

THE NONPROFIT SECTOR OF THE U.S. ECONOMY: A METHODOLOGICAL STATEMENT

BY GABRIEL RUDNEY AND PAULA YOUNG

Yale University and U.S. Department of Commerce, Bureau of Economic Analysis

United States input-output accounts identify and measure the interrelationships between the various industries in the United States economy. However, these accounts do not identify nonprofit activities from their for-profit counterparts in the service-producing sector. This paper, prepared by Gabriel Rudney and Paula Young, presents the methodology and summary data produced by disaggregating the service-producing industries to identify separately nonprofit activities.

The input-output accounts for 1977 produced in this study include 107 industries, but in this paper the results are summarized into 14 industries showing only nonprofit and for-profit components. The GNP and total outputs in this study are consistent with the revised input-output accounts for 1977 prepared by the U.S. Department of Commerce, Bureau of Economic Analysis.

INTRODUCTION

This paper describes the preparation of interindustry data designed to identify relationships between nonprofit institutions and the other economic sectors in the United States economy. It follows on the previous exploratory work of national accounts analysts to identify and measure nonprofits as a separate and distinct economic sector. The major feature of this study is the disaggregation of the service-producing industry into component for-profit and nonprofit service industries in the context of the U.S. national accounts, specifically in the input-output accounts.¹ This disaggregation permits a detailed analysis of the economic interrelationships between the nonprofit industries and other industries of the U.S. economy.

Note: The methodology described in this paper is part of a joint venture of Yale University's Program on Non-profit Organizations and the Department of Commerce, Bureau of Economic Analysis (BEA), to measure and analyze the economic interdependence of the business and nonprofit sectors of the economy. The Ford Foundation and the J.M. Foundation provided financial support for Gabriel Rudney's research. The data presented were prepared at the Bureau of Economic Analysis under Paula Young's direction.

The authors wish to acknowledge the contribution of the following members of the Interindustry Economics Division: Nancy W. Simon, who prepared the preliminary controls and input analysis; Wharton H. Berger and Mark A. Planting, who provided data processing assistance and prepared the final I-O tables; and Esther M. Carter, who provided secretarial assistance. The authors also appreciate the helpful comments by Helen Tice and John Gorman of BEA, and John Kendrick of George Washington University.

The views in this paper are the authors own. They do not necessarily represent the views of the Bureau of Economic Analysis and the U.S. Department of Commerce, or the views of Yale University, the Ford Foundation and the J.M. Foundation.

¹As used in this paper, the term service-producing industry refers to Division I, Services, of the U.S. Standard Industrial Classification Manual. The major groups included are listed in Appendix A. The term service-producing sector refers to this industry plus transportation, public utilities, wholesale and retail trade, and finance, insurance, and real estate industries.

Although little data were available on nonprofits a decade ago, in the interim, advances in data availability and analysis increasingly make us aware of this sector's importance in the U.S. economy. Much still has to be done, however, to match our knowledge of this sector with that of, say, the business sector or the government sector. This study represents a step in that direction.

Nonprofit organizations in the United States, more than in other countries, produce public goods within the private sector of the economy. The organizations are groups of individuals acting collectively. They operate within all facets of U.S. society producing outputs deemed to be socially valuable. The range of activities they perform is wide, extending even beyond the scope of functions within the Federal budget. The types of institutions are heterogeneous, including charities, hospitals, educational institutions, and cultural institutions, public policy advocacy groups, social and fraternal clubs, membership associations, religious organizations, consumer and producer cooperatives, business trade associations, labor unions, and so forth.

Nonprofits may sell their services at less than-market prices or even at a zero price. Or they may sell their output at full costs of production or even in excess of those costs. A deficit in a nonprofit activity is financed by private and public subsidies, which they receive because they produce socially valuable outputs. Donations by individuals and business, in the form of cash, inventories, or other assets, and voluntary labor are a source of private support. Governmental purchases of output, government grants, tax and credit subsidies, etc., provide public support. Surpluses earned in one activity are often used to cross-subsidize other activities of a nonprofit organization, or are accumulated and invested to finance current operations or future expansion.

IMPORTANCE OF NONPROFITS

The nonprofit sector has been growing in importance. From 1950 to 1984, GNP originating in the nonprofit sector measured in current dollars doubled from 1.4 percent to 3.2 percent. Measured in constant 1972 dollars, the share has been about stable, at about 2.7 percent between 1958 and 1984 (Carson, also Ruggles). Although the nonprofit sector is small when compared to the business or the government sectors, its gross spending is nonetheless impressive. In 1980, the entire nonprofit sector in the United States purchased goods and services amounting to \$142 billion (Rudney, 1981). Furthermore, in terms of employment, the nonprofit sector is growing. Its share of the service-producing economy was 14 percent in 1982 and, although the nonprofit sector employed only 8 percent of the total labor force in 1982, it accounted for 13 percent of all jobs created between 1972 and 1982 (Rudney and Weitzman).

In the delivery of services in the United States, particularly human services, nonprofits often act as the delivery agent of government. In some cases, nonprofits dominate those activities. For example in health and social services, nonprofit organizations delivered a larger share of the service financed by government than did the government agencies themselves (Salamon).

Because nonprofit organizations in the United States are prominent in education, health, the arts, job training, social welfare and, of course, religion, they

play a major role in the development of the nation's human capital, as well as its values. Thus, the sector is often an area of public policy concern. For example, the choice of private, government or combined initiatives in providing public services, the fairness of competition among for-profits and nonprofit organizations in providing private services, and the appropriateness and structure of tax incentives to finance nonprofit activities are frequently at issue.

IDENTIFICATION AND TREATMENT OF NONPROFITS IN THE U.S. NATIONAL ACCOUNTS

In the United States, the characteristic that identifies a nonprofit organization is legal status as a tax-exempt organization.² According to Carson and Tice, the tie to tax-exempt status seems to reflect the fact that tax-exempt status provides a clear identification guide. Since these institutions—like much of the service-producing sector of the economy of which they are part—are numerous and diverse, any other criteria would have been difficult to define and apply (Carson). Furthermore, some of the comprehensive sources of data about nonprofit institutions are keyed to these tax code provisions. For example, the 1977 Census of Service Industries covered for the first time, and presented separate data for membership, educational, and social service organizations exempt from Federal income taxes under the Federal tax law. These data were collected in response to recommendations of the Gross National Product Data Improvement Advisory Committee.³

The tax law distinguishes between charitable and other nonprofit organizations. Donations to charitable organizations may be deducted from donor's taxable income, while donations to other nonprofits may not. In the NIPA's, hospitals, schools, churches, and social welfare organizations, which are "charitable" under the law, are grouped together with labor organizations and social clubs which are not deemed "charitable." However, the NIPA's do make a distinction between nonprofits primarily serving individuals and nonprofits primarily serving business. This dichotomy distinguishes nonprofit activities within the business sector from nonprofit activities within the households sector of final demand. (Table 1 lists the organizations granted tax exemption under specific sections of the Federal tax law and identifies for each the legal form designation currently used in the NIPA's.)

