

Upcoming Changes in the NAICS-Based 1997 Benchmark Input-Output Accounts

In late 2002, the Bureau of Economic Analysis (BEA) will release the 1997 benchmark input-output (I-O) accounts of the United States. These accounts will be based on the North American Industry Classification System (NAICS), which reflects a complete reevaluation of the requirements and purposes, as well as the underlying principles, of an industry classification scheme.¹ This note previews the changes to the I-O industry classification system that result from the conversion to NAICS (see table 1).²

Increased detail on services industries.—The U.S. economy has changed dramatically since the release in 1939 of the first Standard Industrial Classification (SIC) system—the predecessor to NAICS and the basis for the classification system underlying the 1992 and previous I-O accounts. Much of that change has been driven by the explosion in the number of services-producing industries. The detail that will be available in the 1997 and future I-O accounts on services industries will increase because of the increased number of services industries included in NAICS and in the NAICS-based I-O classification system. Specifically, about 250 of the 358 new industries in NAICS represent new classifications for services-producing industries; additionally, many service industries recognized by the SIC are reorganized or combined in NAICS. As a result, NAICS includes 575 services-producing industries (compared with 430 in the SIC). The new framework for the I-O accounts will reflect the increased detail available on these industries. The 1992 benchmark accounts presented information for 407 goods-producing industries and 84 services-producing industries. With the change from SIC to NAICS, the 1997 accounts will include more detail on services-producers while maintaining the total number of industries at about 500.

1. For BEA's schedule, see John R. Kort, "The North American Industry Classification System in BEA's Economic Accounts," *SURVEY OF CURRENT BUSINESS* 81 (May 2001): 7. For details about the differences between the 1987 Standard Industrial Classification system and the 1997 NAICS, see the Census Bureau's Web site at <www.census.gov>.

2. For the current I-O classification of industries, see the appendix table in the article "Annual Input-Output Accounts of the U.S. Economy, 1998" in this issue.

NOTE.—This note was written by Karen J. Horowitz and Stephanie H. McCulla.

Changed treatment of auxiliaries and creation of new sector.—In the new NAICS-based I-O classification system, auxiliaries that manage companies and enterprises—commonly referred to as "headquarters offices"—or that act as holding companies will be grouped in the new sector "Management of Companies and Enterprises," and all nonmanagement, services-producing auxiliaries will be grouped with the industries that have similar production processes.³ Additionally, the output of these auxiliaries will be explicitly measured and will be treated as output; in the previous I-O accounts, the expenses of auxiliaries were included in the intermediate purchases and the value added of the industries they served, but auxiliary output was assumed to be zero.

As a result of these changes, the level of total gross output of the economy will be raised in the 1997 benchmark I-O accounts by the estimate of the output of services-providing auxiliaries, and the distribution of the value added across industries will be changed as the industry classification of these value-added expenses is changed. For example, compensation of employees, a component of value added, will decrease in the industries that previously included auxiliaries, especially those in manufacturing, and it will increase in services industries because the employees of these auxiliaries will be counted in those industries; total value added for all industries, however, will not change.

Greater relevancy due to the principles underlying NAICS.—One of the principles underlying NAICS is that a classification system should be as dynamic as the economy itself. As a result, NAICS will be reviewed and revised by the sponsoring countries (United States, Canada, and Mexico) every 5 years. BEA has revised the I-O classification scheme underlying each new set of benchmark accounts to reflect the changing economy, but these efforts have been limited by the relatively static SIC system underlying the tabulation of the required data. In the future, the I-O classification system can be guided and facilitated by the more regular revisions to NAICS.

3. Goods-producing auxiliaries have always been classified with similar industries.

Another principle underlying NAICS is the economic concept of production: Establishments are grouped according to the similarities of their production processes rather than the similarities of their products. This principle brings NAICS and the NAICS-based data closer to a similar principle underlying the I-O classification: Industries are classified in the I-O accounts so that each industry has a unique production function and output.

