Journal of Official Statistics
Vol. 7. No. 2, 1991, pp. 207–218

The Role of Intermediaries in the Interpretation and Dissemination of Data from the U.S. Bureau of the Census

Sandra Rowland[1]

Abstract: This paper describes the nature and function of the principal secondary distributors of data from the U.S. Bureau of the Census. Section 1 describes the Federal Depository Library Program; Section 2 describes the State Data Center Program; and Section 3 describes the private sector vendors. Each section of the paper has a general description of the intermediary and the manner in which it interprets and disseminates data to ultimate data users. Each of these intermediaries forms a critical link between the Census Bureau and users of Census Bureau data. Many potential users of Census Bureau data would not have access to the data without the services of the intermediaries.

Key words: Data user; network; services; Federal Depository Libraries; State Data Centers; private sector vendors.

1. Introduction

The U.S. Bureau of the Census has a well developed network of intermediaries in the public and private sectors that is indispensable for the dissemination of Census Bureau data. Although there are differences between the Bureau of the Census in the United States and statistical institutions in other countries, this paper may provide some useful ideas on the development of a network of intermediaries to interpret and disseminate official statistics.

The U.S. Bureau of the Census may be similar to other statistical institutions in that its primary mission is to count and profile the Nation's people and economy. Title 13 (the *United States Code* that describes the role of the Census Bureau) does not contain language directly applicable to the role of the bureau as a disseminator of data. Historically, the bureau has maintained that dissemination of data is implicit in its function because it defies reason that the bureau would collect data and not disseminate it.

The bureau has never been the sole disseminator of its data. The Office of the Superintendent of Documents at the Government Printing Office is, by law, responsible for distribution of public documents in the United States. In this respect, the Census Bureau may be different from statistical institutions in other countries. Other differences might include the size or

[1] The author is a statistician with the U.S. Bureau of the Census, Washington, D.C. 20233, U.S.A. The views expressed in this article are the author's and do not necessarily reflect those of the U.S. Bureau of the Census.

political structure of other countries and the lack of an active user community outside of the government. Such differences might obviate the need for intermediaries.

2. General Description of the Network

The Census Bureau and the Government Printing Office (GPO) are the two primary distributors of Census Bureau products. The Census Bureau produces statistics and packages them in various forms. Although the Census Bureau is not permitted, by law, to sell publications, it does distribute statistical products in electronic media and microfiche, on a cost-recovery basis. The GPO sells all of the publications of the Census Bureau and distributes publications and microfiche to the Federal Depository Libraries, free of charge.

The most important intermediaries or secondary distributors in the network are the Federal Depository Libraries, the State Data Centers, and private sector vendors. (Refer to Illustrations 1A and 1B). The news media are also secondary disseminators of statistics. The role of the press and other national and local news media will not be discussed in this paper because they deal with statistics as news, and their function is generally understood.

The Federal Depository Libraries, the State Data Centers, and the private vendors of census data play an extremely important role in the product distribution network. They are responsible for reaching a large proportion of the ultimate users of census data, many of whom might not have access to the data without their services. They are the major links between the Census Bureau and its data users and they often are more familiar with the needs of the users than staff in the bureau who produce the data. This familiarity with user needs makes it possible for them to provide comments to

