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SECTORAL MEASURES OF LABOR COST
FOR THE UNITED STATES, 1948-1978

by

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1. Introduction

The objective of this paper is to construct measures of labor cost for each industrial sector of the United States for the period 1948-1978. The purpose of our measures of labor cost is to deal with the heterogeneity of labor input. Measures of labor cost based on average hourly earnings or average hourly compensation are derived by dividing payrolls by an unweighted sum of hours worked. The total of hours worked is estimated by combining, for example, the hours of hospital orderlies with the hours of brain surgeons. The resulting measures of labor cost do not adequately reflect the difference between the marginal productivity of a hospital orderly and the marginal productivity of a brain surgeon.

To solve the problem posed by the enormous heterogeneity of labor input we construct very detailed index numbers of labor cost and labor input. For this purpose we have developed a methodology based on an explicit model of production. This model is based on a production function for each sector giving output as a function of intermediate, capital, and labor inputs, and time. An important innovation in our methodology is that at the sectoral level we distinguish among components

of labor input that differ in marginal productivity. Labor input is represented as a function of types of labor input broken down by characteristics of individual workers such as sex, age, education, employment status, and occupation.

A second important innovation in our methodology is that we treat the price and quantity of labor input symmetrically. In our sectoral models of production we combine the production function and intermediate, capital, and labor inputs as functions of their components with necessary conditions for producer equilibrium. In equilibrium the share of each input in the value of output is equal to the elasticity of output with respect to that input. These conditions make it possible to identify the marginal product of each input with the ratio of the corresponding input price to the price of output. Similarly, the share of each component of labor input is equal to the elasticity of labor input with respect to that component. We can identify the marginal product of each component with the ratio of its cost to the cost of labor input as a whole.

Our methodology generates price and quantity index numbers for labor input. These index numbers are employed in constructing measures of labor cost and labor input for each industrial sector. To disaggregate labor input into components that differ in marginal productivity, we measure wage rates as well as hours worked broken down by characteristics of individual workers. We consider specific forms for the functions giving sectoral labor inputs in terms of their components. We take these functions to be translog in form, so that labor

input is an exponential function of linear and quadratic terms in the logarithms of the components. Given translog labor inputs for all sectors we can generate the corresponding translog quantity index numbers for labor input. The change in the logarithms of labor input between any two periods is a weighted average of changes in the logarithms of its components. Weights are given by the average share of each component in sectoral labor compensation for the two periods. The corresponding indexes of labor cost are defined as ratios of labor compensation to the translog quantity indexes.

To construct measures of labor cost and labor input that are consistent with the U.S. national income and product accounts we have controlled these data to industry totals based on establishment surveys. To disaggregate labor cost and labor input by industrial and demographic characteristics of the work force we have exploited the detail on employment, hours worked, weeks paid, and compensation available from household surveys. To achieve consistency between establishment and household survey data we have used the household survey results to distribute industry totals based on establishment surveys.

We have disaggregated labor cost and labor input for all employed persons into cells cross-classified by the two sexes, eight age groups, five educational groups, two employment classes, ten occupational groups, and fifty-one industries listed in Table 1. This breakdown of labor input characteristics is based on the groupings employed by the Bureau of Census in reporting data from household surveys. The Census data provide the only source of consistent time series on the work force cross-classified by industrial, occupational, and demographic characteristics.

TABLE 1
CHARACTERISTICS OF LABOR INPUT

SEX:	EMPLOYMENT CLASS:
(1) Male	(1) Wage and Salary Worker
(2) Female	(2) Self-Employed/Unpaid Family Worker
AGE:	OCCUPATION:
(1) 14-15 years	(1) Professional, Technical, and Kindred Workers
(2) 16-17 years	(2) Farmers and Farm Managers
(3) 18-24 years	(3) Managers and Administrators, except Farm
(4) 25-34 years	(4) Clerical Workers
(5) 35-44 years	(5) Sales Workers
(6) 45-54 years	(6) Craftsmen and Kindred Workers
(7) 55-64 years	(7) Operatives
(8) 65 years and over	(8) Service Workers, including Private Household
	(9) Farm Laborers
	(10) Laborers, except Farm
EDUCATION:	
(1) 1-8 years grade school	
(2) 1-3 years high school	
(3) 4 years high school	
(4) 1-3 years college	
(5) 4 or more years college	

TABLE 1 (CONTINUED)

INDUSTRY:

- (1) Agricultural production
- (2) Agricultural services, horticultural services, forestry and fisheries
- (3) Metal mining
- (4) Coal mining
- (5) Crude petroleum and natural gas extractions
- (6) Nonmetallic mining and quarrying, except fuel
- (7) Construction
- (8) Food and kindred products
- (9) Tobacco manufactures
- (10) Textile mill products
- (11) Apparel and other fabricated textile products
- (12) Paper and allied products
- (13) Printing, publishing, and allied industries
- (14) Chemicals and allied products
- (15) Petroleum and coal products
- (16) Rubber and miscellaneous plastic products
- (17) Leather and leather products
- (18) Lumber and wood products, except furniture
- (19) Furniture and fixtures
- (20) Stone, clay, and glass products
- (21) Primary metal industries
- (22) Fabricated metal industries
- (23) Machinery except electrical
- (24) Electrical machinery, equipment, and supplies
- (25) Transportation equipment, except motor vehicles, and ordnance
- (26) Motor vehicles, and motor vehicle equipment
- (27) Professional photographic equipment, and watches
- (28) Miscellaneous manufacturing industries
- (29) Railroads and railway express service
- (30) Street railway and bus lines and taxicab service

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- (31) Trucking service, warehousing and storage
 - (32) Water transportation
 - (33) Air transportation
 - (34) Pipelines, except natural gas
 - (35) Services incidental to transportation
 - (36) Telephone, telegraph, and miscellaneous communication services
 - (37) Radio broadcasting and television
 - (38) Electric utilities
 - (39) Gas utilities
 - (40) Water supply, sanitary services, and other utilities
 - (41) Wholesale trade
 - (42) Retail trade
 - (43) Finance, insurance and real estate
 - (44) Services
 - (45) Private households
 - (46) Nonprofit institutions
 - (47) Federal public administration
 - (48) Federal government enterprises
 - (49) Educational services, government (state and local)
 - (50) State and local public administration
 - (51) State and local government enterprises

Data on labor cost and labor input for the fifty-one industry groups listed in Table 1 also are available from establishment surveys employed in construction of the U.S. national income and product accounts. No existing household or establishment survey, including the recently expanded Current Population Survey, is designed to provide annual data on the distribution of workers among the 81,600 cells of a matrix cross-classified by the characteristics given in Table 1. However, existing surveys do provide marginal totals cross-classified by two, three, and sometimes four characteristics of labor input. These marginal distributions, available for each year from 1948 to 1978, provide the basis for our estimates of labor cost and labor input.

Our first task is to construct annual matrices cross-classified by the industrial, occupational, and demographic characteristics listed in Table 1 for employment, hours worked, weeks, and compensation, the four components required for measures of labor cost and labor input. We have employed all the published information on marginal totals for each component of labor cost and labor input available from the Census of Population and the Current Population Survey. A complete listing of the sources for the data on employment, hours, weeks, and labor compensation we have employed is given in Appendix A. The procedures we have adopted in constructing the matrices that underly our index numbers for labor cost and labor input are outlined by Gollop and Jorgenson [1980].

