

Disseminating Economic Census Data

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This article describes the ways that data from the 1997 Economic Census will be reported, both in print and in electronic media. Particular attention is given to the impact of the new North American Industry Classification System (NAICS) on the design of census reports, and to its implications for the assembly of time series from Economic Censuses past and future.

Data from the Economic Census serve as the foundation for the nation's system of statistics about the functioning of the American economy. While many monthly, quarterly, and annual surveys provide the numbers most closely watched by private and government economists for the latest in economic trends, the once-every-five-years Economic Census provides the statistical controls and sampling frames that make many of those surveys possible. Further, the census yields rich data products of its own, providing far greater precision and geographic detail than is possible from the more frequent surveys. In addition, the Economic Census program includes several complementary data series: surveys of minority- and women-owned businesses, two transportation-related surveys, and censuses in Puerto Rico and other outlying areas.

Whether conveyed in print or by computer, the reports of the Economic Census must effectively transfer this wealth of information to those who need it. There is, of course, a critical constraint on these reports: the individual information provided by responding businesses must be kept completely confidential. The statistics compiled are carefully scrutinized so that no information is revealed about the individual businesses that make up the statistics. But, once prepared, these statistics are ready for wide distribution. There is nothing proprietary here: the economic statistics published by the Census Bureau are in the public domain—not even copyrighted. Thus, the distribution of the data can be as wide as possible.

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BUREAU OF THE CENSUS

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BASIC CONCEPTS

The core data from the Economic Census are summarized in terms of business establishments; for example, the number and aggregate employment of establishments in a certain kind of business located in a certain area. An establishment, as defined for census and survey purposes, is a business or industrial unit at a single geographic location that produces or distributes goods or performs services, for example, a single store or factory.

Classifying economic activity establishment-by-establishment is only one of three alternatives. Some census results are classified by company or firm (an entity owning or controlling any number of establishments, including those of subsidiary firms). But because different establishments within the same company can be located in different areas or be engaged in different kinds of business, the establishment basis of reporting yields more precise information than data reported in terms of companies.

On the other hand, users frequently want data in terms of particular products produced or sold. Census forms ask for dollar volume of sales for key products appropriate to each industry, but these data are limited to avoid placing an unreasonable record-keeping burden on businesses. Further, many of the statistics collected in the Economic Census, such as employment or capital expenditures, are associated with particular establishments but cannot generally be reported separately for individual product lines. Thus, only a few specialized data series, like retail Merchandise Line Sales or product tables in manufactures census reports, present statistics by product line. Most of the basic census statistics reflect the classification of establishments, not companies or products.

CLASSIFYING INDUSTRIES

Most data from Economic Censuses are classified by industry, and, since the 1930s, that grouping has been based on the Standard Industrial Classification (SIC) system. For 1997, most census reports will switch to the new North American Industry Classification System (NAICS), as described in another article in this issue.¹ Only a few reports from the 1997 Economic Census will classify data by SIC, as discussed below under Assembling Time Series Data.

NAICS, developed in cooperation with Canada and Mexico, classifies North America's economic activities at 2-, 3-, 4-, and 5-digit levels of detail, and the U.S. version of NAICS further defines some industries to a sixth digit (see Table 1).

The Census Bureau also classifies products, and, in the case of manufacturing and mining, products are classified in a manner consistent with the industry structure. For 1997, the first six digits of the 10-digit product code are the same as the NAICS code for the industry with which the product is most frequently associated. Broad product or service lines also are provided for retail and wholesale trade and other service industries, although their numbering is independent of the industry code.

Both NAICS and SIC categorize each establishment by the principal activity in which it is engaged. Some establishments engage in more than one kind of activity and, thus, may not fit neatly into a single industry category. Nonetheless, each establishment is classified into only one NAICS or SIC on the basis of its primary activity. Its secondary activities are still counted, for example, toward total sales, but they do not affect the classification. For instance, the total sales of furniture retailers (SIC 5712 or NAICS 44211) in a given area

Table 1
NAICS Hierarchic Structure

NAICS Level	Example	
	NAICS Code	Description
Sector	51	Information
Subsector	513	Broadcasting and telecommunications
Industry group	5133	Telecommunications
Industry	51332	Wireless telecommunications carriers, except satellite
U.S. Industry	513321	Paging

should not be interpreted as the total sales of furniture. Stores in that industry may sell other items in addition to furniture, and other kinds of businesses, such as department stores (SIC 5311 or NAICS 45211), also sell furniture. This is an inevitable limitation of the establishment basis of classification.

