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Volume Author/Editor: Victor R. Fuchs and Jean Alexander Wilburn

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Chapter Author: Victor R. Fuchs, Jean Alexander Wilburn

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APPENDIX B  
SOURCES AND DATA

THIS APPENDIX is divided into two sections, one for the eighteen selected service industries and the other for the industry aggregates with which they are compared. The discussion of the industry classifications and a description of the variables is followed by a table containing the basic data.

SELECTED SERVICES

*Industry Classification.* Two types of adjustments were necessary to achieve comparability of industries over time. The first consisted of shifting detailed kinds of business between industries. This was necessary because of modifications in the industrial classification adopted by the Census Bureau. The other adjustment concerned the inclusion of units other than stores. Non-store retailers, which consist of mail-order houses, vending-machine operators, and house-to-house selling organizations, had to be allocated by kind of business, beginning in 1954, when they were first shown separately. Administrative offices, warehouses, and auxiliaries, also shown separately, were included in each year. The eighteen selected service industries as defined in this paper are described in the following paragraphs, and the Standard Industrial Classification codes used in the 1963 *Census of Business* are indicated.

*Barber Shops* (SIC 724)—barber shops.

*Beauty Shops* (SIC 723)—beauty shops and combination barber and beauty shops.

*Laundries* (SIC 7211, 7212, 7213, 7214, 7215)—power laundries, industrial laundries, linen supply, diaper service, self-service laundries, and self-service dry cleaning. (Self-service dry cleaning was included in laundries because separate information was not available prior to 1963.)

*Dry Cleaning* (SIC 7216, 7271)—cleaning and dyeing plants (except rug cleaning), and cleaning and pressing shops.

*Shoe Repair* (SIC 725)—shoe repair, shoeshine, and hat cleaning establishments.

*Auto Repair* (SIC 75)—auto repair shops, parking, auto and truck rentals, and auto laundries.

*Motion Picture Theaters* (SIC 783)—regular motion picture theaters and drive-ins.

*Hotels and Motels* (SIC 7011)—year-round hotels, seasonal hotels, motels, tourist courts, and motor hotels.

*Lumber, Building Materials, Hardware, Farm Equipment Dealers* (SIC 52)—lumber yards, building materials dealers, heating, plumbing equipment dealers, paint, glass, wallpaper stores, electrical supply stores, hardware stores, farm equipment dealers.

*General-Merchandise Group Stores* (SIC 53, excluding part of nonstore retailers)—department stores, limited-price variety stores, general-merchandise stores.

*Food Stores* (SIC 54)—groceries, delicatessens, meat markets, fish markets, fruit stores, vegetable markets, candy, nut, confectionery stores, dairy products stores, retail bakeries, egg and poultry stores.

*Automotive Dealers* (SIC 55, excluding 554)—passenger car dealers, tire, battery, accessory dealers, home and auto supply stores, aircraft, motorcycle, boat, and household trailer dealers. (Dealers primarily engaged in selling trucks are classified under wholesale trade.)

*Gasoline Service Stations* (SIC 554)—gasoline service stations.

*Apparel, Accessory Stores* (SIC 56)—men's, women's, and children's wear stores, custom tailors, specialty stores, furriers, family clothing stores, shoe stores.

*Furniture, Home Furnishings, Equipment Stores* (SIC 57)—furniture stores, floor-covering stores, drapery, curtain, upholstery stores, china, glassware, metalware stores, household appliance stores, radio and television stores, music stores.

*Eating, Drinking Places* (SIC 58)—restaurants, lunchrooms, cafeterias, refreshment places, caterers, drinking places (alcoholic beverages).

*Drug Stores, Proprietary Stores* (SIC 591)—drug stores, proprietary stores.

*Other Retail Stores* (SIC 59, excluding 591)—liquor stores, book stores, stationery stores, sporting goods stores, bicycle shops, farm and garden supply stores, jewelry stores, fuel and ice dealers, florists, cigar stores, news dealers, photographic supply stores, optical goods stores, etc.