1. *Nonprofits primarily serving individuals.* Carson and Tice in their review of the early U.S. treatment of nonprofit institutions in the NIPA's pointed to the inevitability of consolidation of households and nonprofit institutions (Carson). Before the accounts emerged in 1947, estimates of consumer expenditures had shown gifts and bequests to organizations and institutions, based on a wide variety of data. The need for consolidation of households and nonprofit institutions into a single sector was evident then and was fully detailed in the 1954 *Supplement of the Survey of Current Business*.⁴

²However, all exempt organizations are not nonprofit. The tax code gives tax exempt status to corporations created by government, which are not private nonprofit institutions.

³*Gross National Product Data Improvement Project Report, 1977*, Office of Federal Statistical Policy and Standards, U.S. Department of Commerce.

⁴Pp. 28-31.

TABLE 1
CLASSIFICATION OF TAX-EXEMPT ORGANIZATIONS IN THE FEDERAL TAX LAW BY NIPA
SECTOR AND LEGAL FORM

Section of Internal Revenue Code (1954)	Description of Organization	NIPA Sector and Legal Form ¹
501(c)(1) ²	Corporations Organized Under Act of Congress: Federal Credit Unions Federal Deposit Insurance Corp. Federal Home Loan Bank Board Federal Land Banks Federal Intermediate Credit Banks Federal National Mortgage Assoc. Federal Land Bank Association Federal Savings and Loan Insurance Corporation Federal Reserve Banks Federal Housing Administration	Corporate Government Enterprise Corporate Corporate Corporate Corporate Corporate Corporate Government Enterprise Corporate Government Enterprise
501(c)(2)	Title holding corporation for exempt organization	Other Private Business
501(c)(3) ²	Religious organizations Educational organizations Charitable organizations Scientific organizations Literary organizations Organizations: -Testing for public safety -Fostering certain national or international amateur sports competition Prevention of cruelty to children or animals organizations Private foundations	Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals Non-profit serving individuals
501(c)(4)	Civic leagues, social welfare organizations, and local associations of employees	Non-profit serving individuals
501(c)(5)	Labor organizations Agricultural organizations Horticultural organizations	Non-profit serving individuals Non-profit serving business (included in corporate) Non-profit serving business (included in corporate)
501(c)(6)	Business leagues, chambers of commerce, real estate boards, etc.	Non-profit serving business (included in corporate)
501(c)(7)	Social and recreation clubs	Non-profit serving individuals
501(c)(8)	Fraternal beneficiary societies and associations	Non-profit serving individuals
501(c)(9)	Voluntary employees' beneficiary associations [including federal employees' voluntary beneficiary associations formerly covered by section 501(c)(10)]	Non-profit serving individuals
501(c)(10)	Domestic fraternal societies and associations	Non-profit serving individuals

TABLE 1—continued

Section of Internal Revenue Code (1954)	Description of Organization	NIPA Sector and Legal Form ¹
501(c)(11)	Teachers' retirement fund associations	Non-profit serving individuals
501(c)(12)	Benevolent life insurance assoc. Mutual ditch or irrigation companies Mutual or cooperative telephone companies, cooperative electric companies, etc.	Non-profit serving individuals Other private business Other private business
501(c)(13) ²	Cemetery companies	Non-profit serving individuals
501(c)(14)	State chartered credit unions, mutual reserve funds ²	Corporate
501(c)(15)	Mutual insurance companies or associations (limited to organizations with gross income of \$150,000 or less)	Mutual financial institutions (included in corporate)
501(c)(16)	Cooperative organizations to finance crop operations	Non-profit serving business (included in corporate)
501(c)(17)	Supplemental unemployment benefit trust	Non-profit serving individuals
501(c)(18)	Employee funded pension trust (created before June 25, 1959)	Non-profit serving individuals
501(c)(19) ²	Post or organization of war veterans	Non-profit serving individuals
501(c)(20)	Trusts for prepaid group legal services	Non-profit serving individuals
501(c)(21)	Black Lung Trusts	Non-profit serving individuals
501(d)	Religious and apostolic associations	Non-profit serving individuals
501(e) ²	Cooperative hospital service organizations	Other private business
501(f) ²	Cooperative service organizations of operating educational organizations	Other private business
521(a)	Farmers' cooperative associations	Other private business

Note: The first two columns are adopted from a table in the Internal Revenue Service's *Statistics of Income Bulletin*, Fall 1981, Vol. 1, Number 2.

¹Organizations classified as nonprofit serving individuals are classified in the "households and institutions" sector in the NIPAs. All other entries in this column are in the business sector and their legal form is shown in this column. Although the column distinguishes between organizations serving individuals and business, in some cases, the organization serve both. The distinction indicated in such cases is the major focus of the organizations activity.

²Generally, contributions under this Code subsection are tax deductible. Other organizations not asterisked could establish trusts under Code subsection 501(c)(3) which may receive tax deductible contributions.

At one time, one could apply a simple rationale for consolidation. Nonprofits, early on, were viewed largely as transfer agents or conduits, like a personal trust, moving assets from one group of individuals in the form of gifts, donations and bequests, to another group of individuals in the form of grants, goods, and services. The transactions were viewed as unilateral transfers; the donor obtained

no direct benefit from his gift, and the beneficiary was not required to make payment for the services obtained. Thus, in that simple world, consolidation of nonprofits and households had a conceptual underpinning. With consolidation, transactions between households and nonprofits cancel out except for factor payments flowing from nonprofits to individuals. However, the real and complex world of nonprofits serving individuals include organizations that are basically business-like. They produce goods and services for sale, not necessarily at a market price. They are also investors. They accumulate surpluses and invest them to obtain property income.

Although these nonprofits sell their services primarily to individuals, they also sell services to business and to government. As a result, total receipts not only includes donated income (from business and government as well as from individuals), but also commercial income and property income. In fact, the donated income may be surpassed by other income as a share of total receipts. Thus, the nonprofit income and expense account in households has over time changed from a simple conduit account into one that reflects a sophisticated multi-industry productive sector.

On the expenditure side of the household account, the services provided by nonprofits to households are included in personal consumption expenditures (PCE). As shown in Table 2, personal consumption expenditures are classified by type of expenditure category, i.e. food, housing, transportation, recreation, etc. Thus the outlays for food, housing, and recreational services, etc., include these commodities provided by nonprofit organizations as well as for-profit businesses. Likewise, as a result of this classification criteria, the current operating expenses of a university are proportioned between the food, housing, recreational, and educational activities it provides. The non-educational activities are then included in their respective expenditure category. As a result, one gets a cleaner figure for expenditures for educational services. Table 2 further provides unpublished data for 1977 on expenditures on nonprofit services which are included in personal consumption expenditures.

On the income side of the household account, the incomes received by nonprofits serving individuals are included in personal income. These consist of dividend, interest income, rental income and transfer payments, which include donations by business and payments, with the exception of expenditures for research and development by government. Since the household account is a consolidated account, sales and corresponding purchases between nonprofits serving persons and individuals are netted out. Thus, there is no explicit record of the allocation and disposition of personal charitable donations, which is a major source of income for many nonprofits. The present treatment is in large part based on the view that nonprofits serve individuals as interpersonal conduits.

2. *Nonprofits primarily serving business.* In the NIPA's, nonprofits primarily serving business are classified in the business sector. The business sector includes four legal forms of organizations: (1) corporations; (2) unincorporated business, including sole proprietorships and partnerships; (3) other private business and (4) governmental enterprises for which operating costs usually are more than one-half covered by sales of goods and services to the public. Nonprofits serving business are presently included in corporations and other private business.