Despite their limitations, there are major advantages to the use of standard industry classification systems. Their widespread use, inside and outside the government, promotes uniformity and comparability in the presentation of statistics collected by various federal and state agencies, trade associations, and private research organizations.

COVERAGE OF THE CENSUS

Economic Censuses have never covered quite all of the economy. The program expanded steadily up to 1992, when the 1992 Economic Census, together with the censuses of agriculture and governments conducted separately, covered roughly 98% of economic activity. Coverage will be roughly the same for 1997, although with the regrouping of industries in NAICS, the exclusions are shifted around. For example, landscaping and veterinary services—classified as agricultural services under the SIC system—seemed logically excluded from the Economic Census. Now those industries have been moved into professional, administrative, and other service categories, and, since census funding did not expand to allow their coverage, they now seem to make more awkward holes in the coverage of the economy.

The 1997 Economic Census covers 1,056 of the 1,170 industries in NAICS. Specific exclusions are noted in Table 2. Another limitation to the coverage of the Economic Census is that most of the statistics apply only to establishments with payroll, that is, they omit small, single-establishment companies with no paid employees—what are sometimes called “mom and pop” businesses. This limitation is a practical one, since the census is conducted by mail and the best records for developing the mailing list of businesses come from the federal payroll tax (Social Security) system. To gauge the number and sales of nonemployer businesses, that is, those not covered by payroll tax records, the Census Bureau obtains some statistics from the Internal Revenue Service (IRS) derived from business income tax returns. As in recent censuses, statistics about nonemployers will be confined to specialized reports, and most 1997 reports will summarize statistics about only those establishments with paid employees.

Table 2
NAICS Sectors and Their Coverage in the 1997 Economic Census

NAICS Code	Economic Sector
11	Agriculture, Forestry, Fishing and Hunting (<i>Separate census of agriculture, conducted by the Department of Agriculture, covers farming but excludes agricultural services, forestry, and fisheries</i>)
21	Mining
22	Utilities
23	Construction
31–33	Manufacturing
42	Wholesale Trade
44–45	Retail Trade
48–49	Transportation and Warehousing (<i>Census excludes U.S. Postal Service, large certificated passenger air transportation, and all rail transportation</i>)
51	Information
52	Finance and Insurance (<i>Census excludes funds and trusts</i>)
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services (<i>Census excludes landscape architecture and veterinary services</i>)
55	Management of Companies and Enterprises
56	Administrative and Support, Waste Management and Remediation Services (<i>Census excludes landscaping services</i>)
61	Educational Services (<i>Census excludes elementary and secondary schools, colleges, and professional schools</i>)
62	Health Care and Social Assistance
71	Arts, Entertainment and Recreation
72	Accommodation and Foodservices
81	Other Services (Except Public Administration) (<i>Census excludes pet care; labor, political, and religious organizations; and private households</i>)
92	Public Administration (<i>Separate census of governments does not present data according to NAICS or SIC systems</i>)

Statistics on manufactures are not much affected by the exclusion of establishments without employees. On the other hand, in the retailing, service, and construction sectors, establishments without paid employees—for instance, door-to-door sales people, consultants, independent contractors—are relatively common. In 1992, nonemployer establishments accounted for about 2.8% of retail sales nationwide, 10.6% of service receipts, and 7.3% of construction receipts. Certain small industries, like barber shops, are dominated by nonemployers, and in a number of others—like real estate operators and agents, tax return preparers, child day care, used car dealers—nonemployers account for more than a quarter of all receipts.

GEOGRAPHIC AREAS

The most detailed Economic Census data are provided for the United States as a whole. Key statistics, albeit progressively fewer, are available for states, metropolitan areas (MA's), counties, and places with 2,500 or more inhabitants. Only limited data are provided for ZIP codes. The level of geographic detail varies by sector, as shown in Table 3.

Table 3
Geographic Areas in the 1997 Economic Census

<i>Sector</i>	<i>States</i>	<i>MA's</i>	<i>Counties</i>	<i>Places 2500+</i>	<i>ZIP Codes</i>
Mining	X				
Utilities	X	X			
Construction	X				
Manufacturing	X	X	X	X	X
Wholesale Trade	X	X	X	X	
Retail Trade	X	X	X	X	X
Transportation and Warehousing	X	X			
Information	X	X	X	X	
Finance and Insurance	X	X	X	X	
Real Estate and Rental and Leasing	X	X	X	X	
Professional, Scientific, and Technical Services	X	X	X	X	X
Management of Companies and Enterprises	X				
Administrative and Support, Waste Management and Remediation Services	X	X	X	X	X
Educational Services	X	X	t	t	t
Health Care and Social Assistance	X	X	t	t	t
Arts, Entertainment and Recreation	X	X	t	t	t
Accommodation and Foodservices	X	X	X	X	X
Other Services (Except Public Administration)	X	X	t	t	t

Note: "t" indicates data are not available for tax-exempt firms at this level.