A useful but much more costly alternative to our approach would be to compile data on hours worked and labor compensation per hour directly from the individual records underlying the Census of Population and the

Current Population Survey. For example, the one in a thousand sample from the 1960 and 1970 Censuses could be used to compile data for the 81,600 entries of each matrix we require for these two years. This approach would not be feasible for data from the Current Population Survey, since the number of entries in each cell would be too small to provide the needed reliability. We have employed published data from the Census of Population rather than the one in a thousand sample in order to reduce costs. If resources were to become available that would make it possible to employ the individual records from this sample, the resulting tabulations will provide a useful check on the approach we have employed. These tabulations also could be used to benchmark our data on hours worked and labor compensation.

Data on labor costs and labor input cross-classified by characteristics such as employment class, occupation, and industry are required in studies of labor demand; data cross-classified by characteristics such as sex, age, and education are required in studies of labor supply. Our data base can be used to generate indexes of labor cost and labor input cross-classified by each of the characteristics we have employed in compiling data on hours worked and compensation per hour. The indexing methodology is described in the following Section. We present indexes of labor cost and labor input for each of the fifty-one industries listed in Table 1.

The desirability of disaggregating labor cost and labor input by industrial, occupational, and demographic characteristics of the work

force has been widely recognized, for example, by Denison [1961, 1962], Griliches [1960], Jorgenson and Griliches [1967], Kendrick [1961], and others. Kendrick has developed measures of labor cost and labor input disaggregated by industry for much of the postwar period, but his measures do not incorporate a cross-classification of labor cost and labor input by age, sex, education, or other demographic characteristics of the work force. Denison has developed measures of labor cost and labor input for the U.S. economy as a whole based on data disaggregated by sex, age, education, and employment status, but not by occupation or industry.¹

2. Indexes of Sectoral Labor Cost and Labor Input

We have outlined the development of data on annual hours worked and labor compensation per hour for each industrial sector. Both annual hours and compensation data are cross-classified by sex, age, education, employment class, and occupation of workers. To construct indexes of labor cost and labor input for each industrial sector, we assume that sectoral labor input, say $\{L_i\}$, can be expressed as a translog function of its individual components, say $\{L_{\ell i}\}$. The corresponding index of sectoral labor input is a translog quantity index of individual labor inputs:

$$\ln L_i(T) - \ln L_i(T-1) = \sum_{\ell} \bar{v}_{L\ell}^i [\ln L_{\ell i}(T) - \ln L_{\ell i}(T-1)],$$

$$(i = 1, 2 \dots n),$$

where weights are given by average shares of each component in the value of sectoral labor compensation:

$$\bar{v}_{L\ell}^i = \frac{1}{2} [v_{L\ell}^i(T) + v_{L\ell}^i(T-1)], \quad (i = 1, 2 \dots n; \ell = 1, 2 \dots q),$$

and:

$$v_{L\ell}^i = \frac{p_{L\ell}^i L_{\ell i}}{\sum_{\ell} p_{L\ell}^i L_{\ell i}}, \quad (i = 1, 2 \dots n; \ell = 1, 2 \dots q).$$

The value shares are computed from data on hours worked $\{L_{\ell i}\}$ and compensation per hour $\{p_{L\ell}^i\}$ for each component of sectoral labor input, cross-classified by sex, age, education, employment class, and occupation of workers. Labor compensation for the sector as a whole $\sum_{\ell} p_{L\ell}^i L_{\ell i}$ is controlled to labor compensation by industry from the U.S. national income accounts.

For each of the components of labor input into an industrial sector $\{L_{\ell i}(T)\}$ the flow of labor services is proportional to hours worked, say $\{H_{\ell i}(T)\}$:

$$L_{\ell i}(T) = Q_{L\ell}^i H_{\ell i}(T), \quad (i = 1, 2 \dots n; \ell = 1, 2 \dots q),$$

where the constants of proportionality $\{Q_{L\ell}^i\}$ transform hours worked into a flow of labor services. The translog quantity indexes of sectoral labor input $\{L_i\}$ can be expressed in terms of their components $\{L_{\ell i}\}$ or in terms of the components of hours worked $\{H_{\ell i}\}$:

$$\begin{aligned} \ln L_i(T) - \ln L_i(T-1) &= \sum_{\ell} \bar{v}_{L\ell}^i [\ln L_{\ell i}(T) - \ln L_{\ell i}(T-1)] \\ &= \sum_{\ell} \bar{v}_{L\ell}^i [\ln H_{\ell i}(T) - \ln H_{\ell i}(T-1)], \end{aligned}$$

$$(i = 1, 2 \dots n).$$

We form sectoral indexes of labor input from data on hours worked by industry, cross-classified by sex, age, education, employment class, and occupation. Changes in the logarithms of hours worked for each component are weighted by average shares in sectoral labor compensation.

We can define sectoral hours worked, say $\{H_i(T)\}$, as the unweighted sum of its components,

$$H_i(T) = \sum_{\ell} H_{\ell i}(T), \quad (i = 1, 2 \dots n).$$

Similarly, we can define sectoral indexes of the quality of hours worked, say $\{Q_L^i(T)\}$, that transform sectoral measures of hours worked into the translog indexes of labor input:

$$L_i(T) = Q_L^i(T) H_i(T), \quad (i = 1, 2 \dots n).$$

The sectoral indexes of the quality of hours worked can be expressed in the form:

$$\begin{aligned} \ln Q_L^i(T) - \ln Q_L^i(T-1) &= \sum_{\ell} \bar{v}_{L\ell}^i [\ln H_{\ell i}(T) - \ln H_{\ell i}(T-1)] \\ &\quad - [\ln H_i(T) - \ln H_i(T-1)], \\ &\quad (i = 1, 2 \dots n), \end{aligned}$$

so that these indexes reflect changes in the composition of hours worked within each sector.² Sectoral labor quality remains unchanged if all components of hours worked within a sector are growing at the same rate. Sectoral quality rises if components with higher flows of labor input per hour worked are growing more rapidly and falls if components with lower flows per hour worked are growing more rapidly.

The product of price and quantity indexes of labor input must be equal to the value of total labor compensation for each sector. We can define the price index corresponding to the translog quantity index of labor input as the ratio of the value of total labor compensation into the sector to the translog quantity index. The resulting price index does not have the form of a translog price index, but it can be determined from data on prices and quantities of the components of labor input at any two discrete points of time. The price index of labor input becomes our index of labor cost.

We have generated price and quantity indexes of labor input for each industrial sector listed in Table 1. There are 1600 categories of labor input for each industry and a total of fifty-one industries. Average annual rates of growth of the translog indexes of sectoral labor cost and labor input are presented for 1948-78 for seven sub-periods for all fifty-one industries in Tables 2 and 3. Indexes of labor cost and labor input and indexes of the quality of hours worked are presented in Appendix B on an annual basis for the period 1948-1978 for each industry. Annual data for employment, weekly hours per person, hourly compensation, hours worked, and labor compensation are also presented for each industry in Appendix B.