TABLE 2
PERSONAL CONSUMPTION EXPENDITURE BY TYPE, 1977
(Millions of Dollars)

	All Sources	Nonprofit Source
Personal consumption expenditures	1,257,329	93,505
Food and tobacco	272,924	2,586
Clothing, accessories and jewelry	102,780	12
Personal care	20,739	—
Housing	182,443	1,150
Transient hotels, motels, clubs	5,205	351
Schools and institutions	1,633	772
Household operation	170,349	—
Medical care expenses	128,882	46,728
Privately controlled hospitals and sanitariums	53,346	42,433
Health Insurance	9,365	1,747
Personal business	64,224	3,870
Other	5,238	3,581
Transportation	181,429	—
Recreation	85,488	2,774
Legitimate theatre and opera and entertainment of nonprofit institutions (except athletics)	1,083	524
Spectator sports	1,582	41
Clubs and fraternal organizations	2,226	1,698
Private education and research	19,023	14,867
Higher education	7,256	7,185
Elementary and secondary education	6,354	5,023
Other	5,413	2,659
Religious and welfare activities	24,588	21,518
Foreign travel and other, net	4,461	—

Source: Unpublished data for the revised 1977 I-O accounts.

The sales and corresponding purchases between these nonprofits and other businesses are netted out in the business production sector of the NIPA's. However, the I-O accounts, provide information on such sales because the I-O accounts provide a deconsolidation along industry lines of the national production account. Sales and purchases between businesses as well as sales to final demand are identified for for-profit businesses and nonprofits, both those serving business and individuals. However the published I-O accounts do not distinguish these types of business explicitly.

PREVIOUS WORK ON ISOLATING NONPROFITS IN NATIONAL ACCOUNTING

Richard and Nancy Ruggles went further than other national accounting analysts in establishing the distinction between nonprofit institutions and households which are currently consolidated in NIPA's household sector (Ruggles and Ruggles, 1986). The Ruggleses attributed consolidation largely to the fact that the household sector was originally compiled as a residual in the NIPA methodology, and still is, in many cases. They argued that the current NIPA

inclusion of nonprofit institutions in the household sector distorted separate descriptive and analytical foci on individuals and nonprofits. Moreover, the consolidation prevents the development systematically of production and consumption accounts for a nonprofit sector. The Ruggleses therefore contended that a restructuring of the NIPA's should maintain a distinction between profit-making and nonprofit enterprises.

The national accounting approach conceived by the Ruggleses distinguishes the legal forms of entrepreneurial organization included in the NIPA's (corporations, unincorporated enterprises and government enterprises), but in addition includes nonprofit organizations as a legal form. In so doing, the Ruggleses established a nonprofit organization sector distinctly separate from the household sector and with explicit transactions revealed between households and nonprofit institutions. For example, the Ruggleses' approach made explicit transactions such as household contributions to churches, political parties, unions, charities, etc. Also made explicit are the household receipts of transfers provided by nonprofit institutions, for example, scholarships and fellowships. They also included imputed rent on buildings and equipment owned and used by nonprofits serving individuals.

Reservations have been expressed about the Ruggleses attempt to achieve more homogeneity in the household sector and assign nonprofits to their enterprise sector. Commentator Denison took the position that the NIPA consolidation of households and nonprofit institutions was correct. He views nonprofit institutions as basically consuming units, properly assigned to final demand like governmental units. He questions therefore the movement of the production of nonprofit employees to the business sector in the Ruggleses' system (Denison). In addition, Carson and Jaszi implied that deconsolidation of households and nonprofits could be costly and yet not be appropriately beneficial. They urged that in the consideration of deconsolidation, the benefits of fundamental change, involving concepts and implementation, must be evaluated in terms of costs of such change (Carson and Jaszi). Adler and Sunga, while supporting the Ruggleses' move toward homogeneity in the household sector for better analysis, expressed some reservation about the incorporation of nonprofit institutions in the enterprise sector. They believed that the multisectoral nature of nonprofit operations (they have the characteristics of business, households and government) makes analysis within the enterprise sector difficult (Adler and Sunga).

Rudney expanded the Ruggleses work by providing an income and expense statement for the sector that measures the gross output of nonprofit institutions (Rudney). Rudney's income and expense statement for the first time provided overall quantitative insights into nonprofit operations and their uniqueness in that the prices for services (hospital charges, tuition, admission fees, and so on) are not intended to cover the costs of producing these services. Production in 1980 was partially financed by sales of services (48 percent); the remainder (52 percent) was covered by various subsidies, not only from the household sector, but also from government and business.

Eisner, in his construction of a "total income" system of accounts, also treated nonprofit institutions as a separate sector, in which total output is the sum of cost of labor and capital, net annual revaluations of physical assets,

capital consumption allowances, and, to be specially noted, the imputed value of volunteer services. Eisner also includes valuations related to human capital accumulation, notably the value of employee training and nonprofit provision for health and education.

These works each provide more detailed information on nonprofits than is now available in the national accounts, although most of the estimates of nonprofits were prepared by BEA in support of the research efforts of the Ruggleses and of Eisner.

DISAGGREGATING THE I-O ACCOUNTS TO IDENTIFY A NONPROFIT I-O INDUSTRY

Each of the described attempts to distinguish nonprofits in the economy has amplified the information available on this sector. However none provide the amount of detail necessary to analyze the interrelationships of individual nonprofit activities on other industries and the impact of the demand for these activities on the economy as a whole. Questions of this kind can best be answered within the framework of an input-output model. (See Moyle and Reid for a disaggregation not employing I-O model.)

The U.S. input-output accounts published by BEA, as noted earlier, do not identify nonprofit activities separately from their for-profit counterpart. The industries in the I-O accounts are groupings of establishments that perform a similar service or activity. The accounts show who supplies the inputs of each industry and to whom the output or commodity is sold, but makes no distinction between nonprofit inputs or outputs. (In the I-O accounts the term commodity output includes goods and services.)

The output side of the I-O accounts for each commodity shows the following:

- (1) Sales to other industries
- (2) Sales to government
- (3) Sales to individuals, personal consumption expenditures
- (4) Sales to producers of capital, structures and capital equipment
- (5) Change in inventories.

The input side of I-O accounts shows for each industry the following:

- (1) Purchases from other industries
- (2) Payments to individuals, such as compensation of employees
- (3) Payments to government, such as indirect taxes related to production
- (4) Payments for the use of capital, such as rents, depreciation, interest.

To study nonprofit services and their interrelationship with other industries, it was necessary to construct I-O accounts that provide separate information for nonprofit activities.

1. *Scope of nonprofit activity.* The first step in disaggregation was to identify the industries in the I-O accounts which would include nonprofits. As noted earlier the term "nonprofit organizations" in the U.S. is limited to those which have tax-exempt status, granted because the organization has one or more of the following exclusive purposes, as specified in the tax law: religious, charitable, scientific, testing for public safety, literary, education, or prevention of cruelty to children or animals.