Within a given area, the more economic activity there is, the more detail is available. Thus, a county with many factories is likely to have more industry detail in a manufacturing census report than a county with fewer manufacturers. All of the data are scrutinized closely to avoid possible disclosure of information about particular firms. This can be frustrating for a user who finds that a desired number has been replaced with a (D) for disclosure, and therefore must rely on data at a higher level of aggregation.

Because of cost of preparation and the potential for statistical disclosure, no incorporated places with fewer than 2,500 inhabitants, unincorporated places, nor census tracts are reported separately in the Economic Census.

TYPES OF REPORTS

Whether in printed reports or in computerized form, most data from the Economic Census look something like those illustrated in Table 4. Each table presents statistics for a set of industries and/or geographic areas. The focus is on economic activity during the census year, for instance, 1997. (Statistics from previous censuses are presented in only a very few specialized tables.) The statistics are complemented by narrative material—basic concepts, methodology, reliability, and detailed explanations of terms—included in the same printed report, CD-ROM, or other system.

Detailed Reports

Detailed reports are issued sector by sector. With the exception of ZIP Code statistics, these reports were issued in print up through the 1992 census; starting in 1997, their data will be available only on CD-ROM and on the Census Bureau's Internet site:

Table 4
Sample Data in a Geographic Area Series

NAICS Code	Geographic Area and Kind of Business	Establishments (Number)	Sales (\$1,000)	Annual Payroll (\$1,000)	Paid Employees for Pay Period Including March 12 (Number)
COLORADO					
44-45	Retail Trade	22,921	28,532,646	283,457	3,488,242
441	Motor vehicle and parts dealers	1,340	6,018,542	18,932	484,044
4411	Automobile dealers	546	5,305,849	13,631	384,357
44111	New car dealers	262	5,024,487	12,503	363,316
44112	Used car dealers	284	281,362	1,128	21,041
4412	Other motor vehicle dealers	173	272,136	1,171	26,057
44121	Recreational vehicle dealers	60	142,413	432	11,438
44122	Motorcycle, boat, and other motor vehicle dealers	113	129,723	739	14,619
441221	Motorcycle dealers	71	86,493	486	9,799
441222	Boat dealers	27	31,333	172	3,303
441229	All other motor vehicle dealers	15	11,897	81	1,517
4413	Automotive parts, accessories, and tire stores	605	434,640	4,089	72,952
442	Furniture and home furnishings stores	1,749	1,543,869	10,380	187,582
4421	Furniture stores	449	447,968	2,899	61,219

- *Geographic Area Series* (published for all sectors) provides detail for establishments with employees as illustrated in Table 4. They include data for the nation, states, and sub state areas listed in Table 3, except ZIP Codes.
- *ZIP Code Statistics* (selected sectors, see Table 3) include primarily counts of establishments by employment- and/or sales-size by industry.
- *Industry Series* (manufacturing, mining, and construction) provides national totals on individual industries, their products, and materials consumed, plus limited data for states.
- *Subject Series* (all sectors) provides national and limited state and metropolitan area data on special topics including Merchandise Line Sales, Concentration Ratios, and Establishment and Firm Size.

Summary Reports by Sector

Summary reports by sector provide highlights of the data in print for 1997. They feature primarily national data and general statistics by state, and are similar in many respects to "General Summary" or "U.S. Summary" reports published in 1992 and prior years. Now that very few reports will appear in print, the summary reports for 1997 also will include illustrations of some of the more detailed data available in electronic media.

Core Business Statistics

Core Business Statistics is new for 1997. The series provides data for most or all industries, economy-wide. An *Advance Report* gives the first data for broad NAICS and SIC cat-

egories. The *Bridge Between NAICS and SIC* shows the relationships between NAICS and SIC categories in detail. *Comparative Statistics* shows national and state totals classified by SIC for both 1992 and 1997—comparisons not possible with other, NAICS-based reports. *Nonemployer Statistics* is the only source for information about nonemployers—12 million small businesses not included in other census reports.