Illustration 1A

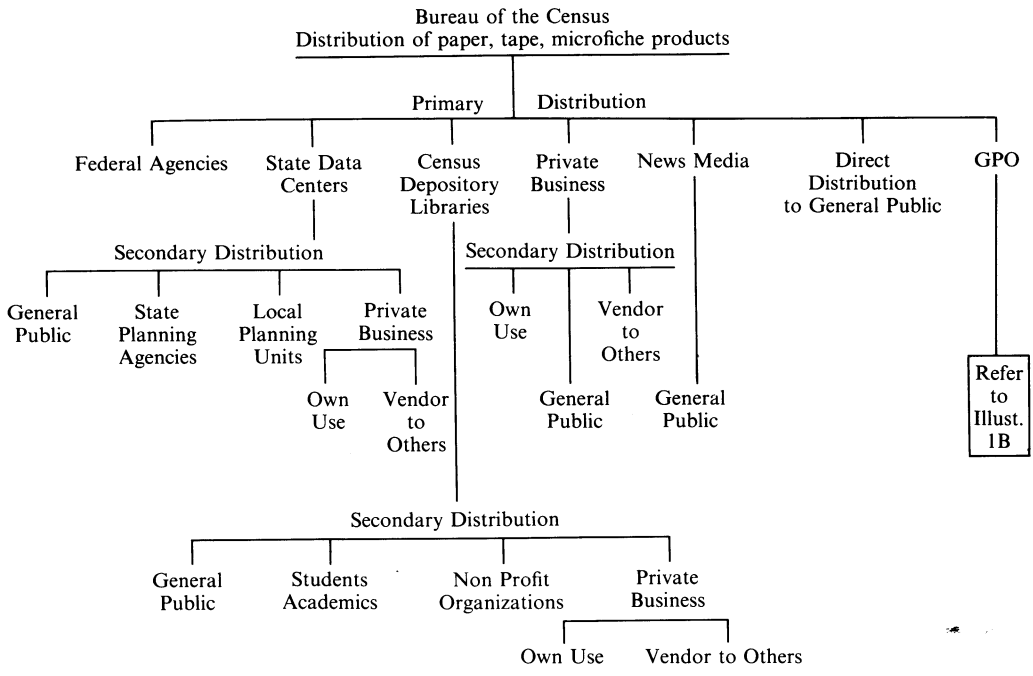
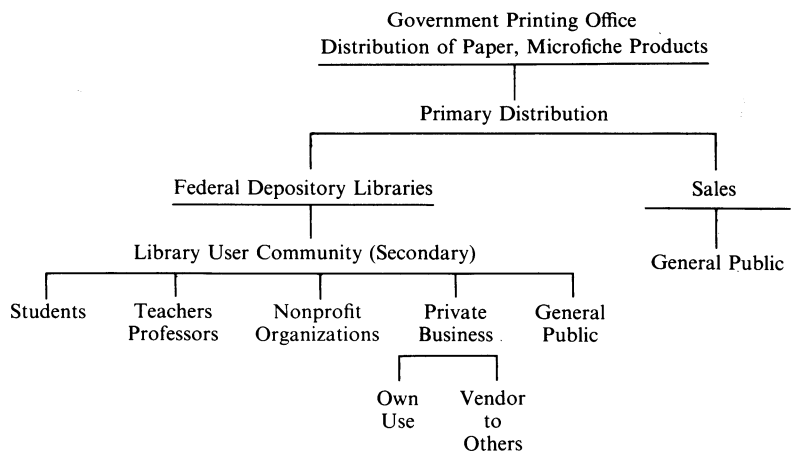


Illustration 1B



the Census Bureau on design of surveys and censuses, and users' problems with the data and data products.

The Federal Depository Libraries are the keepers of all federal information for the general public. They serve the academic community, nonprofit organizations, private business, and private citizens equally. They make the printed documents and microfiche available to anyone who enters the libraries and, in the case of the regional depository libraries, they hold these documents for use by the public in perpetuity. The open nature of the libraries means that users of census data could contribute to the production and distribution of goods and services in both the public and private sectors of the U.S. economy. (The Census Depository Libraries differ from the Federal Depository Libraries in that they are *not* part of the federally mandated Depository Library Program. They are small libraries to which the Census Bureau disseminates some publications on an informal basis.)

The State Data Centers and affiliate networks are the most important conduits of data to state, county, and local governments. These governing bodies use census data to plan the distribution of state and local services and to better understand the socioeconomic status of the citizens they serve. The State Data Centers also provide data to nonprofit organizations and private profit-making businesses. Most of the data they provide are transferred on paper from both printed sources and tapes. Some states give the data to users at no cost and some charge users to recover the cost of doing business. Decisions concerning the cost of services are left entirely to the discretion of each state.

The private sector vendors of census data usually acquire data on tapes and reformat and interpret them for use by private businesses of all kinds. They serve both large corporations and small businesses that do not have the capacity to manipulate and interpret census data for their purposes. The private sector vendors may be more important than the number and size of client businesses they serve, because they have a thorough knowledge of how census data are used by businesses in planning and marketing products and services. Businesses use the information to market products and services, from real estate to chicken wings. However, not all businesses acquire census

data through private sector intermediaries. In fact, according to the information we do have, most acquire census data from Census Bureau headquarters and the Regional Offices, State Data Centers, and libraries.