#### CURRENT DOLLAR OUTPUT

Current dollar output is defined as receipts from customers for services rendered and merchandise sold, whether or not payment was received. Receipts of income from investments, rental of real estate, and similar items are excluded. Beginning in 1954, state and local sales taxes and federal excise taxes collected by the establishment and paid directly to a tax agency are included. The only exception to this is motion picture theaters, for which taxes are included, beginning in 1939. Sales of each of the ten retail

trades were taken as the sum of each component kind of business. For total retail trade, output was derived by adding the margins (sales minus cost of goods sold) of the ten retail trades. The margins as a percentage of sales were derived from Internal Revenue Service tabulations for corporations in 1957, published in the *Statistics of Income . . . 1957-58, Corporation Income Tax Returns* and used for all years. It was determined that there were no significant differences between margins as a percentage of sales for corporations and all firms. The aggregation procedure is not sensitive to possible inaccuracies in the margin percentages.

#### PRICES

Price indexes for all of the eight services, except hotels, are components of the U.S. Bureau of Labor Statistics Consumer Price Index. For hotels and motels, the average room rate for hotels in large cities was taken from Horwath and Horwath, *Hotel Operations in 1963*, p. 21. The drawbacks to this measure are that it is affected by quality of room and extent of multiple occupancy.

For the ten retail trades, price indexes were computed largely from components of the Consumer Price Index. Components of the Wholesale Price Index and other sources were also used. For each kind of business an index was obtained by weighting components by the share of commodity sales in 1948 given in the *Census of Business*.

#### REAL OUTPUT

Real output was obtained by deflating current dollar output by the price indexes.

#### EMPLOYMENT

Employment is defined as the number of full-time equivalent wage and salary workers plus the number of proprietors. The number of proprietors in retail trade was adjusted for changes in coverage, as will be described. Proprietors were assumed to be full-time workers, as were employees in administrative offices, warehouses, and auxiliaries of retail stores. Wage and salary workers were converted into full-time equivalents for 1948, 1954, and 1958 by assuming that the average hourly earnings of part-time workers were the same as the average hourly earnings of full-time workers in the same industry. The number of workers working the full workweek was multiplied by the ratio of payroll of all wage and salary workers to payroll of full-time wage and salary workers. For 1939, the procedure was based on annual rather than weekly earnings, since payroll and employment data were available on an annual basis only. For 1963, the 1958 relation between the total number of wage and salary workers and the number of full-time equivalent wage and salary workers were used because the number of employees working the full workweek was not given. Because data on employees of administrative offices,

warehouses, and auxiliaries were not yet published, they were assumed to be the same percentage of full-time equivalent wage and salary workers in 1963 as in 1958. Unpaid family workers are not included.

#### COVERAGE ADJUSTMENT

In retail trade, some establishments with no paid employees were excluded from coverage in the *Census of Business* if receipts for the year did not exceed \$500 in 1948, and \$2,500 in 1954 and 1958. An adjustment was made to include proprietors on the 1939 coverage basis. It was assumed that the 1948 ratio of the number of establishments with receipts of under \$2,000 to the number with receipts of \$2,000 to \$5,000 equaled the 1939 ratio of the number of establishments with receipts of under \$1,000 to the number with receipts of \$1,000 to \$2,500, i.e.,

$$\frac{1939}{\text{Under } \$1,000} = \frac{1948}{\text{Under } \$2,000}$$

$$\frac{\$1,000-\$2,500}{\$1,000-\$2,500} = \frac{\$2,000-\$5,000}{\$2,000-\$5,000}$$

It was further assumed that there was one proprietor in each establishment added by the adjustment. The adjustments were made in such a way as roughly to allow for changes in the price level. For 1954 and 1958 the ratio

$$\frac{1939}{\text{Under } \$1,250} = \frac{1954 \text{ and } 1958}{\text{Under } \$2,500}$$

$$\frac{\$1,250-\$2,500}{\$1,250-\$2,500} = \frac{\$2,500-\$5,000}{\$2,500-\$5,000}$$

was assumed. For 1963 no adjustment was made, since for the first time establishments not operated during the entire year were included if their receipts were at an annual rate of \$2,500 or more. The procedure used in 1963 is probably comparable to the coverage adjustment in prior years.