Other Reports

The *Survey of Minority-Owned Business Enterprises*, conducted in conjunction with the Economic Census, measures the extent of business ownership by specific minority groups in the United States: Blacks; persons of Hispanic origin; and Asians, Pacific Islanders, American Indians, and Alaska Natives. A report is issued on each of these three groups. There is also a report on firms owned by women, and each report gives corresponding characteristics for all businesses.

All of the foregoing reports provide data for the United States. There also are reports from complementary censuses covering some but not all sectors of the economies in Puerto Rico, the Virgin Islands, Guam, and the Commonwealth of the Northern Mariana Islands, under the title *Censuses of Outlying Areas*.

Timing of Reports

Users of economic data want information as current as possible, and the timely issuance of the reports is one of the highest priorities in the Economic Census program. Table 5 cites key dates in the publication of 1997 census data. Most final 1997 Economic Census reports will be published in 1999 and 2000. This may not appear to be very timely, but what the user needs to realize is that 1997 is only the reference year. Most data are not obtained from companies until 1998, so that the respondent can provide information reflecting all activity, such as sales or capital expenditures, during the entire calendar year of reference. Overall, the publication schedule for 1997 reflects an ambitious effort to make data available as soon as possible. For more detail in terms of specific sectors and series, see the *Preview to the 1997 Economic Census*.

In an effort to expedite the release of key data, the 1997 Economic Census will publish a single *Advance Report* prior to the publication of more detailed statistics. This will be the first attempt to publish data about the entire economy early on in a census publication program, as much as two years prior to the publication of corresponding economy-wide num-

Table 5
Key Dates in the Publication of 1997 Economic Census Reports

early 1999	Advance Report (in print)
1st-3rd quarter 1999	Industry Series
mid 1999–early 2000	Geographic Area Series
early 2000	Bridge Between NAICS and SIC (in print)
early 2000	Comparative Statistics
3rd quarter 2000	Nonemployer Statistics
mid 2000–early 2001	Subject Reports
early 2001	Summary Reports (in print)
mid 2001	ZIP Code Statistics

bers in previous censuses. Naturally, these advance numbers will be superseded as final reports are published sector by sector.

COMPUTERIZED DATA FROM THE ECONOMIC CENSUS

Much of the published data from Economic Censuses have been made available in computerized form for a number of years. The 1972 Economic Census was the first to introduce a large number of files on computer tape. CD-ROM dissemination began with the 1987 census. Though the Internet had not figured in the early plans for disseminating 1992 data, key census results came to be featured on the Web.

Advantages of Computerized Media

Users have been interested in obtaining their economic summary data in computerized form for a variety of reasons:

- *Ease of manipulation.* From 1972 to 1992, while data on tape or CD-ROM mostly duplicated data also available in print, users chose computerized data largely for their ease of manipulation. Sophisticated users were the first to employ tapes and CD-ROM's to rank, compare, analyze, reformat, and extract data. Users merged information from different databases, as in the combination of retail census and population data to yield per-capita retail sales figures. Then, as CD-ROM software became easier to use, even novice users found it easier to find the data they were looking for on CD-ROM. On CD-ROM, data for all sectors were available on a single device, while in print a number of separate reports were required to cover all sectors. For 1997, both CD-ROM and Internet software will include sophisticated search engines to help users find what they are looking for.
- *More data series.* While most data from 1972 to 1992 appeared both in print and computerized media, the latter were a unique source for several databases too large to be printed cost-effectively, such as ZIP Code Statistics and sub national Merchandise Line Sales. Due to tight printing budgets and, on the other hand, due to the widespread acceptance of CD-ROM and the Internet, only a very few reports will appear in print for 1997, with perhaps only one tenth the number of pages published in earlier censuses. Thus, users interested in detailed data must go to computerized media.
- *Immediacy of access.* The Internet now provides immediate access to data as soon as they are released, bypassing the weeks required to print a report or manufacture a CD-ROM. For the user, the Internet also bypasses what can be a lengthy multi-step acquisition process in which the user may first obtain informational material, glean enough information about the data to place an order, then wait additional days or weeks while the order for CD-ROM's or printed reports is fulfilled and delivered by mail.

CD-ROM's

CD-ROM is certainly the most efficient mechanism for transmitting the large census databases in their entirety. A single device holds up to 680 million bytes of data. Software

on each database CD provides the capability to select, reformat, merge, and rank the numbers, and then export the data to a spreadsheet or other application for further manipulation.