A tax-exempt organization, such as the Young Men's Christian Association (YMCA) could have a number of establishments at different locations. Each establishment could be primarily engaged in a different activity. For example, the YMCA might operate a lodging place, a sports camp, a swimming pool, or a school. In the I-O accounts, each of these activities would be classified in a different industry depending on primary activity of the establishment. Thus, the lodging place would be in "rooming and boarding" and the swimming pool in "recreation." The U.S. Standard Industrial Classification (SIC) Manual provides a basis for identifying and classifying primary activity. Statistics based on this classification published by the U.S. Bureau of the Census are the primary source of data for preparing the U.S. I-O accounts.

Although a complete accounting of nonprofits and more current data would have been preferred, the extent of this initial disaggregation attempt described in this paper was limited intentionally to the nonprofit industries in selected service portion of the SIC covered in the 1977 Economic Censuses. As for the year being studied, BEA's published 1977 I-O accounts at the 537 industry/commodity level is the most disaggregated table available. The 1977 I-O accounts were used for estimation for several reasons. First, the I-O data are prepared at BEA, and are consistent conceptually and statistically with the NIPA's. Second, the data provide detailed information on flows between industries for 537 industries. Third, the data provide information on the industrial composition of final demand for over 537 commodities by detailed final demand category. Lastly, although I-O data for 1981 exist, the 1977 I-O table was used because it is the most recently available based on a complete economic census. The 1981 table is based on less comprehensive survey data.⁵

The availability of census data facilitated the disaggregation process. In the 1977 census, industries covered with nonprofit components included health care, education, hospitals, lodging, sports and recreation camps, other recreation, social services, and membership clubs. In addition, at BEA's request, the Census Bureau collected expenditure as well as revenue data for industries that included a substantial amount of nonprofit activity. Census prepared separate tabulations for tax-exempt establishments for the industries listed below. Table 3 identifies for each corresponding Census industry group the type of information collected in 1977.

- Sporting and recreational camps
- Organizational hotels and lodging homes
- Research and development labs
- Commercial and testing labs
- Legal
- Membership sports and recreation clubs
- Theatrical producers, bands, and entertainers
- Educational services
- Hospitals
- Nursing homes

⁵For the 1981 I-O accounts see "Input-Output Accounts of the U.S. Economy, 1981," *Survey of Current Business*, 67, January 1987, pp. 42-58.

Other health care facilities
Social services
Membership organizations

In addition to these industries, nonprofits operate in the radio and TV broadcasting industry, retail trade (used goods stores, such as Goodwill Industries and school book stores), manufacturing, insurance, financial institutions, and religious organizations. However, the data available for these noncensus areas was limited and presented statistical and conceptual problems. For the purpose of this initial study, except for religion which is a separate I-O industry at the 537 level and totally tax-exempt, the scope of the study was limited to the service-producing industries.

2. *Measuring the gross output of nonprofits.* For profit-making organizations, output can be measured on the sale side or the expenditures side of economic transactions. On the sale side, the business produces and sells a product and the summing up of the sales transactions plus inventory, measures output. On the expenditures side, the business purchases goods and services as well as pays labor and capital for services to produce the product.

Nonprofits, however, provide services which typically are not paid for by an equivalent value (market price). Nonprofit services are provided at less-than-market prices or free of charge (zero price). The shortfall between less-than-market price and actual costs of production is paid for by contributions from individuals, business, and government and from non-operating receipts such as interest and dividends on investments and the sale of assets.

Religious organizations serve as a good illustration of measurement difficulty from the sales or output allocations side. There is really no value on the output of religious institutions in the absence of market prices. The costs of producing this output do however provide a measurement for valuing output. These expenses include employee compensation and purchases from other businesses as well as the depreciation on plant and equipment owned by the religious institution.

In the U.S. national accounts, nonprofit output is measured from the expenditure side, and include purchases of goods and services from other enterprises, compensation paid to employees, the interest paid on borrowed funds, taxes, and depreciation allowances which reflect economic use of capital and are measured at current replacement cost.

As noted in Table 3, the 1977 census collected expenses for tax-exempts. Per census instructions, expenses included payroll, employee benefits, interest and rent expenses, taxes, supplies used for operating cost of merchandise sold, other expenses allocated to operation, depreciation expense, and fees paid for fund raising. Excluded were outlays for the purchase of real estate, for construction, for additions and alterations, and other capital expenditures, funds invested, assessments (dues) paid to the parent or other chapters of the same organization and, for organizations engaged in raising funds, funds which are transferred to charities or other organizations. Thus the data collected generally met the definition of output for nonprofits in the NIPA's and the I-O accounts. The only exception was an adjustment to convert depreciation expense, which was reported at historic cost, to a current replacement cost basis to conform to NIPA definitions.

TABLE 3
DATA ITEMS COLLECTED FOR THE 1977 CENSUS OF SERVICE INDUSTRIES BY INDUSTRY

Census Industry Group	Data Items						
	Receipts	Expenses	Payroll	Employment	Assets and Capital Expenditures	Source of Revenue	Transferred Contributions
Hotels, motels and other lodging places	x	x	x	x	x		
Management consulting, public relations and computer services (incl. nonphysical research services)	x	x	x	x		x	
Research, development and testing laboratories	x	x	x	x	x	x	x
Theatrical producers, shows, bands, orchestras, entertainers, and theatrical services	x	x	x	x	x	x	
Amusement and recreation services (incl. museums, botanical and zoological gardens)	x	x	x	x	x	x	
Membership organizations	x	x	x	x	x	x	x
Hospitals and other health care facilities	x	x	x	x	x	x	
Educational services	x	x	x	x	x		
Social services	x	x	x	x	x	x	x
Legal	x	x	x	x	x		

Since the individual I-O industries in the 1977 I-O accounts included both taxable and tax-exempt establishments adjusted for NIPA and I-O definitions, it was possible to disaggregate and prepare controls for this study using the original source data. It should be noted that some of the SIC industries being disaggregated, as mentioned earlier, had activities which for I-O purposes were assigned to different industries. For instance, the college eating and drinking and room and board activities were assigned to the eating and drinking and lodging industries, respectively. A brief description of the individual industries having such additions and exclusions follows. Table 4 shows the relative magnitudes of the adjustments required to convert from SIC to I-O definitions for each of these industries.

Hotels and lodging places—The tax-exempt portion of this industry includes sporting and recreational camp residences and organization hotels and lodging houses operated by membership organizations. Housing expenses at boarding schools and universities is also included as is an imputation for group housing services furnished religious employees.

Management and consulting services, testing and research labs—Included are tax exempt management, consulting, and public relations services, research and development labs, and commercial testing labs. Research, development, and testing laboratories include the commercial installations, which primarily engage in nonprofit laboratory or other physical research, development, or testing activity on a fee or contract basis. The industry does not cover research and testing which are performed by nonprofit agencies, funded primarily by grants or contributions. These are included in other membership organizations. Certain research, development, and testing services which are performed by nonprofit establishments for whom such services are not primary are excluded from this industry. The services remain the primary output of those industries. For example, the receipts of Federally-funded laboratories at private institutions of higher education are part of the output of education. Government-owned and operated research facilities are included in final demand.

Membership sports and recreation clubs—This industry includes all types of sporting and recreational clubs. Room receipts and meals receipts of these clubs are included in lodging and eating and drinking respectively.

Other amusement and recreation clubs—This includes tax-exempt museums, botanical and zoological gardens. Sales of museums shops are included in retail trade.