Other changes in the accounts.—The conversion to NAICS also provides BEA with the opportunity to make other improvements to its industry statistics. First, BEA is developing a uniform classification system for its industry statistics. At the NAICS two-digit sector level, most of BEA's industry groupings will be comparable, but differences may continue at more detailed levels.⁴ Second, BEA is reconciling the treatment in the "alternative" 1997 I-O accounts of "own-account" activities—that is, activities produced by an establishment or by an industry using its own labor (such as new construction, maintenance and repair construction, and software)—with the treatment in the GDP-by-industry series.⁵

Issues raised by NAICS.—As a result of the change from an SIC-based classification system to a NAICS-based system, most industries in the 1997 benchmark I-O accounts will not be comparable with those in previous benchmark and annual I-O accounts. Any possibility for BEA to independently construct both SIC-based and NAICS-based accounts is precluded for several reasons. Although the Census Bureau tabulated data for shipments and receipts on both an SIC basis and a NAICS basis for 1997, the I-O accounts require addi-

tional data that were tabulated by the Census Bureau only on a NAICS basis, and the empirical relationships between NAICS-defined industries and SIC-defined industries provided by those shipments and receipts data generally cannot be used for other data, such as expenses.⁶ Moreover, given the rapid pace of change of product mixes and technology in many industries, these relationships will not be applicable for use in constructing the I-O tables for other years, and the Census Bureau will tabulate data only on a NAICS basis in the future.

Reconstructing the existing I-O accounts on a NAICS basis is not feasible for similar reasons. First, as noted above, the empirical relationships available for 1997 are not applicable to the accounts for previous years. Second, although the Census Bureau assigned NAICS codes to some of the most detailed data for 1992 on manufacturing and wholesale and retail trade, it did not assign NAICS codes to the 1992 data on the services sector—a large and rapidly changing sector of the economy. Thus, the available data would provide only a partial foundation for 1992 I-O accounts on a NAICS basis, and retabulating the remaining data to a NAICS basis would be complicated by changing product mixes, new technologies, and the entrance and exit of establishments from the market.⁷

At the level of detail required for compiling I-O accounts, therefore, comparable data are not available for producing a consistent time series. However, in response to the need of users, BEA is exploring methods of reconciling the GDP-by-industry data to provide users with aggregate series that are comparable over time.

6. Additionally, the relationships are not released when proprietary information about the industry would be revealed.

7. Most establishments produce more than one product, and the establishment is classified on the basis of its primary product at a given point in time. Thus, the data provide a snapshot of the establishment in 1997, but they do not provide information about any changes in its product mix and its technology or about the introduction of new products (or new establishments) in the years before (or after) the census. If an establishment produced only one product, a consistent time series might be constructed by simply reclassifying the establishment's product and industry to the corresponding NAICS basis.

4. BEA's industry statistics generally use data that are collected on an establishment basis and tabulated according to NAICS. BEA's international accounts use data collected on an enterprise, or company, basis and therefore use an industry classification scheme that is based on, but is less detailed than, NAICS.

5. See the box "Alternative I-O Tables" in *Benchmark Input-Output Accounts of the United States, 1992* (Washington, DC: U.S. Government Printing Office, September 1998): M-6.