TABLE 2
SECTORAL LABOR COST: RATES OF GROWTH

INDUSTRY	PRICE INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)						
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
AGRICULTURAL PRODUCTION	-0.0405	0.0516	0.0503	0.0956	0.0572	0.1801	0.0675
AGRICULTURAL SERVICES	0.0439	0.0436	0.0285	-0.0125	0.0861	0.1045	0.0634
METAL MINING	0.0709	0.0453	0.0276	0.0277	0.0501	0.0894	0.1126
COAL MINING	0.0667	0.0425	0.0362	0.0239	0.0734	0.0809	0.0913
CRUDE PETROLEUM AND NATURAL GAS	0.0353	0.0346	0.0237	0.0298	0.0539	0.0649	0.0915
NONMETALLIC MINING AND QUARRYING	0.0552	0.0515	0.0494	0.0277	0.0589	0.0791	0.0745
CONTRACT CONSTRUCTION	0.0560	0.0484	0.0397	0.0371	0.0616	0.0644	0.0613
FOOD AND KINDRED PRODUCTS	0.0459	0.0497	0.0424	0.0321	0.0535	0.0656	0.0861
TOBACCO MANUFACTURERS	0.0622	0.0603	0.0436	0.0364	0.0788	0.0685	0.1183
TEXTILE MILL PRODUCTS	0.0335	0.0248	0.0285	0.0368	0.0590	0.0603	0.0814

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TABLE 2 (CONTINUED)
SECTORAL LABOR COST: RATES OF GROWTH

INDUSTRY	PRICE INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)					
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973
APPAREL AND OTHER FABR. TEXTILE PROD.	0.0314	0.0301	0.0183	0.0308	0.0703	0.0451
PAPER AND ALLIED PRODUCTS	0.0493	0.0453	0.0329	0.0327	0.0537	0.0713
PRINTING AND PUBLISHING	0.0415	0.0472	0.0110	0.0389	0.0524	0.0624
CHEMICALS AND ALLIED PRODUCTS	0.0533	0.0486	0.0240	0.0339	0.0531	0.0698
PETROLEUM AND COAL PRODUCTS	0.0546	0.0430	0.0275	0.0258	0.0528	0.0581
RUBBER AND MISC. PLASTIC PRODUCTS	0.0469	0.0447	0.0289	0.0256	0.0525	0.0540
LEATHER AND LEATHER PRODUCTS	0.0360	0.0376	0.0283	0.0325	0.0661	0.0434
LUMBER AND WOOD PROD. EX. FURNITURE	0.0569	0.0548	0.0327	0.0394	0.0616	0.0653
FURNITURE AND FIXTURES	0.0464	0.0428	0.0380	0.0258	0.0627	0.0554
STONE, CLAY AND GLASS PRODUCTS	0.0527	0.0488	0.0251	0.0322	0.0576	0.0690

TABLE 2 (CONTINUED)
SECTORAL LABOR COST: RATES OF GROWTH

INDUSTRY	PRICE INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)						
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
PRIMARY METAL INDUSTRIES	0.0613	0.0603	0.0372	0.0254	0.0538	0.0762	0.1019
FABRICATED METAL INDUSTRIES	0.0521	0.0428	0.0318	0.0302	0.0582	0.0637	0.0863
MACHINERY EX. ELECTRICAL	0.0583	0.0434	0.0360	0.0301	0.0597	0.0590	0.0845
ELEC. MACHINERY, EQPT. AND SUPPLIES	0.0434	0.0398	0.0441	0.0260	0.0676	0.0562	0.0831
TRANS. EQPT. + ORD. EX. MOTOR VEHICLES	0.0388	0.0499	0.0581	0.0346	0.0643	0.0641	0.0807
MOTOR VEHICLES AND EQUIPMENT	0.0716	0.0547	0.0288	0.0392	0.0645	0.0777	0.0917
PROF. PHOTOGRAPHIC EQPT. AND WATCHES	0.0537	0.0480	0.0310	0.0283	0.0589	0.0569	0.0738
MISC. MANUFACTURING INDUSTRIES	0.0494	0.0496	0.0213	0.0267	0.0642	0.0539	0.0683
RAILROADS AND RAIL EXPRESS SERVICES	0.0630	0.0472	0.0449	0.0217	0.0552	0.0889	0.0904
STREET RAIL., BUS LINES AND TAXICABS	0.0314	0.0337	0.0116	0.0430	0.0556	0.0463	0.0853

TABLE 2 (CONTINUED)
SECTORAL LABOR COST: RATES OF GROWTH

INDUSTRY	PRICE INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)						
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973 1978
TRUCKING SERVICES AND WAREHOUSING	0.0690	0.0499	0.0456	0.0306	0.0537	0.0883	0.0834
WATER TRANSPORTATION	0.0759	0.0386	0.0351	0.0361	0.0657	0.0681	0.0808
AIR TRANSPORTATION	0.0563	0.0404	0.0506	0.0472	0.0739	0.0924	0.0958
PIPELINES EX. NATURAL GAS	0.0398	0.0299	0.0263	0.0324	0.0302	0.0787	0.0989
TRANSPORTATION SERVICES	0.0555	0.0657	0.0391	0.0207	0.0411	0.0747	0.0886
TEL. AND TEL. AND MISC. COMM. SERVICES	0.0557	0.0311	0.0447	0.0369	0.0485	0.1189	0.1017
RADIO BROADCASTING AND TELEVISION	0.0518	0.0518	0.0309	0.0315	0.0343	0.0507	0.0745
ELECTRIC UTILITIES	0.0585	0.0422	0.0406	0.0409	0.0523	0.0807	0.0901
GAS UTILITIES	0.0665	0.0550	0.0519	0.0280	0.0434	0.0771	0.0901
WATER SUPPLY AND SANITARY SERVICES	0.0766	0.0684	0.0687	0.0508	0.0779	0.0728	0.0844

TABLE 2 (CONCLUDED)
SECTORAL LABOR COST: RATES OF GROWTH

INDUSTRY	PRICE INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)						
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
WHOLESALE TRADE	0.0339	0.0560	0.0142	0.0330	0.0646	0.0605	0.0765
RETAIL TRADE	0.0320	0.0498	0.0214	0.0499	0.0640	0.0616	0.0739
FINANCE, INSURANCE AND REAL ESTATE	0.0221	0.0528	-0.0064	0.0611	0.0853	0.0778	0.0549
SERVICES, EXCL. PRIV. HH., INST.	0.0421	0.0739	0.0329	0.0645	0.0779	0.0692	0.0765
PRIVATE HOUSEHOLDS	0.0516	0.0460	0.0447	0.0381	0.0730	0.0560	0.0847
INSTITUTIONS	0.0478	0.0354	0.0142	0.0288	0.0451	0.0741	0.0631
FEDERAL PUBLIC ADMINISTRATION	0.0509	0.0441	0.0554	0.0395	0.0548	0.0962	0.0696
FEDERAL GOVERNMENT ENTERPRISES	0.0442	0.0387	0.0442	0.0464	0.0626	0.1035	0.0890
STATE AND LOCAL EDUC. SERVICES	0.0397	0.0489	0.0456	0.0507	0.0799	0.0689	0.0704
STATE AND LOCAL PUBLIC ADMIN.	0.0366	0.0424	0.0410	0.0379	0.0752	0.0766	0.0704
STATE AND LOCAL GOVT. ENTERPRISES	0.0504	0.0438	0.0507	0.0527	0.0628	0.0810	0.0667

TABLE 3

SECTORAL LABOR INPUT: RATES OF GROWTH

INDUSTRY	TRANSLOG INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)						
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
AGRICULTURAL PRODUCTION	-0.0320	-0.0505	-0.0251	-0.0495	-0.0242	-0.0077	-0.0176
AGRICULTURAL SERVICES	0.0178	-0.0098	-0.0350	0.0492	0.0400	0.0412	0.0433
METAL MINING	0.0220	0.0035	-0.0454	-0.0070	0.0359	-0.0187	0.0091
COAL MINING	-0.1040	-0.0568	-0.1224	-0.0189	-0.0117	0.0498	0.0843
CRUDE PETROLEUM AND NATURAL GAS	0.0491	0.0332	-0.0318	-0.0046	0.0123	-0.0030	0.1015
NONMETALLIC MINING AND QUARRYING	0.0318	0.0159	-0.0136	0.0178	-0.0145	-0.0029	0.0178
CONTRACT CONSTRUCTION	0.0224	-0.0003	-0.0020	0.0325	0.0285	0.0235	0.0167
FOOD AND KINDRED PRODUCTS	0.0027	-0.0081	-0.0014	0.0025	0.0048	-0.0120	0.0012
TOBACCO MANUFACTURERS	0.0131	-0.0166	0.0079	-0.0083	-0.0197	0.0042	-0.0201
TEXTILE MILL PRODUCTS	-0.0259	-0.0392	-0.0087	0.0159	0.0076	0.0075	-0.0265

