for users that served as one of the panel's major data-gathering activities. The panel met for the third and final time in August 2006. The first draft of the panel's final report was completed in November 2006 and distributed to panel members for review. A second draft was completed in April 2007 and distributed to the panel members for additional comments, and a final draft went to a set of independent reviewers in July 2007. Following a final Academy review, the report was released to the public in the Fall of 2007 with the title: State and Local Government Statistics at a Crossroads.

MEASURING THE IMPACT OF GOVERNMENT

What Is a Government?

To classify and count governments, one must first define what a government is. The growth of special purpose governments, such as regional transportation authorities, has accounted for most of the overall growth in the total number of governments, but as special purpose entities have grown, so has the difficulty of determining which ones should be counted as governments and which ones should not. Charter schools provide an especially challenging example (Wulf, 2005). Furthermore, regional or, more generally, multi-jurisdictional governments present an additional challenge in that they must be assigned to a geographic location, which is required by the Census Bureau's method of classifying governments. The expertise of the Governments Division is displayed in its response to these challenges.

Census of Governments

An important tool in the effort to measure the impact of governments is the Directory Survey of Local Governments, which is conducted as part of the quinquennial Census of Governments in years ending in 2 or 7. The Directory Survey produces an up-to-date list of all local governments, which is then used to define the frame for the census. This updated listing of local governments provides the sample frame for the annual and quarterly surveys, which are redesigned after each census. It also provides the sample frame for many other surveys conducted by the federal government, states, and private organizations.

In addition to the Directory Survey, the Census of Governments includes a census of the finances of state and local governments and a census of public employment, which covers federal civilian agencies as well as state and local governments.

Annual and Quarterly Surveys

The Census of Governments collects extensive information on the full universe of governments at 5-year intervals, but most of the uses of state and local government data demand annual or even quarterly data. To address this need, the Governments Division has developed an array of annual and quarterly surveys. Table 1 lists the periodic surveys of state and local governments, the universes they cover, and their current or most recent sample sizes. There are five annual surveys in all, and two quarterly surveys. The surveys collect data on state and local government finances, public employment, and public employee retirement systems. The surveys vary in size, which is evident from Table 1, and they also vary in complexity. The simplest survey seeks just one number from each sampled unit while the most complex surveys collect extensive numbers of items. The data collected by the Governments Division are widely viewed as the gold standard for data on state and local government organization, finances, and employment because of their national scope, comparability, and comprehensiveness.

The sample frame for the annual and quarterly surveys is drawn from the Directory Survey. The samples are redesigned after each census. That is the intent, at least, although it has not always been realized in practice. A notable feature of the sample designs is that each sample, once selected, remains fixed until the next redesign, except for births and deaths, which are added to or removed from the sample as they are identified. That is, the same governments are included in the sample for a given annual or quarterly survey for five years. Births are fairly small in number so all identified births—rather than just a sample—are added to the sample for each survey.

Table 1
Sample Surveys of Governments

Periodicity and Survey Name	*Universe Covered*	*Sample Size*
Annual Surveys		
Annual Survey of State and Local Government Finances	All state and local governments[a]	All states and 13,000 local governments
Local Government School System Finance Survey	Public school systems providing elementary or secondary education	All systems in census years; 15,000 in 2004
State Government Tax Collections Survey	All states	All states
Annual Public Employment Survey	All state and local governments[a]	All states and 11,000 local governments
State and Local Government Public-Employee Retirement System Survey	All state and local government public employee retirement systems[b]	All state systems and more than 1,000 local systems
Quarterly Surveys		
Quarterly Tax Survey	All state governments plus local governments with property tax collection authority; 55 local governments with among the largest non-property tax collections	50 states and 600 counties with local property tax collection authority; 55 local governments with significant non-property tax collections
Quarterly Public-Employee Retirement Systems Survey	100 largest public-employee retirement systems[c]	100

[a] This includes counties, municipalities, townships, special districts, and school districts, which collectively number about 87,000 currently.

[b] The universe of public-employee retirement systems is about 2,600; the list is updated regularly.

[c] The 100 largest systems account for about 85 percent of all national activity.