Health services—Health services includes establishments primarily engaged in furnishing medical, surgical and other health services to persons. Associations or groups primarily engaged in providing medical or other health services to members are included. Nonprofit groups which limit their services to providing hospital or medical insurance are classified in insurance.

Educational services—Educational services include establishments furnishing formal educational or technical courses, correspondence schools, commercial and trade schools, and libraries. Information on the expenses of religious schools was added to the industry. Housing receipts and meal receipts of boarding schools are excluded from “education” and included in “hotels and lodging” places and “eating and drinking places” respectively. Bookstore receipts and vending

TABLE 4
I-O ADJUSTMENT OF CERTAIN NONPROFIT INDUSTRIES, 1977
(Millions of Dollars)

	Census Expenses +	Secondary Activity Exclusion	Secondary Activity Classified by Product	Other I-O Exclusions	Other I-O Additions +
Hotels and lodging places	407.9	0	797.7 ¹	0	27.0 ²
Management and consulting services, testing and research labs	1,694.6	0	0	0	0
Membership sports and recreation clubs	1,606.0	794.7 ³	0	0	81.6 ⁴
Other amusement and recreation services	436.8	33.8 ⁵	0	0	0
Elementary and secondary schools	1,296.1	77.2 ⁶	0	0	3,804.1 ⁷
Colleges, universities, and professional schools	1,2027.6	1,780.3 ⁸	0	0	678.0 ⁴
Business associations and professional membership organizations	3,593.0	219.9 ⁹	0	0	28.0 ⁴
Labor organizations, civic, social and fraternal associations	7,074.9	1,033.1 ¹⁰	0	576.0 ¹¹	159.0
Other membership organizations	3,320.3	189.5 ¹²	0	0	569.2 ¹³
Eating and drinking	0	0	2,585.9 ¹⁴	0	0
Retail trade	0	0	397.3 ¹⁵	232.4 ¹⁶	0
Advertising	0	0	219.5 ⁹	0	0
Real estate	0	0	127.7 ¹⁷	0	0

¹Includes \$77.2 elementary school room expense and \$694.8 college room and \$25.7 membership clubs.

²Imputation for housing services furnished religious employees.

³Included \$25.7 room receipts and \$769.0 meal receipts.

⁴Adjustment to convert from historic cost to replacement cost depreciation.

⁵Merchandise sales of museum shops \$33.8.

⁶Room receipts.

⁷Includes expenses of religious schools \$3608.1 and adjustment to convert from historic cost to replacement cost depreciation \$196.0.

⁸Includes room expense \$694.8, meals \$774.1 and sales from bookstores \$311.4.

⁹Receipts for the sale of advertising space in business and professional membership magazines.

¹⁰Includes \$127.7 rental of union halls and meal receipts \$905.5.

¹¹Disbursements by labor organizations.

¹²Includes \$52.1 merchandise sales, and \$137.4 meal sales.

¹³Includes expenses for education, religious and charitable trusts \$477.2 and an adjustment to convert from historical cost to replacement cost depreciation.

¹⁴Includes meal receipts of membership sports and recreation clubs, schools, civic, social and fraternal associations and other membership organizations \$769.0, \$774.1, \$905.4 and \$137.4 respectively.

¹⁵Includes merchandise sales of museum shops, school bookstores, membership organizations \$33.8, \$311.4, and \$52.1 respectively.

¹⁶Represents cost of merchandise purchased for resale. In the I-O accounts the output of retail trade is measured as gross margin only.

¹⁷Receipts for rental of union halls.

machine receipts of colleges and universities are treated as retail trade activity. Certain other receipts of colleges and universities, such as college athletics, motion pictures and parking are included in the output of education.

Labor organizations and civic, social, and fraternal organizations—This industry's census data were adjusted to exclude disbursements by labor organizations. In addition meal receipts of civic, social and fraternal organizations are excluded as are receipts by labor unions for rentals of union halls. These are included in eating and drinking and lodging places.

Other membership organizations—This industry includes an estimate of expenses for education, religious and charitable trusts. Merchandise sales and meal sales are excluded.

Business and professional organizations—Included are organizations to promote the interests of their members. The organizations often publish material for their members, including magazines. These establishments have receipts for advertising in their publications. The receipts are treated as secondary receipts of advertising.

Social services—Included are establishments providing social services and rehabilitation services to people with social or personal problems requiring special services, and to the handicapped and the disadvantaged. Also included are organizations soliciting funds to be used directly for these and related services. Funds raised and transferred to charities or other organizations are excluded from output to eliminate double counting.

Table 5 shows the 1977 gross output for those I-O industries having a tax-exempt component. Gross output is shown in terms of I-O industry output (the column in the I-O use table). The I-O make table provides information on secondary production by industries. The make table shows the industries defined for I-O after some secondary production reclassifications have already been made. Thus room and board receipts are not shown as secondary receipts of the education industry but rather as separate component parts of the boarding and eating and drinking industries respectively.⁶

3. *Allocation of commodity output.* The next step in preparing the I-O accounts was, using the commodity output derived in step one, to identify the commodity distribution of services performed by consuming industry or final consumer. The major consumers are persons, business and government. As noted earlier, many of the tax-exempt organizations were defined by NIPA as serving individuals. When possible, the entire output of these organizations was identified as personal consumption expenditures even though there were some I-O allocations to business for the industry as a whole. Further work needs to be done integrating the I-O results and the NIPA sector and legal form analysis. The I-O table identified output consumed by business and government. For these, it was necessary to further analyze the activity of the industry. In some cases, the census data provided information which could be used to distribute output; in other cases, supplemental reports were used. This analysis indicated that tax-exempts may serve more than one user.

⁶The treatment of secondary production in the I-O accounts is discussed in article "The Input-Output Structure of the U.S. Economy, 1977," *Survey of Current Business*, May, 1984.

TABLE 5
I-O NONPROFIT GROSS OUTPUT BY INDUSTRY, 1977
(Millions of Dollars)

I-O Industry Code	Industry	Industry Gross Output		
		Total Industry (a)	Tax-exempt Portion (b)	Tax-exempt Percentage (b)(a)(c)
72.0100	Hotels and lodging places	15,121	1,233	8
72.0201	Laundry, cleaning, garment services and shoe repair	8,229	12	0
73.0103	Personnel supply services	5,035	14	0
73.0104	Computer and data processing services	14,833	111	1
73.0105	Management and consulting services, testing and research labs	13,769	1,695	12
73.0109	Other business services	10,048	40	0
73.0301	Legal services	20,512	259	1
76.0201	Theatrical producers (except motion pictures), bands and entertainers	3,504	524	15
76.0203	Commercial sports, excluding racing	857	16	2
76.0204	Racing (including track operations)	2,237	25	1
76.0205	Membership sports and recreation clubs	1,579	893	57
76.0206	Other amusement and recreation services	6,855	403	6
77.0100	Doctors and dentists	41,854	80	0
77.0200	Private hospitals	44,961	40,217	89
77.0301	Private nursing and personal care facilities	9,896	2,216	22
77.0302	Other medical and health services	11,671	2,468	21
77.0401	Elementary and secondary schools	5,296	5,023	95
77.0402	Colleges, universities, and professional schools	11,076	10,925	99
77.0403	Libraries, correspondence, and vocational schools and educational services, n.e.c.	3,471	703	20
77.0501	Business associations and professional membership organizations	3,621	3,621	100
77.0502	Labor organizations and civic, social and fraternal associations	5,625	5,625	100
77.0503	Religious organizations	10,149	10,149	100
77.0504	Other membership organizations	3,782	3,700	98
77.0600	Job training and related services	1,235	1,048	85
77.0700	Child day care services	3,330	829	25
77.0800	Residential care	2,523	1,857	74
77.0900	Social services, n.e.c.	4,853	4,428	91

Table 6 shows the distribution of output between persons, business and government for each nonprofit commodity. Sales to government from universities and hospitals are primarily expenditures for research. It should be noted that the education and hospital nonprofit output represent private nonprofit only; public institutions, state universities, colleges, hospitals (even though some are partly privately-endowed) are not included as intermediate industries in the I-O table, but are included as final demand government purchase. The sales to business shown in the table include work performed on contract by sheltered workshops, contracted research and special education expenses.