The number of proprietors added by coverage adjustment are (in thousands):

	1948	1954	1958
Apparel, accessory stores	1.0	3.1	2.9
Automotive dealers	.1	1.3	1.8
Drug stores, proprietary stores	—	.4	.3
Eating, drinking places	2.8	12.5	15.0
Food stores	2.8	12.6	12.2
Furniture, home furnishings, equipment stores	.9	4.8	5.4
Gasoline service stations	1.1	3.1	2.7
General merchandise group stores	.3	1.9	2.7
Lumber, building materials, hardware, farm equipment dealers	.4	2.1	2.8
Other retail stores	3.8	20.1	19.6

Note: These estimates probably improve the over-all estimates of employment, but because of changing coverage, definition, and presentation, they are subject to considerable error.

The minimum-receipts sizes for services were \$400 in 1948 and \$1,000 thereafter. Because the limits were lower, a smaller proportion of proprietors was excluded than was excluded from trade. Moreover, reasonable estimates could not be derived from published class intervals of the receipts-size distributions by the procedure used for retail trade. For these reasons, no adjustment was made for service industries.

#### TOTAL LABOR INPUT

Total labor input is measured by payroll of all employees. Payroll for the entire year was used throughout. The payroll of proprietors was obtained by assuming that proprietors had the same average annual earnings as full-time wage and salary workers in the same industry. For 1963, payroll of administrative offices, warehouses, and auxiliaries was assumed to be the same percentage of total payroll as in 1958.

#### OTHER INDUSTRIES

Methods and sources of data for the total economy, goods sector, service sector, and manufacturing are described here. Goods includes agriculture, mining, construction, manufacturing, transportation, communications and public utilities, and government enterprise. The service sector includes wholesale and retail trade, finance, insurance and real estate; personal, professional, repair, and other services; and general government. Current- and constant-dollar output are the gross product series of the Department of Commerce published in the *Survey of Current Business* of September 1964 and October 1962. The Office of Business Economics obtains constant-dollar output generally by separately deflating inputs and output. Price indexes are obtained implicitly from the current- and constant-dollar measures. For 1939, real gross product in manufacturing and goods were based on data in John W. Kendrick, *Productivity Trends in the United States*, Princeton University Press for NBER, 1961. The 1939-48 changes in Kendrick's series were applied to the 1948 gross product estimates. Employment is the number of persons engaged in production, published in the *Survey of Current Business* of July 1962 and July 1964, and in *U.S. Income and Output* and *National Income, 1954 Edition*. For total labor input, total compensation was used. Proprietors were assumed to have the same average annual compensation as wage and salary workers in the same industry group. Data on number of full-time equivalent employees and compensation of employees from which the estimate of total compensation was made were obtained from the same sources as the number of persons engaged in production. The employment and compensation figures all relate to full-time equivalents. Unpaid family workers are not included.

TABLE I-B

## Output and Input in Selected Service Industries, Sectors and Total Economy, Selected Years, 1939-63

	Current Output (millions of dollars)	Price Index (1954=100)	Real Output (millions of 1954 dollars)	Employment (thousands)	Labor Compensation (millions of dollars)
			AUTO REPAIR		
1939	441	57.6	766	166.0	199
1948	1,561	79.6	1,961	246.2	605
1954	2,223	100.0	2,223	244.9	818
1958	3,853	111.9	3,443	378.2	1,313
1963	5,444	122.4	4,448	414.4	1,698
			BARBER SHOPS		
1939	231	39.9	579	186.3	169
1948	404	75.8	533	155.2	330
1954	552	100.0	552	147.3	417
1958	783	122.3	640	183.7	555
1963	907	139.5	650	180.3	658
			BEAUTY SHOPS		
1939	250	50.2	498	190.3	156
1948	434	92.0	472	163.3	293
1954	654	100.0	654	168.0	411
1958	1,028	113.8	903	246.4	642
1963	1,618	125.7	1,287	345.2	1,037

(continued)

TABLE I-B (continued)