As noted in Table 5, various parts of the output of the 1997 Economic Census will be published across a 2 1/2-year period. The first CD-ROM, to be issued in mid-1999, will include only those industries and states published by that time. That CD-ROM will be reissued once every quarter, and successive discs will be progressively more inclusive. CDs will be sold primarily by subscription, so that the user always has the most inclusive CD-ROM available. Certain large datasets, like ZIP Code Statistics, will have CD-ROM's of their own separate from the main subscription series.

CD-ROM's from the 1997 Economic Census should be much easier to use than their predecessors. Data files on 1997 CD-ROM's have been redesigned to facilitate the analysis of the entire economy, not just one sector at a time. Standard hierarchic industry codes will be used, rather than internal codes once thought to "improve" on the sequencing and presentation of the data. Units of measure have been standardized across sectors, and publication criteria have been made more flexible to allow presentation of data for more industries, particularly those most important in each area.

Software programs on 1987 and 1992 CD-ROM's were menu-driven, but lacked a graphic user interface. CDs for 1992 included four separate programs for simple data viewing, more sophisticated data extraction, printing of multi-sector profiles, and documentation. For 1997, CD-ROM's will integrate all of these functions for users with Windows95 or WindowsNT. New searching functionality should greatly assist the user not yet familiar with the new NAICS structure. For users of Mac or Unix, limited utilities will be provided that convert database files to flat character format.

A separate series of CD-ROM's will provide data in viewable (PDF) format, as described below.

Internet

The Census Bureau's Internet site <www.census.gov> has already garnered a number of awards, yet it is an evolving product. While key data from the 1992 Economic Census are present, the detail does not approach that of CD-ROM. That will change shortly, as all data from the 1997 Economic Census appear on the Internet as well as on CD-ROM.

Data on the Internet are presented in two different ways:

- *Database* format supports functions similar to those on the CD-ROM's, including export to ASCII, DBF, and other formats; and
- *Viewable* formats (primarily PDF—portable document format) allow users to view or print tables that look exactly like the detailed printed reports available from previous censuses. Every report printed from the 1992 Economic Census is available on the Internet in PDF format, and most corresponding data from the 1997 census will also be available in PDF even though the reports are no longer printed. Adobe Acrobat™ software, available free on the Internet, allows users to print any report "on demand" at their own computer printer.

Basic Economic Census data will be available free on the Web, although there may be some specialized services available only to CD-ROM subscribers or to subscribers to CenStats, the Census Bureau's fee-based service.

Access to Microdata: Special Tabulations and Studies

One of the most popular forms of data release for users of demographic data from the Census Bureau is the public-use microdata file. Samples from the Bureau's various household surveys, including the Census of Population and Housing, are made available to data users after detailed geographic information has been removed and other modifications are made to reduce the potential that any respondent could be identified. Public-use microdata files allow users to retabulate the data in a variety of ways to examine different relationships that may not be highlighted in published tables.

Unfortunately, the typical business establishment is far more identifiable than the typical household. Government agencies that regulate or tax businesses, as well as trade associations, publishers of business information, and other private entities, frequently maintain large amounts of information about many specific businesses. Some of this information is made publicly available by the subject business itself (for example, in classified telephone directories or in reports to shareholders). Thus, any file of microdata about unidentified business establishments from a census would have some potential for being matched to information from other sources to indirectly identify, and thus disclose confidential information about, at least some specific businesses. In the absence of methods to keep such records anonymous, there can be no public-use microdata files about firms or establishments.

When users need the census data reanalyzed in a special way, they can contract with the Census Bureau to make a "special tabulation" of its confidential records. The microdata records are handled only by sworn Census Bureau personnel, and the resulting data are screened for possible disclosure prior to release—in the same manner as regular census publications. The Bureau's costs in preparing a special tabulation, typically in the thousands of dollars, must be reimbursed by the customer or group of customers requesting their preparation.

One special project has led to the development of a Longitudinal Establishment Data (LED) file of manufacturing plants, with data assembled to cover a series of census and intervening survey years. This microdata file is not available for public use, but the Bureau has a special staff (the Center for Economic Studies) with its own dedicated computers to work with the file. Appropriately funded outside researchers can be sworn in as Census Bureau staff to work with the data at Census Bureau centers, but data publication requires the same kind of scrutiny to avoid disclosure of confidential information that applies to all other Census Bureau products.

ASSEMBLING TIME SERIES DATA

One of the preeminent virtues of the Economic Census program is that comparable data have been collected at fixed intervals and with consistent definitions across decades. Nonetheless, so long as reports were designed in the context of limited budgets for printing, census reports typically included very little historical data. Comparative statistics, covering the current and most recent previous census, have generally been included for the United States

and, for some sectors, for states. Left to the user is the assembly of time series—such as the growth of retailing in a particular area, or trends in a particular manufacturing industry.