The next sections of this paper are devoted to a more thorough description of the nature and function of these three major intermediaries and the role they play in the interpretation and dissemination of Census Bureau data.

3. Federal Depository Libraries (FDLs)

3.1. *General description*

There are currently 1,399 Federal Depository Libraries in the GPO program. They include state libraries, like the New York State Library in Albany, public libraries like the District of Columbia Public Library, law libraries like the Albany Law School Library, university libraries like the Elmer Holmes Bobst Library at New York University, and some federal agency libraries like the library of the Department of Health and Human Services.

Fifty-four of these libraries are designated Regional Depository Libraries (RDLs) like the New York State Library. The RDLs receive one copy of all federal documents and microfiche distributed by the Government Printing Office (GPO) and are obliged to store the documents in perpetuity for use by all libraries and the general public. The other 1,345 FDLs may select up to 100% of over 7,000 item numbers and have almost total flexibility in what they select. The distribution of documents and microfiche to the FDLs is supported by the federal government.

The library depository program of federal publications dates back to 1813. Several laws over the years have increased and solidified the FDL program. Congressional resolutions in 1857 and 1858 affirmed the distribution of congressional materials to institutions such as libraries, colleges, and other designated organizations. In 1895 responsibility for bibliographic control efforts, distribution, marketing of public documents and the Depository Library Program was placed in the Office of the Superintendent of Documents at the Government Printing Office. The Federal Depository Act of 1962 revised previous legislation by increasing the number of libraries, establishing the system of regional libraries, expanding the variety of documents available for distribution and establishing a mechanism to ascertain the libraries' condition (U.S. Congress, Office of Technology Assessment 1988).

"By law, all documents produced by a Federal agency that are not confidential, not for internal use, or not concerned with the national security belong in the depository program. In fiscal year 1986, 66,367 titles or 27 million copies of government documents were distributed to depository libraries" (U.S. Congress, Office of Technology Assessment 1988, p. 139). The number of federal documents varies annually depending on the production volume of the federal agencies and the Congress.

3.2. *The use of census data in the FDLs*

Information on the frequency of use of federal documents and federal statistics, in particular, in the FDLs is scarce and usually concentrates on selected libraries. A recent report (McClure and Hernon 1989) provides a list of studies depicting users and uses of depository collections and services. According to the report, twelve surveys were taken between 1972 and 1987. Of these, eleven covered only academic libraries and ten focussed on only one library. Such surveys cannot be considered representative of the FDL libraries.

Table 1. Total academic and public depository library users per week

	Respondents		Estimate for Nonrespondents		Total
	User ticket	Log count	User ticket	Log count	
Academic libraries	40,469	71,533	7,134	19,032	138,168
Public libraries	10,202	12,639	2,540	4,200	29,581
Total	50,671	84,172	9,674	23,232	167,749

Source: McClure and Hernon 1989, p. 41. Refer to footnote 3 for notes on methodology.

Exceptions to the tendency to do in-depth studies of only one library were the 1983 and 1985 GPO Biennial Surveys administered to all GPO depository libraries. The 1983 survey gathered information on the number of patrons using the documents department and the amount of services provided. Based on the survey, the GPO estimated that an average of 133 persons use the documents section of each Federal Depository Library each week. The 1985 survey results yielded an estimate of 129 persons using each library per week. The GPO projected the 1985 estimates to a total of 195,214 persons using the depository libraries in a normal week (McClure and Hernon 1989, pp. 4 and 5).[2]

A 1988 survey of users of federal documents in FDL academic and public libraries, was contracted by the GPO. The survey focused on two primary questions: "What is the number of users of academic and public depository publications for a specified time period?", and "What are selected characteristics of these users in terms of gender, educational level, occupation (for public library users) and academic status (for academic library users)?" The survey was actually a census of all 1,054 GPO public and academic libraries throughout the U.S.[3] The response rate was 81% for the academic libraries and 80% for the public libraries.

The most interesting estimate of the survey was that 167,000 people use the depository government material in academic and public libraries per week. Refer to Table 1.

It is not possible to estimate the proportion of documents that was statistical or the proportion that was Census Bureau or decennial census publications. However, according to the best guesses of McClure, Hernon, and several depository librarians, statistical documents are the federal publications most often referred to and Census Bureau and Bureau of Labor Statistics publications are among the most popular of the statistical documents.