4. *Expenses of nonprofits.* In general the expense of nonprofits in the I-O accounts represent items actually purchased for use (excluding capital items). In

TABLE 6
DISTRIBUTION OF NONPROFIT OUTPUT TO PERSONS, GOVERNMENT AND BUSINESS, 1977

I-O	Title	Total Commodity Output	Users (Millions of Dollars)			Percentages		
			Persons ¹	Government	Business	Persons	Government	Business
	Total output nonprofits	97,893	89,172	4,770	3,951			
72.0100	Hotels and lodging places	1,233	1,233	0	0	100	0	0
72.0201	Laundry, cleaning, garment services, and shoe repair	12	12	0	0	100	0	0
73.0103	Personnel supply services	14	14	0	0	100	0	0
73.0104	Computer and data processing services	111	0	0	111	0	0	100
73.0105	Management and consulting services, testing and research labs	1,695	0	1,695	0	0	100	0
73.0109	Other business services	40	40	0	0	100	0	0
73.0301	Legal services	259	259	0	0	100	0	0
76.0201	Theatrical producers (except motion pictures) bands and entertainers	524	524	0	0	100	0	0
76.0203	Commercial sports, excluding racing	16	16	0	0	100	0	0
76.0204	Racing (including track operations)	25	25	0	0	100	0	0
76.0205	Membership sports and recreation clubs	893	893	0	0	100	0	0
76.0206	Other amusement and recreation services	403	403	0	0	100	0	0
77.0100	Doctors and dentists	80	80	0	0	100	0	0
77.0200	Private hospitals	40,217	40,217	0	0	100	0	0
77.0301	Private nursing and personal care facilities	2,216	2,216	0	0	100	0	0
77.0302	Other medical and health services	2,468	2,468	0	0	100	0	0
77.0401	Elementary and secondary schools	5,023	5,023	0	0	100	0	0
77.0402	Colleges, universities and professional schools	10,925	7,378	2,884	664	67	27	06
77.0403	Libraries, correspondence and vocational schools and educational services, n.e.c.	703	703	0	0	100	0	0
77.0501	Business associations and professional membership organizations	3,401	721	99	2,581	21	03	769
77.0502	Labor organizations and civic, social and fraternal associations	5,625	5,552	0	73	99	0	01
77.0503	Religious organizations	10,149	10,149	0	0	100	0	0
77.0504	Other membership organizations	3,700	3,378	36	286	91	01	08
77.0600	Job training and related services	1,048	756	55	237	72	05	23
77.0700	Child day care services	829	829	0	0	100	0	0
77.0800	Residential care	1,857	1,857	0	0	100	0	0
77.0900	Social services, n.e.c.	4,428	4,428	0	0	100	0	0

¹In those cases where the industry primarily served persons and a small portion of output went to business, the tax-exempt output was assumed to be totally used by persons.

²Includes exports.

both the NIPA's and the I-O accounts, there is a rent imputation for nonprofits. The imputation is equal to the mortgage interest and depreciation on property owned and used by the nonprofit organizations serving individuals. These expenses are attributed to the business sector and to the real estate industry and consist of depreciation, interest expense, and property taxes.

To disaggregate the commodity expenditure data in the I-O accounts between those used by the nonprofit industry segment and those used by the for-profit, it was necessary to trace the initial input estimates and identify the source. As noted earlier, census data were available for wages and salaries of tax-exempts. In addition some of the other commodity expenditures could be specifically identified as to whether they were used by the tax-exempt portion of the industry or the taxable. Table 7 shows the percentage of expenses that could be specifically identified using the original data sources for each I-O industry.

To complete the input analysis, the remaining commodity expenditures were split between tax-exempt and taxable: wage supplements were split using the Census wage data while other inputs were split based on the relative proportion of not specified commodities. After the initial splits were made, the inputs were reviewed for appropriateness and adjusted as necessary.

THE I-O ACCOUNTS FOR 1977

The results of the disaggregation prepared for this study are summarized in Tables 8-10. These tables present the 1977 I-O accounts at a summary 14 industry/commodity level. The GNP and total output shown is consistent with the revised 1977 I-O accounts and incorporate the results of the comprehensive revision of the NIPA's.

Table 8, the use table, shows the current dollar distribution of commodity output between industries and to final consumers.

Table 9, the make table, shows the commodities (goods and services) shipped by the industries.

Table 10, the industry-by-commodity total requirements table shows the industry production required both directly and indirectly of the industry per dollar of delivery to final demand of the commodity.

The complete I-O accounts produced for this study include 107 industries and commodities. Most of the industries correspond to the industries published by BEA in its 85 industry/commodity I-O accounts. The exceptions are identified in Appendix B. Further papers are planned by the authors to use the data to examine the detailed interrelationships of these industries. For now, the emphasis in this paper has been limited to the preparation of the data base.

APPENDIX A

List of Major Groups Included in Division I, Services, of the U.S. Standard Industrial Classification Manual

Major Group

70	Hotels, Rooming Houses, Camps and Other Lodging Places
72	Personal Services

73	Business Services
75	Automotive Repair, Services and Garages
76	Miscellaneous Repair Services
78	Motion Pictures
79	Amusement and Recreation Services, Except Motion Pictures
80	Health Services
81	Legal Services
82	Educational Services
83	Social Services
84	Museums, Art Galleries, Botanical and Zoological Gardens
86	Membership Organizations
88	Private Households
89	Miscellaneous Services

APPENDIX B

Input-Output Industry Classification

I-O Code	Description
7200	Hotels; personal and repair services (except auto), for-profit
7201	Lodging; personal and repair services, nonprofit
7300	Business services, for-profit
7301	Management consulting services and testing and research labs, nonprofit
7302	Legal services, nonprofit
7303	Other business services, nonprofit
7600	Amusements, for-profit
7601	Theatrical producers, orchestras and entertainers, nonprofit
7602	Membership sports and recreation clubs, nonprofit
7603	Other amusement and recreation services, nonprofit
7700	Health, educational and social services, nonprofit
7701	Doctors and dentists, nonprofit
7702	Private hospitals, nonprofit
7703	Private nursing and personal care facilities, nonprofit
7704	Other medical and health services, nonprofit
7705	Private elementary and secondary schools, nonprofit
7706	Private colleges, universities and professional schools, nonprofit
7707	Private libraries, vocational schools and educational services, n.e.c., nonprofit
7708	Business association and professional membership organizations
7709	Labor organizations and civic and social associations
7710	Religious organizations
7711	Other membership organizations, nonprofit
7712	Job training and related services, nonprofit
7713	Child day care services, nonprofit
7714	Residential care, nonprofit
7715	Social services, n.e.c., nonprofit