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TABLE 3 (CONTINUED)
SECTORAL LABOR INPUT: RATES OF GROWTH

INDUSTRY	TRANSLOG INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)						
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
APPAREL AND OTHER FABR. TEXTILE PROD.	0.0069	-0.0119	0.0107	0.0228	-0.0017	0.0074	-0.0061
PAPER AND ALLIED PRODUCTS	0.0327	0.0174	0.0231	0.0264	0.0244	-0.0052	-0.0004
PRINTING AND PUBLISHING	0.0217	0.0137	0.0362	0.0139	0.0253	-0.0073	0.0150
CHEMICALS AND ALLIED PRODUCTS	0.0452	0.0234	0.0210	0.0270	0.0327	-0.0070	0.0231
PETROLEUM AND COAL PRODUCTS	0.0252	0.0045	-0.0306	-0.0161	0.0160	0.0043	0.0328
RUBBER AND MISC. PLASTIC-PRODUCTS	0.0402	0.0138	0.0127	0.0566	0.0457	0.0307	0.0120
LEATHER AND LEATHER PRODUCTS	-0.0070	-0.0113	-0.0101	0.0046	-0.0278	-0.0313	-0.0261
LUMBER AND WOOD PROD. EX. FURNITURE	-0.0175	-0.0427	-0.0033	0.0120	0.0098	0.0213	-0.0008
FURNITURE AND FIXTURES	0.0177	-0.0040	-0.0014	0.0370	0.0016	0.0187	-0.0017
STONE, CLAY, AND GLASS PRODUCTS	0.0144	0.0055	0.0193	0.0176	0.0081	0.0130	0.0020

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TABLE 3 (CONTINUED)
SECTORAL LABOR INPUT: RATES OF GROWTH

INDUSTRY	TRANSLOG INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)						
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
PRIMARY METAL INDUSTRIES	0.0216	-0.0055	-0.0309	0.0284	0.0005	-0.0047	-0.0076
FABRICATED METAL INDUSTRIES	0.0520	-0.0033	-0.0137	0.0378	0.0253	-0.0039	0.0003
MACHINERY EX. ELECTRICAL	0.0354	-0.0045	-0.0184	0.0548	0.0131	0.0076	0.0214
ELEC. MACHINERY, EQPT. AND SUPPLIES	0.0727	0.0074	0.0396	0.0434	0.0141	0.0015	0.0076
TRANS. EQPT. + ORD. EX. MOTOR VEHICLES	0.1923	-0.0004	-0.0545	0.0454	0.0029	-0.0684	0.0147
MOTOR VEHICLES AND EQUIPMENT	0.0540	-0.0420	-0.0147	0.0393	0.0044	0.0234	0.0057
PROF. PHOTOGRAPHIC EQPT. AND WATCHES	0.0850	0.0165	0.0151	0.0364	0.0266	0.0080	0.0324
MISC. MANUFACTURING INDUSTRIES	0.0078	-0.0212	0.0030	0.0233	-0.0010	0.0047	0.0057
RAILROADS AND RAIL EXPRESS SERVICE	-0.0421	-0.0408	-0.0714	-0.0174	-0.0269	-0.0273	-0.0176
STREET RAIL., BUS LINES AND TAXICABS	-0.0205	-0.0325	-0.0183	-0.0116	-0.0006	-0.0201	-0.0210

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TABLE 3 (CONTINUED)
SECTORAL LABOR INPUT: RATES OF GROWTH

INDUSTRY	TRANSLOG INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)						
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
TRUCKING SERVICES AND WAREHOUSING	0.0474	0.0184	0.0195	0.0339	0.0258	0.0218	0.0114
WATER TRANSPORTATION	-0.0127	0.0070	-0.0355	0.0097	-0.0217	-0.0301	0.0105
AIR TRANSPORTATION	0.0617	0.0851	0.0440	0.0461	0.1042	0.0042	0.0150
PIPELINES EX. NATURAL GAS	-0.0026	-0.0074	-0.0302	-0.0334	0.0102	-0.0295	0.0456
TRANSPORTATION SERVICES	0.0150	-0.0140	0.0140	0.0470	0.0418	0.0239	0.0714
TEL. AND TEL. AND MISC. COMM. SERVICES	0.0222	0.0288	-0.0084	0.0227	0.0440	0.0254	0.0057
RADIO BROADCASTING AND TELEVISION	0.0702	0.0410	0.0306	0.0341	0.0500	0.0298	0.0394
ELECTRIC UTILITIES	0.0207	0.0102	0.0110	0.0108	0.0253	0.0170	0.0093
GAS UTILITIES	0.0261	0.0170	0.0196	0.0144	0.0252	0.0180	0.0044
WATER SUPPLY AND SANITARY SERVICES	0.0160	0.0063	0.0044	0.0140	0.0244	0.0289	0.0151

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TABLE 3 (CONTINUED)
SECTORAL LABOR INPUT: RATES OF GROWTH

INDUSTRY	TRANSLOG INDEX OF LABOR INPUT (AVERAGE ANNUAL RATES OF GROWTH)					
	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973 1973- 1978
WHOLESALE TRADE	0.0151	0.0128	0.0269	0.0233	0.0203	0.0215 0.0228
RETAIL TRADE	0.0118	0.0015	0.0143	0.0074	0.0130	0.0177 0.0179
FINANCE, INSURANCE AND REAL ESTATE	0.0421	0.0333	0.0392	0.0292	0.0390	0.0340 0.0368
SERVICES, EXCL. PRIV. HH., INST.	0.0181	0.0262	0.0335	0.0328	0.0350	0.0310 0.0347
PRIVATE HOUSEHOLDS	-0.0257	0.0068	-0.0002	-0.0285	-0.0401	-0.0365 -0.0345
INSTITUTIONS	0.0470	0.0420	0.0878	0.0458	0.0527	0.0013 0.0304
FEDERAL PUBLIC ADMINISTRATION	0.0539	-0.0060	0.0055	0.0280	0.0263	-0.0169 0.0179
FEDERAL GOVERNMENT ENTERPRISES	0.0282	0.0091	0.0287	0.0226	0.0268	-0.0087 -0.0038
STATE AND LOCAL EDUC. SERVICES	0.0535	0.0586	0.0629	0.0535	0.0432	0.0374 0.0218
STATE AND LOCAL PUBLIC ADMIN.	0.0434	0.0430	0.0270	0.0344	0.0334	0.0409 0.0289
STATE AND LOCAL GOVT. ENTERPRISES	0.0647	0.0022	0.0647	0.0204	0.0404	0.0314 0.0186

In order to identify differences in patterns in growth in labor cost among sub-periods more precisely, we present classifications of rates of growth by sub-period in Table 4. The overall pattern of labor cost increase across sub-periods coincides with variations in the rate of inflation during the postwar period. In every period more than ninety percent of the industries experienced growth rates on labor cost within a range of six percentage points. The pattern varies among sub-periods, depending on the rate of inflation during the period. For the sub-periods 1948-1953 and 1953-1957 average rates of growth of labor cost for most industries ranged from two to eight percent per year. For the sub-periods 1957-1960 and 1960-1966 rates of growth of labor cost averaged zero to six percent for most industries. The range moved up to two to eight percent for the sub-period 1966-1969, four to ten percent for the sub-period 1969-1973, and the highest of the postwar period at six to twelve percent for the sub-period 1973-1978.