Table 1.—NAICS and the NAICS-Based I-O Classification System

NAICS sector	NAICS-based I-O sector	Description of the industry	Major differences in classification or treatment between the NAICS-based I-O sectors and the SIC-based I-O divisions
Agriculture, forestry, fishing, and hunting (NAICS 11)	Agriculture, forestry, fishing, and hunting ¹	Establishments engaged in growing crops, raising animals, and harvesting timber, fish and animals from farms, ranches, and natural habitats.	Logging moved from Manufacturing.
Mining (NAICS 21)	Mining	Establishments that extract naturally occurring mineral solids, liquid minerals, and gases.	None.
Utilities (NAICS 22)	Utilities	Establishments engaged in the provision of electric power, natural gas, steam supply, water supply, and sewage removal.	Utilities moved from Transportation, communications, and utilities.
Construction (NAICS 23)	Construction ¹	Establishments engaged in the construction of buildings and other structures, heavy construction except buildings, additions, alterations, reconstruction, installation, and maintenance and repairs.	I-O treatment of own-account new and maintenance and repair construction activities will be made consistent with GDP-by-industry series.
Manufacturing (NAICS 31–33)	Manufacturing	Establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.	Custom drapery and tailors moved from Retail trade and tire retreading moved from Services. Logging moved to Agriculture, and Publishing moved to Information.
Wholesale trade (NAICS 42)	Wholesale trade	Establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.	Selected establishments with retail trade characteristics, such as auto parts, farm supplies, and lumber yards, moved to Retail trade.
Retail trade (NAICS 44–45)	Retail trade	Establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.	Selected establishments with retail trade characteristics moved from Wholesale trade. Custom drapery and tailors moved to Manufacturing.
Transportation and warehousing (NAICS 48–49)	Transportation and warehousing	Establishments providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to transportation.	Transportation and warehousing moved from Transportation, communications, and utilities (TCU).
Information (NAICS 51)	Information	Establishments engaged in producing and distributing information and cultural products, providing the means to transmit or distribute these products and data, or communications services.	New sector. Includes publishing, communications, and various information-related industries (data processing, software publishing, and online information, etc.) moved from Manufacturing, TCU, and Services.
Finance and insurance (NAICS 52)	Finance and insurance	Establishments engaged in financial transactions and in facilitating such transactions.	Holding companies moved to Management of companies and enterprises.
Real estate and rental and leasing (NAICS 53)	Real estate and rental and leasing ¹	Establishments engaged in renting, leasing, or allowing the use of tangible or intangible assets, and related services.	Real estate moved from Finance, insurance, and real estate; Rental of equipment moved from Services.
Professional, scientific, and technical services (NAICS 54)	Professional, scientific, and technical services	Establishments engaged in professional, scientific, and technical activities for others.	New sector.
Management of companies and enterprises (NAICS 55)	Management of companies and enterprises	Auxiliaries that perform management services or act as holding companies for other establishments of the same company; other auxiliaries classified with industries performing similar activities rather than with industry served.	New sector. Holding companies and other management auxiliaries moved from the various industries they serve.
Administrative and support and waste management and remediation services (NAICS 56)	Administrative and support and waste management and remediation services	Establishments engaged in support activities for daily operations of other organizations.	New sector. Waste management moved from TCU.
Educational services (NAICS 61)	Educational services	Establishments that provide instruction and training.	New sector.
Health care and social assistance (NAICS 62)	Health care and social assistance	Establishments that provide health care and social assistance for individuals.	New sector.
Arts, entertainment, and recreation (NAICS 71)	Arts, entertainment, and recreation	Establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests.	New sector.
Accommodation and food services (NAICS 72)	Accommodation and food services	Establishments that provide lodging and/or meals, snacks, and beverages for immediate consumption.	New sector.
Other services (except public administration) (NAICS 81)	Other services	Establishments that provide services not specifically provided for elsewhere in the classification system.	New sector. Household industry moved from Special industries.
Public administration (NAICS 92)	Final uses (part)	Establishments of federal, state, and local government agencies that administer, oversee, and manage public programs.	None.
.....	Special industries ²	Special industries include industries for government enterprises, general government, noncomparable imports, scrap and used goods, rest of the world, and inventory valuation adjustment.	Household industry moved to Other services.

1. The use of data that are classified by activity rather than by industry to derive estimates for the agriculture and construction industries, and the inclusion of all real estate rental receipts in the real estate industry regardless of the industry that receives them, reflect inconsistencies with the production-based orientation of NAICS.

2. I-O special industries are incorporated to maintain consistency with economic concepts underlying the national income and product accounts. The general government industry is defined by BEA as consisting solely of compensation and consumption of fixed capital.