TABLE 7
DETERMINATION OF NONPROFIT EXPENSES BY COMMODITY, 1977
(Millions of Dollars)

I-O	Title	For-Profit Industry			Nonprofit Industry		
		Total Expenses	Expenses Identified Specifically by Commodity	Percentage	Total Expenses	Expenses Identified Specifically by Commodity	Percentage
72.0100	Hotels and lodging places	13,888	7,712	0.56	1,233	476	0.39
72.0201	Laundry, cleaning, garment services and shoe repair	8,218	4,977	0.61	12	5	0.41
73.0103	Personnel supply services	5,021	3,706	0.74	14	6	0.41
73.0104	Computer and data processing services	14,722	11,387	0.77	111	54	0.49
73.0105	Management and consulting services, testing and research labs	12,075	6,999	0.58	1,695	793	0.47
73.0109	Other business services	10,008	4,256	0.43	40	0	0
73.0301	Legal services	20,253	15,579	0.77	259	153	0.59
76.0201	Theatrical producers (except motion pictures), bands and entertainers	2,980	1,409	0.47	524	246	0.47
76.0203	Commercial sports, excluding racing	842	427	0.52	16	6	0.41
76.0204	Racing (including track operations)	2,213	1,624	0.73	25	10	0.41
76.0205	Membership sports and recreation clubs	687	160	0.23	893	307	0.34
76.0206	Other amusement and recreation services	6,452	3,690	0.57	403	183	0.45
77.0100	Doctors and dentists	41,774	32,606	0.78	80	0	0
77.0200	Private hospitals	4,744	3,094	0.65	40,217	23,870	0.59
77.0301	Private nursing and personal care facilities	7,680	6,844	0.89	2,216	1,974	0.89
77.0302	Other medical and health services	9,203	6,224	0.68	2,468	1,960	0.79
77.0401	Elementary and secondary schools	273	144	0.53	5,023	3,005	0.59
77.0402	Colleges, universities and professional schools	151	18	0.12	10,925	7,337	0.67
77.0403	Libraries, correspondence and vocational schools and educational services, n.e.c.	2,768	1,784	0.64	703	493	0.70
77.0501	Business associations and professional membership organizations	0	0	0	3,621	3,621	1.00
77.0502	Labor organizations and civic, social and fraternal associations	0	0	0	5,625	5,625	1.00
77.0503	Religious organizations	0	0	0	10,149	10,149	1.00
77.0504	Other membership organizations	82	33	0.40	3,700	2,518	0.68
77.0600	Job training and related services	187	96	0.51	1,048	679	0.65
77.0700	Child day care services	2,500	2,319	0.92	829	560	0.67
77.0800	Residential care	666	316	0.47	1,857	1,180	0.63
77.0900	Social services, n.e.c.	426	184	0.43	4,427	2,138	0.48

TABLE 8
THE USE OF COMMODITIES BY INDUSTRIES, 1977—SUMMARY VERSION
(Billions of Dollars at Producers' Prices)

Industry Number															Total		Total
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	Intermediate Use	Final Demand	Commodity Output
01	Agriculture, forestry and fisheries	31.9	*	0.7	3.8	58.6	*	0.6	1.5	1.9	0.8	0.3	0.2	0.0	100.3	25.7	126.0
02	Mining	0.2	5.6	2.0	11.3	65.0	19.3	0.0	*	0.0	*	*	1.2	0.0	104.6	(32.8)	71.8
03	Construction	1.4	2.9	0.3	5.4	4.3	8.9	2.8	15.1	0.6	2.3	1.8	4.9	0.0	50.8	214.7	265.5
04	Durable manufacturing	2.2	5.0	82.5	256.9	24.9	7.9	3.1	1.0	1.2	17.5	2.5	0.9	0.0	405.6	297.6	703.1
05	Nondurable manufacturing	23.9	2.3	16.3	42.4	194.9	19.7	11.4	3.7	27.0	12.8	11.2	2.3	0.0	368.0	270.6	638.6
06	Transportation and utilities	3.9	2.6	7.8	29.1	32.6	43.9	20.1	7.5	3.6	13.1	5.0	5.4	0.0	174.6	129.7	304.3
07	Wholesale and retail trade	5.6	1.2	23.4	31.6	25.8	4.0	4.8	1.1	5.0	7.7	1.7	0.6	0.0	112.4	273.6	386.0
08	Finance, insurance and real estate	8.3	5.7	2.9	8.3	6.8	5.9	19.5	53.6	3.4	12.9	11.1	0.7	0.0	139.0	264.9	403.9
09	Eating and drinking places	0.1	0.4	0.2	3.6	3.3	1.4	6.6	2.0	0.2	2.9	1.4	0.2	0.0	22.3	65.6	87.8
10	For-profit services	2.6	2.0	16.7	20.5	23.3	11.7	37.5	15.7	4.7	27.4	7.4	1.3	0.0	170.7	170.6	341.3
11	Nonprofit services	0.1	0.1	*	0.6	0.6	0.4	0.4	0.2	0.2	1.1	0.4	*	0.0	3.9	94.0	97.9
12	Government enterprises	0.1	0.1	0.2	1.2	2.0	0.8	1.9	2.8	0.2	1.5	0.9	0.4	0.0	12.0	7.2	19.2
13	Noncomparable imports	*	0.1	*	1.8	6.1	4.0	0.4	0.3	*	0.3	0.1	0.5	0.0	13.6	(13.6)	0.0
14	Scrap and special industries	0.0	*	*	4.0	0.6	*	0.0	0.0	0.0	0.2	0.0	*	0.0	4.9	223.5	228.5
I	Total intermediate inputs	80.1	27.9	153.0	420.5	448.8	128.0	109.3	104.5	47.9	100.5	43.8	18.6	0.0	1,682.7	xxxx	xxxx
VA	Value added	49.6	50.1	112.6	285.3	200.4	165.4	275.0	296.7	38.2	213.4	54.3	24.0	0.0	226.2	1,991.2	xxxx
T	Total industry output	129.8	78.0	265.5	705.7	649.2	293.3	384.2	401.2	86.0	313.9	98.1	42.6	0.0	226.2	xxxx	3,673.9

Note: For the distribution of output of a commodity, read the row for that commodity. For the composition of inputs to an industry, read the column for that industry. Detail may not add to total due to rounding. Parenthesis denote negative values.

* Less than \$0.05 billion.