Our next objective is to identify the industrial sectors that experienced persistently rapid increases in labor cost during the postwar period. We focus on growth rates of labor cost that exceeded four percent in the first two sub-periods -- 1948-1953 and 1953-1957 -- two percent in each of the following two sub-periods -- 1957-1960 and 1960-1966 -- and four, six, and eight percent in the sub-periods 1966-1969, 1969-1973, and 1973-1978 respectively. The industries with persistently rapid increases in labor cost include metal and coal mining, food, tobacco, paper, and chemicals among nondurables manufacturing, lumber and wood,

TABLE 4

CLASSIFICATION OF RATES OF GROWTH OF
SECTORAL LABOR COST BY SUB-PERIOD, 1948-1978

AVERAGE RATE OF GROWTH OF LABOR COST	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
LESS THAN ZERO	1	0	1	1	0	0	0
ZERO TO TWO PERCENT	0	0	5	0	0	0	0
TWO TO FOUR PERCENT	12	11	26	39	2	0	0
FOUR TO SIX PERCENT	28	35	18	8	25	12	1
SIX TO EIGHT PERCENT	10	5	1	2	22	27	20
EIGHT TO TEN PERCENT	0	0	0	1	2	8	25
MORE THAN TEN PERCENT	0	0	0	0	0	4	5

stone, clay, and glass, primary and fabricated metal, and motor vehicles among durables manufacturing, railroads, trucking, air transportation, and transportation services among the transportation industries, electric utilities, gas utilities, and water supply and sanitary services among the utilities. We conclude that these industries are distributed among the major groups of the fifty-one industries included in our study.

Agricultural production stands out as the industry most subject to fluctuations in growth rates of labor cost. During the period 1948-1953 the growth rate of labor cost was negative at 4.05 percent per year. For the periods 1953-1957 and 1957-1960 the growth rate of labor cost was positive at 5.16 and 5.03 percent per year. During the sub-period 1960-1966 labor cost growth jumped to 9.56 percent annually; this was followed by growth at 5.72 percent per year for the sub-period 1966-1969. Labor cost grew at rates of 18.01 and 6.75 percent per year during the final two sub-periods -- 1969-1973 and 1973-1978, respectively. This relatively erratic pattern reflects the important role of self-employment income in the agricultural sector and the sizeable fluctuations in farm income due to variations in supply conditions.

We have presented six percent ranges that include ninety percent of our fifty-one industrial sectors for each of seven sub-periods. A useful perspective on rates of increase in labor cost is provided by identifying the industries that fall outside the six percent ranges for each sub-period. During the period 1948-1953 agricultural production experienced a decline in labor cost. During the period 1953-1957 no industry

had a growth rate of labor cost that fell below two percent or exceeded eight percent.

The sub-period 1957-1960 was characterized by a slower rate of growth of labor cost than the two preceding sub-periods. Finance, insurance, and real estate experienced a decline in labor cost during this period, while water supply and sanitary services underwent a growth of labor cost of 6.87 percent per year. During the following period, 1960-1966, the rate of growth of labor cost for agricultural services fell to a negative 1.25 percent annually, while the rate of growth of labor cost in agricultural production was close to ten percent per year. The sub-period 1966-1969 resulted in more rapid growth of labor cost for most industries. The rate of growth of labor cost was 8.61 percent per year for agricultural services and 8.53 percent per year for finance, insurance and real estate.

The acceleration of growth in labor cost continued during the period 1969-1973. Growth rates exceeded ten percent annually for four industries -- agricultural production, agricultural services, telecommunications, and Federal government enterprises. The most rapid increases in labor cost during the post war period took place during the final sub-period, 1973-1978. The growth rate of labor cost exceeded ten percent per year for six industry groups, while growth of labor cost in finance, insurance and real estate lagged all other industries at 5.49 percent per year.

We next consider differences in patterns of growth in labor input among sub-periods, based on rates of growth of labor input by sub-period in Table 5. The overall pattern of labor input within and across all sub-periods conforms well with general impressions of economic activity in the postwar period. In every period more than half of the fifty-one industries experienced a positive average annual rate of growth in labor input. The pattern varies over time and depends on the relative strength of growth during the period. Considering the sub-periods in chronological order, the numbers of industries with positive average annual changes in quality adjusted hours worked are forty-one, twenty-nine, twenty-seven, forty-one, forty, thirty-two, and thirty-eight, respectively.

The immediate postwar period (1948-1953), the two periods capturing the surge of economic activity relating to the Vietnam War (1960-1966 and 1966-1969), and the final period (1973-1978) stand out. So does the 1957-1960 sub-period when twenty-four of fifty-one industries experienced declines in labor input. Both agricultural sectors, all four mining industries, construction, seven of eleven durable goods industries, and four of seven transportation sectors led the downward trend. This contrasts with the 1948-1953, 1960-1966, and 1966-1969 sub-periods when construction and nearly all durable goods sectors experienced increases in labor input. In the 1960-1966 sub-period, both construction and all eleven durable goods industries experienced positive average annual rates of growth.

TABLE 5

CLASSIFICATION OF RATES OF GROWTH OF
SECTORAL LABOR INPUT BY SUB-PERIOD, 1948-1978

AVERAGE RATE OF GROWTH OF LABOR INPUT	1948- 1953	1953- 1957	1957- 1960	1960- 1966	1966- 1969	1969- 1973	1973- 1978
LESS THAN MINUS FOUR PERCENT	2	5	4	1	1	1	0
MINUS TWO TO FOUR PERCENT	4	3	7	2	4	6	5
ZERO TO MINUS TWO PERCENT	4	14	13	7	6	12	8
ZERO TO TWO PERCENT	12	19	13	12	15	15	21
TWO TO FOUR PERCENT	12	5	10	20	16	14	12
FOUR TO SIX PERCENT	11	4	1	9	8	3	2
MORE THAN SIX PERCENT	6	1	3	0	1	0	3

The comparative analysis of the economic activity in the seven sub-periods generates much sharper conclusions when we narrow our focus to those sectors which experienced annual rates of growth in labor input greater than six percent or rates of decline less than minus four percent. The period as a whole was characterized by a dramatic decline in the dispersion of growth rates of labor input. During the sub-periods 1948-1953, 1953-1957, and 1957-1960, a total of eight, six, and seven industries, respectively, experienced decline in labor input at rates exceeding four percent or growth in labor input at rates greater than six percent. By contrast only a single industry exceeded these limits in each of the sub-periods 1960-1966 and 1969-1973, only two industries exceeded the limits in the sub-period 1966-1969, and three industries fell outside the limits in 1973-1978. It is important to emphasize that both rapid gains and losses in sectoral labor input took place during the period ending in 1960 as the U.S. economy was reshaped to meet postwar conditions.

Considering specific sectors that underwent rapid declines in labor input, we find that labor input declined at 10.4 percent annually in coal mining and at 4.21 percent annually in railroads in the sub-period 1948-1953. During the sub-period 1953-1975 labor input declined at rates exceeding four percent in agriculture, coal mining, lumber and wood products, and railroads. During 1957-1960 declines exceeded four percent in metal mining, coal mining, transportation equipment excluding motor vehicles, and railroads. During 1960-1966 only agriculture experienced decline in labor input at a rate exceeding four percent, during

1966-1969 only private households declined more rapidly than four percent, while during 1969-1973 only transportation equipment excluding motor vehicles declined at this rate. Our overall conclusion is that very rapid reductions of labor input were concentrated in agriculture, coal mining, and railroads.