The librarians provide feedback to the Census Bureau through the Federal Depository Library Council which holds meetings twice a year with the government documents librarians to determine their needs and problems. The council often invites

[2] The GPO surveys were actually censuses of all GPO libraries. Both surveys administered questionnaires to librarians in the government documents sections of libraries. The librarians were asked to record the number of patrons that used the documents sections in a specified five-day period in 1983 and a "normal week" in 1985.

[3] Three types of data collection instruments were used: one information form was filled out by the government documents librarians who described the library; user tickets were filled in by users of the government documents section; and user logs were kept for open stacks and bibliographic computer searches. The estimate of the number of users for nonrespondent libraries was computed by taking the average number of users in the responding libraries for each category of libraries and multiplying the average by the number of nonrespondent libraries in the same category. The categories were defined in terms of student enrollment (for academic libraries) and community size (for public libraries).

Census Bureau staff to its meetings to discuss issues of mutual importance. The staff of the Government Printing Office also acts as a conduit of information between the libraries and the Census Bureau.

4. The State Data Centers (SDCs)

4.1. General description

The State Data Center (SDC) Program was initiated by the Census Bureau in 1978. In order to become part of the program, each state had to formally acknowledge its willingness to carry out State Data Center functions in a Joint Statistical Agreement or a Memorandum of Understanding with the Census Bureau. The program now has 1,300 members throughout the 50 states: approximately 50 are lead agencies (one in each state), 173 are coordinating agencies, and 1,077 are affiliates.

The purpose of the State Data Center Program is to:

> Provide training and technical assistance in accessing and using data for research, administration, planning, and decision making by the government, the business community, university researchers, and other interested data users.
>
> Improve access to and extend the use of Census Bureau statistical resources and related products, including computerized data (U.S. Bureau of the Census 1988).

The State Data Center network varies from state to state. The lead agency, however, is usually a major state planning or executive agency, the state library, or a major state university. The lead agency determines the structure of the individual state programs and serves as the official liaison with the Census Bureau. In addition to the lead agency, most states have principal coordinating agencies that answer and refer requests for information and serve special functions such as representing the university system, acting as liaison to libraries, or serving the state government. The third layer in the network is the group of affiliates. They include regional and local planning commissions, libraries, academic institutions, local government agencies, and chambers of commerce (Batutis 1986).

The program is not funded by the Census Bureau but carried out through the good faith of the state centers and affiliates. The lead agency usually pays a small number of professionals to provide services to the coordinating agencies and affiliates. The staff in the coordinating and affiliate agencies carry out their functions as part of their regular work without special compensation. The staff includes librarians, university professors, and government employees.

4.2. The role of the State Data Centers

The State Data Centers play a very important role in the dissemination and interpretation of Census Bureau data for the end users in their states. They are the most important conduit for providing primary census data from the Census Bureau to state and local governments. They also serve business, the academic community, and private citizens. The State Data Centers provide reference assistance, information products, training, and outreach functions to their users. They receive copies of all printed reports, computer tapes, and microfiche for their state directly from the Census Bureau free of charge, as well as, a sufficient number of copies of other publications, such as the *Statistical Abstract of the United States*, to supply the affiliates.

The program has had other benefits like improved cooperation between the states and the Census Bureau in the planning and advertisement of the 1990 census. The State Data Centers were important in helping the

bureau conduct local public meetings on census content and products. They also worked with local government officials in promoting cooperation in responding to the census, reviewing the census counts, and defining local areas.

Some State Data Centers publish their own statistical abstracts and develop specialized data bases for their users while others develop and publish annual population estimates for counties or other small areas. For example, the Connecticut State Data Center published a "Data Sampler" with state data on population, housing, manufacturing, retail trade, wholesale trade, energy, finance, and other data from a number of sources.

The lead SDC agencies are usually staffed with one to three people. Some SDCs, like North Carolina, have five to ten people on the staff. In the case of New York there are two demographers, a professional assistant, and one secretary. The staff respond personally to inquiries, coordinate the program among agencies, serve the statistical needs of the state government, distribute data and data products to affiliates, and keep records on data requests for the Census Bureau. Often they have a better understanding of the actual needs of census data users than Census Bureau staff because they are located closer to the users and have more frequent contact with them. They help users to understand and use the data in an appropriate manner.