TABLE 9
MAKE OF COMMODITIES BY INDUSTRIES, 1977—SUMMARY VERSION
(Billions of Dollars at Producers' Prices)

Commodity Number		01	02	03	04	05	06	07	08	09	10	11	12	13	14	Total Industry Output
01	Agriculture, forestry, and fisheries	125.9	0.0	0.0	0.1	3.6	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	129.8
02	Mining	0.0	71.3	0.0	0.2	4.2	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	78.0
03	Construction	0.0	0.0	265.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	265.5
04	Durable manufacturing	0.0	0.2	0.0	698.9	4.1	*	0.0	0.0	0.0	0.8	0.0	0.0	0.0	1.8	705.7
05	Nondurable manufacturing	0.0	0.2	0.0	3.9	626.5	0.0	0.0	0.0	0.0	18.1	0.0	0.0	0.0	0.4	649.2
06	Transportation utilities	0.0	0.1	0.0	0.0	0.2	285.0	0.0	0.0	0.0	7.9	0.0	0.1	0.0	0.1	293.3
07	Wholesale and retail trade	0.0	0.0	0.0	0.0	0.0	0.0	384.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	384.2
08	Finance, insurance and real estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	400.5	0.0	0.7	0.0	0.0	0.0	0.0	401.2
09	Eating and drinking places	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.0	0.0	0.0	0.0	0.0	0.0	86.0
10	For-profit services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	312.8	0.0	0.0	0.0	0.0	313.9
11	Nonprofit services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	97.9	0.0	0.0	0.0	98.1
12	Government enterprises	0.0	0.0	0.0	0.0	0.0	17.0	1.7	2.3	1.8	0.5	0.0	19.1	0.0	0.0	42.6
13	Noncomparable imports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	Scrap and special industries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	226.2	226.2
T	Total commodity output	126.0	71.8	265.5	703.1	638.6	304.3	386.0	403.9	87.8	341.3	97.9	19.2	0.0	228.5	3,673.9

Note: For the distribution of industries producing a commodity, read the column for the commodity. For the distribution of commodities produced by an industry, read the row for that industry.

Detail may not add to total due to rounding.

* Less than \$0.05 billion.

TABLE 10
INDUSTRY-BY-COMMODITY TOTAL REQUIREMENTS, 1977—SUMMARY VERSION
(Total Requirements, Direct and Indirect Per Dollar of Delivery to Final Demand, at Producers' Prices)

Commodity Number	01	02	03	04	05	06	07	08	09	10	11	12	13	14
01 Agriculture, forestry and fisheries	1.3772	0.0141	0.0310	0.0372	0.1934	0.0213	0.0150	0.0120	0.0939	0.0284	0.0350	0.0216	0.0000	0.0006
02 Mining	0.0560	1.0871	0.0449	0.0583	0.1843	0.1107	0.0176	0.0095	0.0681	0.0310	0.0348	0.0632	0.0000	0.0008
03 Construction	0.0300	0.0501	1.0157	0.0235	0.0293	0.0517	0.0175	0.0484	0.0259	0.0187	0.0342	0.1288	0.0000	0.0002
04 Durable manufacturing	0.0965	0.1524	0.5248	1.6019	0.1584	0.1047	0.0447	0.0399	0.0943	0.1239	0.0915	0.1273	0.0000	0.0128
05 Nondurable manufacturing	0.3938	0.0918	0.1780	0.1910	1.4998	0.1511	0.0869	0.0428	0.4996	0.1831	0.2185	0.1390	0.0000	0.0042
06 Transportation and utilities	0.0885	0.0643	0.0864	0.1003	0.1191	1.1272	0.0799	0.0380	0.1024	0.1015	0.0923	0.1703	0.0000	0.0013
07 Wholesale and retail trade	0.0871	0.0357	0.1275	0.0887	0.0860	0.0368	1.0217	0.0143	0.0942	0.0442	0.0409	0.0435	0.0000	0.0009
08 Finance, insurance and real estate	0.1222	0.1016	0.0431	0.0437	0.0630	0.0482	0.0726	1.1516	0.0784	0.0659	0.1505	0.0404	0.0000	0.0005
09 Eating and drinking places	0.0071	0.0080	0.0083	0.0122	0.0125	0.0091	0.0198	0.0071	0.9881	0.0127	0.0188	0.0098	0.0000	0.0001
10 For-profit services	0.0655	0.0497	0.1054	0.0724	0.0855	0.0679	0.1136	0.0585	0.0968	1.0214	0.1053	0.0622	0.0000	0.0007
11 Nonprofit services	0.0016	0.0015	0.0014	0.0022	0.0023	0.0021	0.0018	0.0010	0.0031	0.0047	1.0050	0.0015	0.0000	0.0000
12 Government enterprises	0.0105	0.0075	0.0101	0.0119	0.0151	0.0730	0.0172	0.0180	0.0338	0.0138	0.0188	1.0167	0.0000	0.0001
13 Noncomparable imports	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14 Scrap and special industries	0.0010	0.0017	0.0033	0.0092	0.0025	0.0010	0.0004	0.0003	0.0011	0.0016	0.0008	0.0010	0.0000	0.9902
Output multiplier	2.3369	1.6652	2.1798	2.2524	2.4512	1.8049	1.5087	1.4415	2.1795	1.6511	1.8463	1.8252	0.0000	1.0126

Note: Each entry represents the output required, directly and indirectly, of the industry named at the beginning of the row for each dollar of delivery to final demand of the commodity named at the head of the column.

REFERENCES

- Alder, Hans J. and Sunga, Preston S., Comments on Integrated Economic Accounts, *Survey of Current Business*, May 1982.
- Carson, Carol S. and Jaszi, George, Comments on Integrated Economic Accounts, *Survey of Current Business*, May 1982.
- Carson, Carol S. and Tice, Helen Stone, Programmation vs. Elegence: SNA Sectoring Proposals in Light of U.S. Experience, Paper presented at the 19th General Conference of the International Association for Research in Income and Wealth, Noordwijkerhout, The Netherlands, August 1985.
- Denison, Edward J., Comments on Integrated Economic Accounts, *Survey of Current Business*, May 1982.
- Eisner, Robert, Total Income System of Accounts, *Survey of Current Business*, May 1985.
- Fuchs, Victor, *The Service Economy*, Columbia University Press, New York, 1968.
- Moyle, John and Reid, David J., Private Non-Profit-Making Bodies Serving Persons, *Economic Trends*, May 1975.
- Rudney, Gabriel, A Quantitative Profile of the Non-Profit Sector, Yale University, Program on Non-Profit Organizations, Working Paper No. 40, 1981.
- Rudney, Gabriel and Weitzman, Murray, Significance of Employment and Earnings in the Philanthropic Sector, 1972-1982, Yale University, Program on Non-Profit Organizations, Working Paper No. 77, 1984.
- , Trends in Employment and Earnings in the Philanthropic Sector, *BLS Monthly Labor Review*, September 1984.
- Ruggles, Richard and Ruggles, Nancy, Integrated Economic Accounts for the United States, 1947-1978, Yale University Institution for Social and Policy Studies Working Paper No. 841, 1980.
- , Integrated Economic Accounts, *Survey of Current Business*, May 1982.
- , The Integration of Macro and Micro Data in the Household Sector, *The Review of Income and Wealth*, September 1986.
- Salamon, Lester and Abramson, Alan, *The Urban Institute Nonprofit Sector Report*, 1983.
- U.S. Commerce Department, BEA, *Supplement to the Survey of Current Business*, 1954.
- U.S. Commerce Department, BEA, Input-Output Structure of the U.S. Economy, 1977, *Survey of Current Business*, May 1984.
- U.S. Department of Commerce, BEA, *Definitions, and Conventions of the 1977 Input-Output Study*.