Turning to increases in labor input at rates of growth exceeding six percent annually, there were six industries undergoing rapid growth during the sub-period 1948-1953 -- electrical machinery, transportation equipment excluding motor vehicles, professional equipment, air transportation, broadcasting, and state and local government enterprises. Labor input in air transportation grew at 8.51 percent during the sub-period 1953-1957 and at 10.42 percent during the sub-period 1966-1969. During the sub-period 1957-1960 nonprofit institutions, state and local educational services, and state and local government enterprises all experienced annual growth rates in excess of six percent. Finally, during the sub-period 1973-1978, growth rates of coal mining, crude petroleum and natural gas, and transportation services exceeded six percent. Our overall conclusion is that very rapid growth in labor input was limited to air transportation and state and local government enterprises. Transportation equipment excluding motor vehicles grew rapidly during the Korean mobilization and declined rapidly during Korean and Vietnam demobilizations. Coal mining declined rapidly through 1960 and began to grow rapidly during the sub-period 1969-1973.

Our earlier observation of strong economic growth during the sub-

periods 1948-1953 and 1960-1966 is born out by the number of industries with rates of growth in labor input in excess of two percent -- twenty-nine in each sub-period. By contrast labor grew at rates exceeding two percent in only ten industries during 1953-1957. During the sub-periods 1966-1969, 1969-1973, and 1973-1978, twenty-five, seventeen, and seventeen industries, respectively, surpassed this limit. Finally, during 1957-1960 fourteen industries experienced growth rates of labor input greater than two percent. Our overall conclusion from the data presented in Tables 3 and 5 is that the postwar period was characterized by persistent growth in labor input; growth rates were high in 1948-1953 and 1960-1966 and low in 1953-1957; finally, there was a sharp decline in dispersion of sectoral growth rates after 1960.

The growth rates of labor input for most of the fifty-one industries listed in Table 3 exhibit no continuous postwar trend. Labor input increased over some periods and decreased over others. The exceptions, however, are notable. Labor input has persistently declined in agriculture, railroads, and local transportation sectors. The rates of growth vary over the periods but are consistently negative. The leather and private household sectors follow closely with declining labor input occurring over six of the seven sub-periods. The full list includes no surprises. The principal explanations are changes in technology and tastes, the rising availability of domestic and imported substitute goods, and the reorganization of some sectors as part of government enterprises.

The list of industries with persistent positive trends is much longer. The following sectors had positive average annual growth in labor input over all seven sub-periods: rubber, stone, clay and glass, electrical machinery, professional equipment, trucking, air transportation, broadcasting, electric utilities, gas utilities, water supply and sanitary services, wholesale trade, retail trade, finance, insurance and real estate, services, non-profit institutions, and all three state and local government sectors. Not surprisingly, all sectors except private households are included. Noticeably absent are construction, all mining, and most manufacturing industries.

Not only has labor input in some industries persistently increased over the full 1948-1978 period, but it has done so at average annual rates consistently exceeding two percent. This distinction is shared by the broadcasting industry, finance, insurance, and real estate, state and local educational services, and state and local public administration. Three other sectors -- services, non-profit institutions, and state and local public government enterprises -- had increases in labor input in all seven sub-periods and increases greater than two percent in six of the seven sub-periods.

Second, trends in two industries have been significantly reversed. After experiencing a rather stagnant history over the 1948-1960 period, labor input in agricultural services has increased at more than a four percent average annual rate between 1960 and 1978. More dramatically, the long decline in labor input in the coal mining industry which reached ten and twelve percent annual rates in the 1948-1953 and 1957-1960

periods has been reversed in the 1969-1973 period when labor input increased at a 4.98 percent annual rate and in the 1973-1978 period when the increase was 8.43 percent.

Third, the tobacco industry appears to have the most stable level of employment from peak to peak while the transportation equipment industry appears to be the most volatile. Growth rates in the former oscillate between positive and negative values but decline at more than a two percent annual rate only during the period 1973-1978. Indeed, the average annual rate of growth or decline is less than one percent in three periods. In the transportation equipment industry, the level of labor input exhibits severe changes. The sub-period averages in chronological order are 19.23, -.04, -5.45, 4.54, .29, -6.84, and 1.47 percent. Interestingly, the positive average annual rate in 1948-1953 is more than twice the positive growth rate during that period found in any other industry. Similarly, the negative rate in the 1969-1973 period is almost twice the next largest negative rate reported for private households, the next most rapidly declining sector.

3. Alternative Measures of Sectoral Labor Compensation

Measures of sectoral labor compensation are important in many areas of economic research. Among these are the measurement and analysis of productivity growth. To provide additional perspective on our approach to measuring labor compensation we find it useful to compare our methodology and data sources with alternative approaches found in the literature on productivity. We evaluate the alternative approaches against the requirements of economic theory. Wherever possible, we test the assumptions implicit in the alternative models. Our comparison begins with the measurement of hours. Since it is common practice to measure the wage rate as the ratio of the wage bill to some measure of hours, the treatment of hours affects the measurement of labor compensation. To measure payments to labor from the point of view of the producer, as required in productivity research and all studies of labor demand, the appropriate measure is labor compensation per hour worked.

Bureau of Labor Statistics data on hours paid are frequently employed in productivity studies.³ It is important to recognize that measures of labor compensation based on hours paid data may be biased in two nontrivial ways. First, the time trend in hours paid data will be different from that of hours worked. Since time paid but not worked has increased significantly since 1948, the BLS hours paid estimates have a higher rate of growth than estimates of hours worked. The growth rates for the resulting measures of hourly wages are biased downward relative to the growth rates of the cost of an hour worked from the

point of view of the employer. Second, the estimates of hourly wages in all nonmanufacturing sectors will be biased, since the BLS assigns the same number of hours to supervisory as to nonsupervisory workers.

The description in the BLS Handbook of Methods [1971] makes clear that separate hours series are developed for production and nonproduction workers only in the manufacturing sectors. According to the Handbook, manufacturing production worker hours are taken directly from the data in the BLS Area Wage Surveys and the study of Employer Expenditures published by the Bureau of Labor Statistics [1963]. For the nonmanufacturing industries the hours paid series collected in the CES program relate to nonsupervisory workers only. The Bureau of Labor Statistics assumes that these hours apply to all wage and salary workers.⁴

The different demographic mix of the supervisory and nonsupervisory occupations and different average hours worked recorded for the demographic classes make suspect the assumption that supervisory workers in each nonmanufacturing industry are paid for the same average number of hours per week as are nonsupervisory workers. For example, according to the Census of Population, the 1970 female to male ratio was .87 in nonsupervisory occupations in the nonmanufacturing sector and only .22 in supervisory occupations.⁵ Furthermore, female nonsupervisory workers in 1970 worked, on average, 34.5 hours while their male counterparts worked 41.5 hours.⁶ Given that women in 1970 worked fewer weekly hours than men and were proportionately underrepresented in supervisory occupations, it is highly unlikely that supervisory laborers in the postwar period were paid for the same number of weekly hours as were nonsupervisory

laborers, an assumption implicit in the BLS hours paid totals. A similar analysis could be based on age or education compositions. The conclusion would be the same.

The evidence suggests that estimates of hourly wages constructed from total wage bill and BLS hours paid data are biased for all non-manufacturing sectors. More important, shifts in the demographic composition of the supervisory and nonsupervisory occupational groups over time will bias any estimates of the time trend in hourly labor costs. The direction of the bias is uncertain. It depends both on the difference in the composition of each industry's supervisory and nonsupervisory labor force and on the differential rates at which those compositions change.