The staff of the State Data Centers have many channels of communication open to discuss their needs with the Census Bureau. An annual meeting of the State Data Centers is held in Washington, D.C. once a year. These meetings are open to all employees of the centers. A steering committee of selected State Data Centers also meets once a year at Census Bureau headquarters to plan their work with the bureau. An Electronic Bulletin Board developed by the bureau to aid communications between the bureau and the centers and among the centers is used regularly for press releases, product announcements, a calendar of meetings, and some data releases. These lines of communication provide a forum for the discussion of issues of concern to users.

4.3. The use of census data by the New York State Data Center network and its users

In the agreements between the Census Bureau and the State Data Centers, the Census Bureau requested that State Data Centers provide an annual report of the number of users served, the types of assistance provided, and a review of data needs and problems. Only half of the State Data Centers comply with this request, so it is not possible to review the degree to which the State Data Center network is utilized nationwide. A case study of the state of New York will, therefore, be described to give an idea of who uses the State Data Centers and the number and kinds of requests served.

The small SDCs are not miniature versions of the New York SDC. Each SDC has a different organization, operation, and serves a specific clientele. The reader should keep this in mind when reading the description of the SDC network of New York. Examples of the work of other State Data Centers will be presented, where possible, for comparison.

The lead agency of the New York State Data Center network is in the Department of Economic Development of the State of New York. During the period November 1, 1986 to October 31, 1987, the center responded to 798 requests for data that required follow-up action such as mailing reports and carrying out customized computer runs. In addition to these requests, the center also responded to other phone requests that were answered immediately, without further

follow-up. The latter were not documented, but it is estimated that they represented one-half to two-thirds of the total requests received (New York State Department of Economic Development 1987, p. 9).

Fifty percent of the requests came from the private sector, including businesses, researchers, nonprofit agencies, and the general public. Thirty-eight percent of the requests came from government agencies including the other state affiliates. Twelve percent came from the health and academic sectors. Approximately 1,091 individual pieces of information were sent in response to these requests from November 1986 to October 1987. The information was provided in the form of various publications, copies of tabular materials, and special computer runs (New York State Department of Economic Development 1987, p. 16).

The Decennial Census of Population and Housing accounted for 35% of all requests, followed by requests for population estimates which made up 25% of the total. Economic census data accounted for only 2% of the total, maps 1% and other products 8% (New York State Department of Economic Development 1987, p. 16).

In the state of Oklahoma, the State Data Center responded to 2,029 data requests in 1987. Private sector businesses accounted for 41% of the requests; state, local, and federal government accounted for 18%; the general public (including academia, health sciences, media, non-profit organizations, and individuals) accounted for 32%; and the Oklahoma Department of Commerce accounted for 9%. Requests for economic data topped the list with 29%, followed by inquiries related to various types of demographic data with 21% (Oklahoma State Data Center 1988, p.5).

The coordinating agencies for the New York SDC are the New York State Library, the Nelson A. Rockefeller Institute of Government which is a state forum for information resource management in Albany, and the Cornell Institute for Social and Economic Research at Cornell University in Ithaca, New York.

The New York State Library maintains a comprehensive collection of Census Bureau publications, makes published census information available to users in Albany and the rest of the state, and works with other libraries in the state which receive census information to ensure coordination. From November 1986 to October 1987 the library carried out a number of other special functions. It attempted to secure funding for a pilot project on electronic access to federal statistical information for depository libraries and distributed data on the New York State Data Center electronic bulletin board. It assisted visually impaired persons to get access to statistical information (Redmond 1986; and New York State Department of Economic Development 1987).

The Nelson A. Rockefeller Institute of Government compiles data for the *New York State Statistical Yearbook* and a companion publication titled *New York at a Glance*. The Institute also promotes exchange of information among government entities in the state, promotes guidelines and standards which facilitate technology transfer and systems integration, and examines and recommends policies that affect development and use of information resources within the state (New York State Department of Economic Development 1987).

The Cornell Institute for Social and Economic Research (CISER) maintains 2,000 files of Census Bureau data as well as files from other federal agencies, state agencies, and a university consortium. CISER offers a wide range of contract services for private business, and others in the public and academic sectors. In the 1986/87 academic year CISER responded to 512

requests for consulting services (New York State Department of Economic Development 1987).