ISSUES FACING THE GOVERNMENTS DIVISION

Typically, an agency's decision to seek an Academy review of its programs is motivated by multiple issues. These issues are communicated to the panel at the panel's first meeting. The Census Bureau called our attention to five such issues. These included:

- The need to develop a strategic view of the future
- How to operate in a resource-constrained environment
- How to maintain the relevance of its programs
- How to make sense out of "messy" and fast-changing governmental structures
- How to maintain what is essentially a voluntary data collection program in the face of the virtual sovereignty of the reporting units

With regard to maintaining relevance, introducing new content may come at the expense of existing data series, since it may not be possible or feasible to add new items without deleting other items. How to revise the content of its surveys is a continuing challenge for the Governments Division.

With regard to the fifth point, the Census Bureau's experience with the American Community Survey, which has been designated as mandatory, is illustrative. Research has produced evidence that if responding to the survey were made voluntary, the reduction in mail-back response rates would be large enough to produce a significant cost increase, owing to the expensive follow-up effort required to obtain responses from the households that would have returned their questionnaires by mail if response had been mandatory. Unfortunately, the Governments Division cannot make its surveys mandatory. The sovereignty of state governments and, by extension, the local governments that constitute their subdivisions precludes this possibility. Consequently, the Census Bureau must address this challenge in other ways.

In addition to the issues identified by the Census Bureau, the panel identified several others:

- Balancing the needs of national accounts against the needs of others
- Maintaining basic time series on government finances and employment
- Achieving more timely release of key data
- Bringing methods into line with Census Bureau statistical standards and current statistical practice
- Improving data dissemination

We discuss these last five issues in turn.

Balancing Data Needs

The Governments Division has a dual mission to provide: (1) aggregate data for the state and local government component of national accounts and other key financial series, and (2) individual government-level data to support micro-level analysis of operations and relationships between governments. The key users of the first product are the Bureau of Economic Analysis, the Federal Reserve Board, and the Centers for Medicare and Medicaid Services, which use the data as inputs to their own data series. The major users of the second product are public interest groups, research organizations, academic researchers, and state and local governments themselves. Cutbacks since 1992 have affected the second set of products more than the first. How to weigh the needs of the full range of users has become a more difficult challenge with declining resources, but it remains a challenge that must be addressed.

Maintaining Basic Time Series

There is an inherent tension between maintaining the relevance of data collection and maintaining the historical continuity of data series. The need to reduce costs and respondent burden create additional motivation to reduce the number of data elements that are collected in each survey. Complicating the Governments Division's decision-making regarding new elements to add and old items to discontinue is the fact that different sets of users may view the trade-offs differently. It is important that the Governments Division understand how breaks in individual data series will affect analytical uses of the data. The long lead-time required to implement changes to data collection provides an opportunity for the Governments Division to address the impact of prospective changes to survey content before committing to put them into place. The Census Bureau has good experience in bridging changes in its data collection, as evidenced, recently, by the development and adoption of the North American Industrial Classification System. This experience, seemingly, can be applied to other areas.

More Timely Release of Key Data

While the Governments Division's data on state and local governments are widely viewed as the gold standard, which implies that they are worth waiting for, the lack of timeliness is the principal concern expressed by users of the data. This is not a consistent issue across surveys. The timeliness of the data varies by survey, with many factors contributing to these differences. For example, key data from the Quarterly Tax Survey are released 90 days after the end of the quarter to which they apply. Even here, however, it must be noted that for some of the other financial surveys conducted by the Economic Directorate the lag is only 75 days.

The Annual Finance Survey (AFS) has the greatest problem with timeliness. Data for 2004 began to be released in March 2006. Differing fiscal years among state governments is a factor. The ending dates of fiscal years can vary over an entire calendar year, although the majority fall between June and December. Late receipt of data from the states is almost wholly responsible for the late release of AFS data, as the data are processed quickly once they are received. The nature of the problem invites consideration of a staggered release of partial or preliminary data. Because the survey is annual, data for the prior year are always available to substitute for current data in a preliminary release. There are numerous research issues surrounding how to achieve the best quality with the release of preliminary data.