Differences in the measurement of annual hours aside, measures of hourly labor compensation depend on the measurement of the annual wage bill. In the productivity literature it is common to employ earnings data for this purpose. Denison, for example, uses Bureau of the Census data on earnings to construct weights for use in aggregating distinct categories of hours both in his original Sources of Economic Growth [1962] and in his more recent works on productivity [1974, 1979]. He discusses the assumptions underlying his use of earnings in the following excerpts from his 1979 book:

Calculating such an index (of total hours) requires two types of information: distributions of hours worked by age and sex, and appropriate weights. Hourly earnings are used as weights. Their use rests on the assumption that average earnings in the ten age-sex groups distinguished are proportional to the marginal products of labor, per hour worked, of these groups. If this assumption is correct, it is necessary and legitimate to consider an average hour worked by a demographic group whose average hourly earnings are twice as high as those of another group to represent twice as much labor input... .

My assumption that average earnings are proportional to marginal products of labor implies that an average hour's work by males 35 to 64 years of age, for example, was 2.3 times as valuable in the 1970's as an average hour's work by females 20 to 24 years of age (100 ÷ 44). The assumption is valid insofar as earnings differentials among age-sex groups reflect differences in the value of the work that is actually performed.⁷

The principal problem with using Census earnings data to measure marginal productivity is that reported earnings exclude all supplements to wages and salaries and include the return to capital invested by self-employed workers. As Denison correctly points out, earnings can be used only if the average earnings for workers cross-classified by education or by age and sex are proportional to the corresponding marginal products. However, given the way supplements, particularly social security and unemployment insurance, are charged to employers, reported earnings do not proportionately reflect employers' labor outlay. If supplements are neglected, only those ratios of hourly labor earnings among groups of laborers with annual incomes below the lowest base for supplements will be unbiased estimates of relative wages as viewed by employers.

Using Denison's example, if the average 35 to 64 year old male has an annual labor income above the social security or unemployment insurance tax base, while the average 20-24 year old female's labor earnings are below either base, then the male to female ratio of average hourly earnings is biased upward relative to the relative wages of males and females from the point of view of the employer. Supplements add to the employers' outlay for both males and females but, in this example, supplements add proportionately more to the employers' outlay for females than for males. Based on 1969 earnings reported in the decennial Census, employed 35 to 64 year old males had mean annual earnings (\$10,008) well above either the social security (\$7800) or unemployment insurance (\$3000) tax bases in 1969. Females 18 to 24 years of age, however, had mean labor income of \$2960.⁸ Ratios of male (35 to 64 years old) to female (18 to 24 years old) hourly wage costs excluding supplements are upward biased estimates of relative labor costs experienced by employers.

The inclusion of the return to noncorporate capital in measured earnings leads to an additional bias in the same direction. The assumption of proportionality between earnings and labor outlay among different sex-age groups is valid only if the ratio of noncorporate property income to total earnings is constant across these groups. However, if the representative 35 to 64 year old male has a larger fraction of his earnings being generated from capital invested in noncorporate enterprises than does the representative 20-24 year old female, then earnings based estimates for the relative valuation of an hour's work by

males to an hour's work by females is upward biased. Unfortunately, we cannot test this hypothesis directly. Data measuring the noncorporate property income of workers classified by demographic characteristics not available. However, the reasonableness of this assumption can be evaluated by comparing the distribution of employment in wage and salary versus self-employed activities across sex and age groups.

We again refer to data published in the 1970 Census. We construct ratios of self-employed persons to total employment for sixteen age groups for both males and females. The ratios, reported in Table 6, vary significantly across sex-age groups. For both males and females, the ratios generally increase with age; for any given age group, the ratio for males is more than twice the ratio for females. Continuing with our example, the ratios for older males are considerably higher than the similar ratios for young females. The relevant ratio for 35-64 year old males is .130; the corresponding ratio for 20-24 year old females is .011. Compared to young females, older males apparently allocate a greater proportion of their labor effort to self-employed activities.

From this we infer that earnings for a representative male include a higher percentage of returns to noncorporate capital than do the earnings for a representative female, even after controlling for age. In short, relative earnings are inadequate measures of relative marginal products. The wage and salary income of wage and salary workers adjusted for supplements is a more appropriate starting point for a measure of labor compensation. The issues discussed in this section do not exhaust

TABLE 6

RATIOS OF SELF-EMPLOYED PERSONS
TO TOTAL EMPLOYMENT BY AGE AND SEX, 1970^a

AGE	MALES	FEMALES
14-15 years	.044	.026
16-17 years	.016	.009
18-19 years	.014	.005
20-24 years	.029	.011
25-29 years	.052	.024
30-34 years	.078	.033
35-39 years	.101	.038
40-44 years	.114	.041
45-49 years	.124	.045
50-54 years	.137	.053
55-59 years	.154	.060
60-62 years	.166	.062
63-64 years	.183	.073
65-69 years	.243	.093
70-74 years	.300	.118
75 years and over	.336	.133

^aTotal employed excludes unpaid family workers.

Source: Bureau of the Census, [1973b], Table 47.

the problems that arise in measuring labor compensation in productivity studies. These issues suggest two principles for measurement of sectoral wages that can be derived from economic theory. First, any study of labor demand requires measures of wages and labor input from the producers' point of view. Second, measures of wages and labor input require data on labor compensation and hours worked for all categories of labor that are characterized by differences in marginal productivity.

4. Conclusion

In this paper we have developed measures of labor cost and labor input for each of fifty-one industrial sectors. Components of labor input that differ in marginal productivity are treated separately in measuring labor cost and labor input for each sector. In particular, we have constructed data on hours worked and labor compensation for 1600 types of labor input for each sector in each year from 1948 to 1978.

We have measured labor compensation from the producers' point of view, including wages and salaries, payroll taxes, and supplements paid by producers. We have employed data on labor compensation based on establishment surveys from the U.S. national income and product accounts to provide control totals for labor compensation in each sector. Finally, we have allocated labor compensation among components of labor input on the basis of household surveys from the Census of Population and the Current Population Survey.

Similarly, we have controlled hours worked for each industrial sector to total employment and hours worked from establishment surveys. Hours worked have been distributed among components of labor input on the basis of household surveys. For both labor compensation and hours worked we have allocated data from establishment based surveys by using data from household surveys cross-classified by characteristics of individual workers.

On the basis of data from establishment and household surveys we have allocated labor compensation and hours worked among the two sexes, eight age groups, five education groups, two employment classes, and ten occupational groups for each industrial sector in each year from 1948 to 1978. Measurement of labor input from multiple job holders, self-employed individuals, and unpaid family workers has necessitated the use of supplementary survey data on hours worked and labor compensation for these workers.

Our data on labor input and hourly compensation have been compiled so as to facilitate the incorporation of new data from establishment and household surveys as they become available. Our classification of hours worked and labor compensation is consistent with the most recent reports from the Current Population Survey. We have reconciled the classifications of data on labor input from earlier surveys with the classification used in current reports. Our control totals for hours worked and labor compensation are consistent with data from the current version of the U.S. national income and product accounts.

We have employed our data on hours worked and labor compensation to construct price and quantity indexes of labor input for each of the fifty-one industrial sectors included in our study. Our data also can be employed to construct indexes of hourly wages or labor input for either aggregates over these sectors or components within industrial sectors. For example, it would be possible to construct hourly wage and labor input indexes for each of the ten occupational groups within

an industrial sector. These indexes, for example, can be employed in studies of the impact of relative wages on the composition of demand for labor input by occupational groups.