The 30 SDC affiliates in New York vary in size and services. For example, the City University of New York (CUNY) data service has two professionals who have full-time jobs as professors and researchers while the affiliate of the New York Metropolitan Transportation Council has 30 professionals dedicated to transportation planning. CUNY provides tapes, extracts, and customized tabulations from the 1980 census tapes to academic researchers, public and nonprofit agencies, and commercial businesses. The New York Metropolitan Transportation Council develops transportation plans for 10 counties in southern New York State.

In the State of Arizona, there are five coordinating agencies and 18 affiliates in the State Data Center Program. The Department of Economic Security of the state government is the lead coordinating agency. It publishes a "Demographic Guide to Arizona", statistical profiles of each county and incorporated place in the state, and a newsletter which it sends to 4,000 data users. The other coordinating agencies are three universities and one library.

5. Private Sector Vendors of Data Products and Services

5.1. General description

The Census Bureau has compiled a list of organizations that provide specialized assistance in obtaining and using statistical data and related products prepared by the Census Bureau. The list contains only individuals and organizations that wish to be included and is not exhaustive. The October 1989 update of the list contains 154 firms in 32 states and Canada. The states with the largest number of firms are California with 25, the greater Washington, D.C. area (including the suburbs in Virginia and Maryland) with 22, and New York with 14 (Bureau of the Census 1989). The total number of private firms that provide assistance in interpretation and repackaging of census data and their use for marketing and other purposes is unknown.

Seven large firms have been in the business of obtaining and using census data since the early 1970s, when census data were disseminated on tapes for the first time. These large firms have 50 to 200 employees each. They dominate the market in terms of the total revenue generated from consumer information. Most of the other firms are small and employ 10 to 20 people each, including clerical staff.

The services provided by the firms vary depending on their sizes. The small firms usually provide very specific services like the provision of data on race, age, occupation, and income for judicial cases on equal employment opportunity, bibliographic references to federal statistics, or the development of *ad hoc* products tailored for each client. The large firms provide full services, including preparation of files and reports for marketing, consultation and assistance in using census and other data for marketing, customized tabulations, tapes and diskettes for local area business site selection, on-line access to census data, and prepackaged consumer information data bases.

The large firms, especially in the early 1970s, added value to decennial census data by compressing the size of the tape files and writing software and documentation to facilitate access to the data. However, since 1980, the value added has increased significantly to the point that the firms no longer see themselves as decennial census data vendors. They think of themselves, rightfully so, as consumer information specialists. They have become experts at updating

decennial census data throughout the decade and integrating it with data from other sources. Even the concept of value added may be inappropriate because many firms are creating totally new products. Census Bureau data have become only one very important component of data used in marketing products to individuals.

There are various kinds of information specialists in the private sector. To better understand their functions it is necessary to examine the elements of consumer information. According to Peter Francese, President of American Demographics Inc. information specialists develop and provide the following information:

- demographic and geographic data on age, income, occupation, and location to answer the question, "Who are the consumers?"
- data on consumer lifestyles to answer the question, "What do consumers want?"
- media preference data to answer the question, "Where can consumers be reached?"
- purchase behavior data to answer the question, "What do consumers buy?"

The amount of census data employed by these specialists varies, depending on the information they provide. For example, the major demographic data companies acknowledge that decennial census data are the most important data they use in their work, while those who develop media preference data use it as a sampling frame for the surveys they conduct.

5.2. The use of census data by data vendors

Demographic data vendors are the principal vendors using Census Bureau data. The principal role of private demographic data vendors is to integrate Census Bureau data with data from other sources, and to reformat them in such a way that it is easy for businesses to understand and use them to market services and products. The largest among these are: CACI, Claritas, Donnelley Marketing Information Services, Market Statistics, National Decision Systems, National Planning Data Corporation, and Urban Decision Systems.

There is little information available about the frequency of requests for products containing census data from private vendors because (1) they are not part of a government program and (2) they consider information on their customers to be proprietary. Information on their products is available from advertising materials, but information on volume of sales by type of product is not.

During personal informal interviews with some vendors in the greater Washington, D.C. area and in New York state, several of the large vendors estimated that they respond to 1,000 to 6,000 requests for products and services per year, but they were unable to give more precise information either because they do not computerize sales records or because they prefer to keep the information confidential. The small vendors claimed that their volume of work varied according to how aggressive they were and could give no idea about the number of customers served. As a result of limited information on the requests for data, it is difficult to determine the magnitude of data products they disseminate.