Acquiring Reports from Previous Censuses

While printed reports are typically available for sale for only a few years after their issuance, the Census Bureau has archived all printed material on microfiche since 1968. Users may purchase from the Census Bureau copies of the microfiche or paper copy generated from the microfiche for any title dating back to the 1967 censuses. Collections of older reports are maintained at certain major libraries; individual reports may be borrowed through interlibrary loan.

Volume 1j of the 1992 CD-ROM series includes a national time series from the Annual Survey of Manufactures from 1958 to 1995, and monthly retail sales from 1967 to 1994. Volume 4 of the 1992 CD-ROM series, entitled “Nonemployer Statistics,” includes Geographic Area Series files for 1987 for retail trade, wholesale trade, service industries, and manufacturing in a format that mirrors their 1992 counterparts. More comprehensive data for 1987, and a few datasets for 1982 and 1977 are included on the final 1987 Economic Census CD-ROM (1e).

Selected tape files from Economic Censuses 1972 to 1982 may be obtained from the National Archives and Records Administration.

Industry Comparability

The implementation of NAICS will cause major disruptions in the availability of comparable information across time periods. In the last 30 years, the SIC system was updated 3 times (in 1967, 1972, and 1987) and each time a significant number of new industries was introduced into the existing framework. What is different for 1997 is that the whole framework has changed.²

While data for well over half of the SIC's in use in 1992 can be derived from 1997 NAICS industries, a substantial number of industries cannot be much more than approximated under NAICS. That makes the 1997 Economic Census particularly important, because census questionnaires identify industry components finely enough that data can be categorized under either NAICS or SIC; and as a result certain key data can be published according to the old system as well as the new. The *Comparative Statistics* report will present the number of establishments, sales, employment, and payroll for each SIC for the nation and each state, for both 1997 and 1992. Thus, basic SIC-by-state time series can be carried backward from 1997 to 1987, and farther to the extent that particular industries are not affected by SIC changes in 1987, 1972, and 1967.

NAICS time series can go forward from 1997, but they cannot generally go backward to earlier years, because many NAICS categories require information that was not collected in 1992 and earlier censuses. For instance, NAICS 45321, Office Supplies and Stationery Stores, differs from SIC 5943, Stationery Stores, primarily by the addition of certain office supply stores that were previously classified in wholesale trade. Census questionnaires prior to 1997 did not separately differentiate office supply stores from other kinds of office supply wholesalers, so NAICS 45321 cannot be estimated for prior periods.³

Right now, users have access to correspondence tables between the old and new systems in the *Federal Register* notices that have announced NAICS (see April 9, 1997) and in the formal NAICS Manual (being published in spring 1998). These tables show for each NAICS industry the SIC categories or parts thereof that comprise them, and for each SIC industry the NAICS industries or parts thereof to which their establishments are likely to be reclassified. The 1997 Economic Census *Bridge Between NAICS and SIC* report will take that correspondence a significant step farther by showing the number of establishments, sales, employment, and payroll at the national level for each of those intersections between the old and new systems. For example, *Bridge Between NAICS and SIC* will show the number and sales of those office supply stores that were transferred out of wholesale trade, along with other components of the new retail Office Supply and Stationery Stores category.

At broader levels of classification, the changes between SIC and NAICS are further confounded by the rearrangement of the hierarchy. Another article⁴ describes the subdivision of service industries into five new sectors and parts of four others. Less noticeable, but perhaps more troublesome, are shifts affecting such sectors—like manufacturing, wholesale trade, and retail trade—that retain their status as sector titles in NAICS but are being affected by changes in scope. Retail trade will be roughly 10% smaller under NAICS than under SIC just because eating and drinking places were transferred to the new Accommodation and Foodservices sector, not to mention smaller changes due to transfers between retail and wholesale trade such as the office supply stores mentioned above. Manufacturing also will lose more than 10% of its employment just because significant components have been reclassified elsewhere.

Scope of Economic Census Programs

Prior to 1992, the Economic Census program covered less of the American economy. In 1987 and earlier years, the census did not include Finance, Insurance, and Real Estate; and it included only selected transportation industries within the Transportation, Communication, and Utilities sector. The addition of those components boosted census coverage from roughly 76% of the gross domestic product in 1987 to about 98% in 1992. The coverage of service industries expanded in 1967, 1977, and 1987. Thus, time series available for some industries are relatively short.