	Current Output (millions of dollars)	Price Index (1954=100)	Real Output (millions of 1954 dollars)	Employment (thousands)	Labor Compensation (millions of dollars)
DRY CLEANING					
1939	323	63.9	505	169.4	163
1948	1,128	86.6	1,303	303.7	587
1954	1,497	100.0	1,497	314.1	750
1958	1,671	110.5	1,512	311.8	862
1963	1,765	118.1	1,494	268.1	807
HOTELS AND MOTELS					
1939	900	46.1	1,952	360.0	276
1948	2,368	74.2	3,191	444.3	778
1954	2,862	100.0	2,862	440.2	988
1958	3,644	118.0	3,088	524.8	1,277
1963	4,667	128.7	3,626	544.2	1,553
LAUNDRIES					
1939	528	52.7	1,002	281.7	264
1948	1,323	80.2	1,650	304.9	705
1954	1,605	100.0	1,605	329.2	800
1958	1,943	114.0	1,704	345.5	946
1963	2,493	133.1	1,873	346.5	1,102

(continued)



TABLE I-B (continued)

	Current Output (millions of dollars)	Price Index (1954=100)	Real Output (millions of 1954 dollars)	Employment (thousands)	Labor Compensation (millions of dollars)
MOTION PICTURE THEATERS					
1939	803	52.4	1,532	116.8	140
1948	1,614	85.8	1,881	170.2	319
1954	1,407	100.0	1,407	144.9	309
1958	1,172	116.9	1,003	134.9	294
1963	1,063	146.3	727	105.7	269
SHOE REPAIR					
1939	119	45.2	263	72.3	65
1948	219	88.2	248	64.1	118
1954	202	100.0	202	43.3	100
1958	232	115.4	201	44.7	105
1963	208	132.5	157	33.5	100
APPAREL, ACCESSORY STORES					
1939	3,259	49.2	6,628	421.3	558
1948	9,803	101.1	9,692	625.6	1,507
1954	11,214	100.0	11,214	648.8	1,900
1958	12,706	103.2	12,311	689.1	2,168
1963	14,204	108.2	13,129	658.8	2,446

(continued)

TABLE I-B (continued)

	Current Output (millions of dollars)	Price Index (1954 = 100)	Real Output (millions of 1954 dollars)	Employment (thousands)	Labor Compensation (millions of dollars)
AUTOMOTIVE DEALERS					
1939	5,549	48.8	11,373	435.9	646
1948	20,104	89.6	22,432	695.0	2,111
1954	29,918	100.0	29,918	775.1	3,127
1958	31,824	110.4	28,833	794.5	3,416
1963	45,402	118.2	38,408	859.5	4,550
DRUG STORES, PROPRIETARY STORES					
1939	1,562	66.2	2,360	225.4	236
1948	4,014	90.7	4,428	300.6	607
1954	5,252	100.0	5,252	316.5	846
1958	6,779	109.0	6,218	361.4	1,079
1963	8,487	112.6	7,537	364.6	1,402
EATING, DRINKING PLACES					
1939	3,527	41.6	8,482	1,046.0	711
1948	10,683	92.4	11,560	1,570.2	2,579
1954	13,101	100.0	13,101	1,600.0	3,332
1958	15,201	110.0	13,818	1,834.8	3,901
1963	18,412	124.5	14,785	1,932.7	4,949

(continued)

TABLE I-B (continued)

	Current Output (millions of dollars)	Price Index (1954=100)	Real Output (millions of 1954 dollars)	Employment (thousands)	Labor Compensation (millions of dollars)
FOOD STORES					
1939	9,560	41.4	23,075	1,134.6	1,267
1948	29,438	93.0	31,654	1,329.9	3,521
1954	40,646	100.0	40,646	1,395.7	4,438
1958	49,693	106.1	46,823	1,492.6	5,147
1963	58,021	107.5	53,983	1,490.1	6,349
FURNITURE, HOME FURNISHINGS, EQUIPMENT STORES					
1939	1,798	54.5	3,300	255.0	351
1948	7,252	100.6	7,210	466.5	1,228
1954	9,450	100.0	9,450	494.6	1,720
1958	10,481	97.4	10,765	517.2	1,923
1963	11,481	95.9	11,972	459.4	2,085
GASOLINE SERVICE STATIONS					
1939	2,822	61.5	4,592	445.4	427
1948	6,483	85.9	7,549	447.9	885
1954	10,744	100.0	10,744	516.8	1,393
1958	14,178	108.0	13,128	657.0	1,820
1963	17,760	112.5	15,788	682.1	2,256

(continued)