Statistical Issues

Several statistical issues were identified by the panel. One of these involved documention of unit and item nonresponse. At the time, the documentation of item nonresponse was virtually nonexistent.

In part this could be attributed to complex definitional issues that were encountered in defining item nonresponse rates. Some of the data that state and local governments do not report in a given survey are available on Web sites or through third party sources, as these data elements are requested by organizations in addition to the Census Bureau. There may be no consistent pattern that determines which survey receives which responses. The question for the Census Bureau is whether item nonresponse should be counted as such if the answer to an unreported item is obtained from one of these other sources.

Understanding the benefits and drawbacks of panel samples is another area deserving of attention, as the Governments Division relies so heavily on such samples. In addition, the Governments Division's recent experience with the application of cognitive methods to survey redesign suggests that this is another area where further investment could prove beneficial.

A number of states serve as intermediaries between the Governments Division and their local governments. They collect the survey data from their local governments and submit it with their own data rather than allowing each local government in the sample to submit its own data. The Governments Division's experience with this central collection of local data is that the amount of editing required when the data come in is much lower than when local governments submit their data directly. Is there a trade-off, though, between reduced editing and the quality of the data submitted? There are a number of research issues to be addressed before the central collection of local data can be held up as the model for all local data collection.

Improving Data Dissemination

Making data more accessible to diverse users is a desirable goal for any data product, but the range of sophistication of users creates issues as well. Better documentation is always a good objective also. The importance of metadata cannot be overstated.

The Governments Division has made increasingly less use of press releases to announce its new data releases or highlight important findings, having learned from past experience that this often leads to phone calls from state and local officials who are less than happy with the latest results. Nevertheless, press releases play an important role in alerting potential users to the existence and value of the data that an agency is producing. While concerns about the reactions of public officials are real, the benefits of keeping potential users aware of the latest data should not be dismissed.

Enhancing the functionality and user-friendliness of Web sites is an issue for many if not most agencies. This is a particularly strong need for the Governments Division in the eyes of many users.

Lastly, a continuing issue for the Governments Divisions is determining what value should be added to the Division's data products by Division staff. In particular, how much and what kinds of analysis should be done by Division staff, and what findings should be communicated to the users of the data?

SELECTED RECOMMENDATIONS OF THE PANEL

This paper draws its title from a Census Bureau publication that defines data quality in terms of six dimensions (U.S. Census Bureau, 2006):

- Relevance: the degree to which data products meet user needs
- Accuracy: coherence between an estimate and its true value
- Timeliness: the length of time between the reference period of the information and when it is delivered to users
- Accessibility: the ease with which users can identify, obtain, and use the information
- Interpretability: the availability of documentation to aid users in understanding the data
- Transparency: the existence of evidence that users can employ to assess the accuracy of the data

In all, the panel report contained 21 recommendations. We focus on a subset that bear on these six dimensions of data quality.

In recommendations 3-1, 3-2, and 3-3, the panel proposed ways in which the Census Bureau could enhance the relevance of its data on state and local governments. These included outreach to users, ways to bridge changes in content, and research to explore the resumption of data collection for one series that was suspended a number of years ago.

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.

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 users in making the transition.

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.

The panel addressed the dimension of accuracy through an examination of primarily statistical aspects of data collection. Recommendations touched on a large number of areas, but particular attention was focused on the impact of central collection (discussed above) on data quality and the need to document the magnitude and understand the implications of nonresponse.

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 data. The division should rigorously assess the costs and benefits of central collection compared with other collection modes.

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.

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.

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.

The panel's most farsighted recommendation on timeliness involves the examination of strategies for releasing preliminary data using prior year or projected data for governments that routinely submit their data late. The availability of time series of annual data will support solid research into alternative approaches.

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.

The panel's recommendations to enhance the accessibility, interpretability, and transparency of government statistics focused on improvement of the division's Web site, with very specific suggestions. The panel also assigned high priority to the division's making greater use of its own expertise to add value to the material presented on the Web site.

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 of the site include:

- Metadata that are complete and easy to access
- The capability to crosslink and combine data from other sources
- Graphical analysis and mapping tools

Recommendation 5-3

The Governments Division should add value to the data that are released on its Web site 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.

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