GEOGRAPHIC COMPARABILITY

Most students of economic trends confine themselves to looking at the nation, states, and counties. County boundary changes are few and far between, while many places, metropolitan areas, and ZIP Codes change boundaries over time. Geographic comparability of sub state areas may be a moot issue between 1992 and 1997, because there are no plans to publish 1997 data for counties, places, and metropolitan areas on a basis allowing for comparison with 1992 data (that is, SIC). Questions as seemingly routine as “Did manufacturing employment in my area go up or down?” may remain unanswered for 1997.

DELIVERING DATA TO USERS

The collection and tabulation of economic statistics constitute a hollow exercise if there are no effective mechanisms for getting those products into the hands of users. Fortunately, there are centralized sales outlets for Economic Census products in Washington, D.C., and they are complemented by many vendors and other intermediaries all over the country who can help users access the data.

Sales Outlets for Economic Census Products

Economic Census products are sold either by the U.S. Government Printing Office (GPO) or by the Census Bureau itself, through its Customer Services unit. Most Census Bureau printed reports are sold through GPO, which is well equipped to service orders through the mail. Over-the-counter sales of census publications are not particularly common, since GPO has bookstores in only 24 large cities, and most are not well stocked with census titles. On the other hand, commercial bookstores have shown little interest in retailing government documents, in part because GPO is unable to give them as much margin between wholesale and retail as they expect from commercial publishers.

All other products are sold by the Census Bureau's Customer Services Center. These products include CD-ROM's, computer tapes, microfiche, paper prints from microfiche, maps, and those printed reports that GPO elects not to sell.

Users in a hurry appreciate the fact that both GPO and the Census Bureau accept telephone orders, but both require that phone orders be charged either to a major credit card (VISA, MasterCard) or to an appropriate deposit account arranged in advance. GPO's telephone order desk number is (202) 512-1800. The Census Bureau's Customer Services unit can be reached at (301) 763-4100. When in doubt about ordering information or which number to call, dial Census' Customer Services. Counselors in Customer Services can help you confirm that you are ordering the right product, give the GPO stock number (necessary when calling GPO), suggest alternatives if the report desired is no longer stocked by GPO, or refer the caller to a subject-matter specialist in the Bureau if the question is technical. (Users may also request a copy of "Telephone Contacts for Data Users" listing Bureau specialists in dozens of subject areas.)

REPUBLICATION OF CENSUS DATA

There are many different ways to present any given set of information. The publication series of the Economic Census generally provide the maximum detail available, but may not reflect the best organization for any particular application. A number of Census Bureau and private sector publications repackaged Economic Census data to meet different needs or address different audiences.

The Census Bureau publishes several "statistical compendia" which bring together data from a wide variety of sources. Highlights of the most recent Economic Census and surveys are carried each year in the *Statistical Abstract of the United States* (in print and CD-ROM), along with comparable figures from a few earlier years. *Historical Statistics of the United States* (in print only) carries a more limited number of time series back much farther. The *County and City Data Book* and the *State and Metropolitan Area Data Book*

(both in print and CD-ROM), assemble the key general statistics from the latest Economic Census uniformly for all covered areas.

Similarly significant are the printed and computerized data products of several private publishers and many trade associations. Frequently these publications not only rearrange the data but also enhance their usefulness by estimating more current values or providing complementary information from other sources. They may also make estimates for data suppressed in census reports—making the data easier to use, but without compromising the confidentiality of the original responses since the imputed values are only approximations. In other cases, value is added to the census statistics by publishing them together with data from other sources within the industry itself. Unfortunately, many users who rely on these numbers from trade associations and private publishers do not realize that they have the Census Bureau to thank for the precision of the data.

Other Sources for Assistance

Census Bureau Regional Offices

While sale of census reports is one aspect of data delivery, so also is their availability for public reference. The Census Bureau has regional offices in 12 cities around the country, and each has a substantial library of census publications for reference, although not generally for sale. Information specialists are available to assist users in finding specific data of interest.

Depository Libraries

There is an effective program of data dissemination through public libraries, university libraries, and similar institutions. The Federal Depository Library system, administered by GPO, was established by Congress to enhance the availability of all kinds of federal government publications. About half of the 1,400 libraries in the system choose to maintain substantial collections of census documents. To supplement this system, the Bureau furnishes copies of its reports to an additional group of libraries, designated Census Depository Libraries. Libraries not in either depository system or with less than complete collections can still borrow census publications through the interlibrary loan system. Most members of the depository library systems now handle data not only in print or microfiche, but also on CD-ROM.