TABLE I-B (continued)

	Current Output (millions of dollars)	Price Index (1954=100)	Real Output (millions of 1954 dollars)	Employment (thousands)	Labor Compensation (millions of dollars)
GENERAL MERCHANDISE GROUP STORES					
1939	6,475	51.9	12,478	849.1	983
1948	17,135	99.6	17,206	1,154.2	2,684
1954	19,241	100.0	19,241	1,234.8	3,216
1958	23,665	102.3	23,144	1,339.3	3,982
1963	31,937	105.1	30,381	1,433.9	4,956
LUMBER, BUILDING MATERIALS, HARDWARE, FARM EQUIPMENT DEALERS					
1939	2,735	44.7	6,123	301.4	408
1948	11,152	86.4	12,906	543.7	1,441
1954	13,366	100.0	13,366	553.1	1,895
1958	14,720	108.6	13,556	553.7	2,103
1963	14,792	112.1	13,199	466.2	2,141
OTHER RETAIL STORES					
1939	4,156	53.4	7,778	546.5	712
1948	12,930	92.2	14,025	682.6	1,660
1954	16,628	100.0	16,628	737.3	2,407
1958	19,872	105.4	18,856	863.4	2,860
1963	23,258	109.8	21,178	869.7	3,519

(continued)

TABLE I-B (continued)

	Current Output (billions of dollars)	Price Index (1954=100)	Real Output (billions of 1954 dollars)	Employment (thousands)	Labor Compensation (billions of dollars)
EIGHT SERVICES					
1939	3.60	50.7	7.10	1,543	1.43
1948	9.05	80.5	11.24	1,852	3.74
1954	11.00	100.0	11.00	1,832	4.59
1958	14.33	114.7	12.49	2,170	5.99
1963	18.17	127.4	14.26	2,238	7.22
TEN RETAIL TRADES					
1939	11.20	48.3	23.20	5,661	6.30
1948	34.26	93.9	36.48	7,816	18.22
1954	43.80	100.0	43.80	8,273	24.27
1958	51.71	105.9	48.82	9,103	28.40
1963	62.75	110.6	56.72	9,217	34.65
EIGHTEEN SELECTED SERVICE INDUSTRIES					
1939	14.80	48.8	30.30	7,204	7.73
1948	43.31	90.8	47.72	9,668	21.98
1954	54.80	100.0	54.80	10,105	28.86
1958	66.04	107.7	61.31	11,273	34.39
1963	80.92	114.0	70.98	11,455	41.87

(continued)

TABLE I-B (continued)

	Current Output (billions of dollars)	Price Index (1954=100)	Real Output (billions of 1954 dollars)	Employment (millions)	Labor Compensation (billions of dollars)
MANUFACTURING					
1939	n.a.	n.a.	47.9	10.09	14.5
1948	73.1	85.0	86.0	15.47	49.2
1954	103.8	100.0	103.8	16.25	71.9
1958	120.9	110.2	109.7	15.72	84.7
1963	160.4	115.8	138.5	16.77	110.2
SERVICES					
1939	n.a.	n.a.	95.3	21.97	28.4
1948	115.9	83.4	139.0	26.81	72.7
1954	172.5	100.0	172.5	31.56	108.1
1958	221.3	113.4	195.1	33.94	142.5
1963	299.2	126.2	237.0	37.96	193.0
GOODS					
1939	n.a.	n.a.	93.7	24.64	28.0
1948	142.4	89.7	158.7	31.76	90.4
1954	189.1	100.0	189.1	31.78	125.6
1958	221.1	108.3	204.2	30.88	148.2
1963	281.6	112.4	250.5	31.45	187.1

(continued)

TABLE I-B (concluded)

	Current Output (billions of dollars)	Price Index (1954=100)	Real Output (billions of 1954 dollars)	Employment (millions)	Labor Compensation (billions of dollars)
1939	90.2	48.1	189.0	46.60	56.3
1948	258.4	88.5	297.8	58.58	163.2
1954	361.5	100.0	361.5	63.35	233.7
1958	442.4	110.8	399.3	64.82	290.7
1963	580.7	118.5	487.6	69.41	380.2
TOTAL ECONOMY					

Source: See text of this appendix.