The Regional Offices of the Census Bureau handle up to 25,500 requests a year from the business sector for products or information about the decennial census alone. The State Data Centers that keep records estimate around half of their requests comes from business. Thus, in terms of number of requests for census data, the vendors serve an important but not dominant role as intermediaries between the Census Bureau and the business sector.

However, the bulk of spending for data products goes to the private sector intermediaries. For example, a Fortune 500 company might spend $2 or $3 million a year on consumer marketing products and services. The companies that handle this business are very different from the rest.

The importance of private sector intermediaries may be far greater than is reflected either in their number or the number of customers they serve. They have their hands on the pulse of business and are very familiar with the needs of the business sector and are experts in fulfilling those needs. This allows them to speak for the users of marketing statistics. Some vendors contribute to the work of the Census Bureau by participating in the Census Advisory Committees which meet twice a year in Washington, D.C. to discuss the work of the bureau and provide advice.

In general, the vendors interviewed noted that they relied heavily on data from decennial census Summary Tape Files 1, 2, 3, and 4, which contain grouped data from tabulations of complete-count and sample data from the 1980 census. The vendors use data on age, income, education, and employment from small geographic levels such as tracts. Age and income are considered to be the most powerful determinants of buying power.

6. The Future Role of Intermediaries

The future role of the Federal Depository Libraries in the dissemination of Census Bureau data is greatly influenced by the increasing importance of electronic media for data dissemination and the federal government's policy regarding how the library program should be changed to accommodate electronic media such as CD-ROM (Compact Disk Read Only Memory) data files and on-line data services. Some well-endowed state and academic libraries will be able to afford both the hardware necessary to use CD-ROM data files and to purchase currently available on-line data services with federal statistics from private vendors. The ability of the Federal Depository Library Program to guarantee such access to all libraries in the program is less certain.

The future of the State Data Center Program is dependent on state government policy and funding. The State Data Center of a given state can expand and add more affiliates only if state funds are available to increase staff to answer requests. Some State Data Centers are better candidates than others for becoming the hub of a state statistical network. It is possible that the State Data Centers will continue to link with other federal agencies. Some of these agencies already deal directly with the SDCs and others are beginning to cooperate. Some states have been and will be trading data with foreign countries, and the international economy of the 21st century will require that data from foreign countries be made available to the State Data Centers.

The importance of private sector vendors who know how to manipulate and interpret data for product and service planning and marketing will continue in the future. The key to the future of the marketing information industry will be the successful integration of data files from many sources and the further development of easy-to-use marketing information data base systems.

7. Conclusion

The U.S. Bureau of the Census relies heavily on a vast network of secondary distributors of its data throughout the United States. These intermediaries know a great deal about the ultimate users of Census Bureau data because they have direct contact with

them. Without such intermediaries, many users would not have access to or benefit from the data collected by the Census Bureau.

The librarians in the Federal Depository Library Program are avid defenders of access to federal data by the general public. The staff in the State Data Centers and their affiliates fulfill the data needs of state and local governments. The private sector information specialists develop consumer information to serve a variety of marketing needs in the U.S. economy.

The importance of secondary distributors of Census Bureau data cannot be underestimated. They form the links between the U.S. Bureau of the Census and its data user communities.

8. References

Batutis, M.J. (1986). The New York State Data Center Program. The Bookmark, summer volume, 204–207.

McClure, C. and Hernon, P. (1989). Users of Academic and Public GPO Libraries. Washington, D.C.: U.S. Government Printing Office, Superintendent of Documents.

New York State Department of Economic Development (1987). New York State Data Center Annual Report. Albany, New York: New York State Department of Economic Development.

Oklahoma State Data Center (1988). Information and Research News. Oklahoma City, Oklahoma: Oklahoma Department of Commerce.

Redmond, M. (1986). State Data Centers: Improving Access to Census Information. Government Information Quarterly, 3, 291–303.

U.S. Bureau of the Census (1988). State Data Center Program. Unpublished paper, U.S. Department of Commerce.

U.S. Bureau of the Census (1989). National Clearinghouse for Census Data Services. Washington, D.C.: U.S. Department of Commerce.

U.S. Congress, Office of Technology Assessment (1988). Informing the Nation: Federal Information Dissemination in an Electronic Age. Washington, D.C.: U.S. Government Printing Office.

Received March 1990
Revised October 1990