State Data Centers

The Census Bureau has entered into a cooperative agreement with each state whereby the Bureau provides training, technical assistance, and certain data products without charge. In return, the state, at its expense, maintains facilities for distributing census data and information about the data within the state. Each state data center has set up a network of affiliates within the state—city and regional planning agencies, local libraries, etc.—which, in turn, have been given basic sets of census publications and training in their use. These affiliates serve as statistical resource centers in their respective communities. Most state data centers can prepare, on a fee basis, printouts or other extracts of Economic Census CD-ROM's tailored to meet particular needs.

Promoting Census Products to Users

To disseminate census products effectively, the Census Bureau must make sure that people know about them. The Bureau has a number of programs, in addition to state data centers, to promote census products and educate people in their use.

References in Print

The user wanting to keep up with what is available from the Census Bureau has a number of options. Each month the Bureau publishes *Census and You*, a newsletter with information about new or forthcoming statistics or services, descriptive articles on major Census Bureau programs, announcements of technical developments, and occasional descriptions of statistical work being done outside the Census Bureau.

The *Census Catalog and Guide* provides a systematic list of the printed reports, microfiche, and CD-ROM's available from the Bureau. Reissued every year through 1997, it covers not only new issues during the preceding year but also earlier releases back to 1980. The Catalog incorporates many lists users need for reference, such as the locations of GPO bookstores, Census Bureau regional offices, state data centers, and depository libraries. To keep the public up to date in between the annual issues, the Catalog is supplemented by the *Monthly Product Announcement*, which lists only recently released products.

The *Preview to the 1997 Economic Census* provides information about Economic Census data available, how they are classified, and the timing of the various census reports (much more specific than Table 5).

Press releases help reach a broader audience. Nearly every major report the Bureau publishes is announced to the news media via concise one- or two-page summaries, complete with the appropriate citation of the full report. Releases on reports of general interest are faxed automatically and without charge to the major wire services and networks, hundreds of individual newspapers and broadcasting stations, as well as to a number of professional and trade journals, other specialized media, local chambers of commerce, and others.

Press releases are, of course, only a partial answer to promoting census products. Most press attention is focused on survey results portraying national trends, not on the release of general purpose statistics as from the Economic Census. The media may highlight interesting findings, but they rarely cite the specific report from which the data come—after all, the Bureau is not paying for advertising, but merely providing material it hopes will be found newsworthy.

Promoting Economic Census Data through the Internet

The Internet is quickly bringing Economic Census data to the attention of more new users than any other form of publication, so it logically follows that promotional efforts should be focused on the Web as well.

All of the resources cited in the preceding section are available on the Internet—*Census and You*, the *Catalog and Guide*, *Monthly Product Announcement*, the *Preview to the 1997 Economic Census*, and all press releases. Some of them, like the *Preview*, were posted to the Web long before they saw the light of day as printed reports. Others, like the *Catalog and Guide*, are better on the Web—where descriptive and ordering information is kept up to date, and searchable, through “CenStore.”

The popular *Guide to the Economic Census and Related Statistics* was last published for 1987. Resources were not available to update it for 1992, but the *Guide* will be resurrected as a feature of the Economic Census Web site—where the reference material can be augmented incrementally and easy cross-references can be made both to the data and to other reference material already on the web.

The Economic Census web site <www.census.gov/econ97> was inaugurated in 1997 as a focal point for material promoting company participation in the census. It featured copies of the hundreds of forms used in the census; answers to questions businesses may have; media resources like press releases, quotes, and public-service advertisements; materials for data users, like the *Preview*, examples of data uses, and lists of telephone contacts; and pointers to key data already on the Web. This Website will be kept up to date as the best starting place for people looking for information about the 1997 Economic Census.

CONCLUSION

Within the last decade, electronic media have come to dominate not only data use, but also the processes by which people learn about and acquire Economic Census data. The Census Bureau has worked aggressively to take advantage of these new developments, in order to make census data more timely, more widely available, and easier to use.

NOTES AND REFERENCES

1. Carole A. Ambler & James E. Kristoff, "Introducing the North American Industry Classification System," *Government Information Quarterly*, 15 (1998): 263–273.
2. Paul T. Zeisset & Mark E. Wallace, "How NAICS Will Affect Data Users," published on the Internet at www.census.gov/epcd/www/naicsusr.html. Also available in paper copy (Lanham, MD: Bernan Press 1997).
3. *Ibid.*
4. Ambler & Kristoff, "Introducing the North American Industry Classification System."