APPENDIX A

DATA SOURCES FOR LABOR INPUT

APPENDIX A: DATA SOURCES FOR LABOR INPUT

A.1. Introduction

This appendix lists the sources of the detailed labor data used to construct the sectoral measures of labor input described in the text. Sections A.2 through A.5 present tables identifying the particular sources of the employment, hours worked, weeks paid, and compensation data, respectively. The tables within each section are ordered similarly. Tables describing the data sources relevant to each benchmark year are presented first; a summary table for all intermediate years follows. Additional tables identifying the sources of various supporting data conclude each section. The formats introduced in section A.2 are adopted throughout the appendix.

A.2. Employment

Tables A-1 through A-6 list the sources of the data used to generate the employment matrices. All data for each of the benchmark years are taken from the decennial censuses conducted by the Bureau of the Census, U.S. Department of Commerce. Identifying publication codes for the population subject reports and detailed table titles and numbers are presented for the 1950, 1960, and 1970 data in Tables A-1 through A-3 respectively.

The data sources for the nonbenchmark or intermediate years are arranged in Table A-4 so that the subscripted variables at the head of each column indicate the extent of cross-classification available in those data sources listed directly below. Each variable derives its name from the

first letter of the labor dimension it represents: industry (I), sex (S), employment class (C), age (A), education (E), or occupation (O). Each subscript indicates the maximum number of discrete divisions available in the data tables. Absence of a subscript suggests that the tables' divisions for that variable match exactly with the characteristic groups listed in Table 1. Blank lines within any column imply that the particular data series are not available for the corresponding years.¹

The three part entry for each data source listed in Table A-4 should be interpreted as follows. The first entry indicates the parent publication series, the second identifies the relevant volume within the series, and the third specifies the number of the appropriate table. For convenience, publication titles have been abbreviated as follows:

SLFR	<u>Special Labor Force Reports</u> Bureau of Labor Statistics U.S. Department of Labor
E/E	<u>Employment and Earnings</u> Division of Manpower and Employment Statistics Bureau of Labor Statistics U.S. Department of Labor
P-20	<u>Series P-20, Current Population Reports--Population Characteristics</u> Bureau of the Census U.S. Department of Commerce

¹The reader should note that while entries appear in Table A-4 for the three benchmark years, these sources are listed only for completeness' sake. The data reported in Tables A-1 through A-3 are used to generate the 1950, 1960, and 1970 employment matrices.

P-50	<u>Series P-50, Current Population Reports--Labor Force</u> Bureau of the Census U.S. Department of Commerce
P-60	<u>Series P-60, Current Population Reports--Consumer Income</u> Bureau of the Census U.S. Department of Commerce

The employment model described in section 3.2 requires two additional sets of employment data. The data tables necessary to build the second 1960 labor matrix based on the employed U.S. population exclusive of those persons working in either Alaska or Hawaii are listed separately under their state titles in Table A-5. Table A-6 identifies the published sources of the data compiled by the Monthly Labor Survey's 1966 study of employed persons under the then newly conceived Census definitions.

TABLE A-1

U.S. CENSUS EMPLOYMENT DATA: 1950

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
P-E No. 1B	4	Age of the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1B	5	Age of wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1B	6	Age of employed persons, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1C	2	Detailed occupation of employed persons, by detailed industry and sex, for the U.S.: 1950.
P-E No. 1D	3	Age of employed persons, by detailed industry and sex, for the U.S.: 1950.
P-E No. 1D	4	Age of employed wage and salary workers, by detailed industry and sex, for the U.S.: 1950.
P-E No. 1D	6	Major occupation group of employed persons, by detailed industry and sex, for the U.S.: 1950.
P-E No. 1D	7	Major occupation group of employed wage and salary workers, by detailed industry and sex, for the U.S.: 1950.
P-E No. 5B	11	Major occupation group: persons 14 years old and over, by years of school completed, age, color, and sex, for the U.S., by regions: 1950.

TABLE A-2

U.S. CENSUS EMPLOYMENT DATA: 1960

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-5B	8	Major occupation group--Persons 14 years old and over in the experienced civilian labor force, by years of school completed, age, color, and sex, for the U.S., by type of residence, and by regions: 1960.
PC(2)-7A	4	Age of the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1960.
PC(2)-7A	5	Age of wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1960.
PC(2)-7A	6	Age of employed persons, by detailed occupation and sex, for the U.S.: 1960.
PC(2)-7A	36	Industry group of employed persons, by occupation, color, and sex, for the U.S.: 1960.
PC(2)-7C	1	Major occupation group of employed persons, by major industry group, age, and sex, for the U.S.: 1960.
PC(2)-7C	2	Detailed occupation of employed persons, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	4	Age of employed persons, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	5	Age of employed wage and salary workers, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	21	Years of school completed by the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	28	Class of workers and color of the experienced civilian labor force, by agriculture and non-agricultural industries, years of school completed, and sex, for the U.S.: 1960.

TABLE A-3

U.S. CENSUS EMPLOYMENT DATA: 1970

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-5B	11	Major occupation group of employed persons 14 years old and over, by years of school completed, age, race, and sex: 1970.
PC(2)-7B	3	Years of school completed by the experienced civilian labor force by detailed industry, and sex: 1970.
PC(2)-7B	34	Age of employed persons by detailed industry, and sex: 1970.
PC(2)-7B	37	Class of worker of employed persons by detailed industry, and sex: 1970.
PC(2)-7B	47	Age of employed persons by class of worker, agriculture and nonagricultural industries, race, Spanish origin, and sex: 1970.
PC(2)-7C	1	Industry group of employed persons by occupation, age and sex: 1970.
PC(2)-7C	5	Industry group of employed wage and salary workers by occupation, race, and sex: 1970.
PC(2)-7C	6	Industry group of self-employed workers by occupation, race, and sex: 1970.
PC(2)-7C	8	Detailed occupation of employed persons by detailed industry and sex: 1970.

TABLE A-4: EMPLOYMENT DATA FOR NONBENCHMARK YEARS

YEAR	SCI ₂	SCI ₁₃₇	SCI _{2A}	SI ₁₇	SI _{18A5}	SI _{7A}
1948	P-50, #13, T-9, 10					P-50, #31, T-E
1949	P-50, #19, T-9					P-50, #40, T-E
1950	P-50, #31, T-9					P-50, #45, T-E
1951	P-50, #40, T-9					
1952	P-50, #45, T-9					
1953	P-50, #59, T-C9					P-50, #67, T-F
1954	P-50, #59, T-A9					P-50, #67, T-F
1955	P-50, #67, T-12					P-50, #72, T-C
1956	P-50, #72, T-12					
1957	P-50, #85, T-12					
1958	P-50, #89, T-13					
1959	SLFR, #23, T-C4	SLFT, #11, T-B		P-50, #50, T-5	SLFR, #4, T-C10	
1960	SLFR, #23, T-C4	SLFR, #19, T-A2				
1961	SLFR, #23, T-C4	SLFR, #25, T-A2			SLFR, #23, T-C10	
1962	SLFR, #69, T-C4	SLFR, #38, T-A2			SLFR, #31, T-C10	
1963	SLFR, #69, T-C4	SLFR, #48, T-A2			SLFR, #43, T-C10	
1964	SLFR, #69, T-C4	SLFR, #62, T-A2			SLFR, #52, T-C10	
1965	SLFR, #69, T-C4	SLFR, #76, T-A2			SLFR, #69, T-C10	
1966	E/E, Jan. '67, T-14	SLFR, #91, T-A2				
1967		SLFR, #107, T-A2	E/E, Jan. '68, T-A16			
1968		SLFR, #115, T-A2	E/E, Jan. '69, T-A18			
1969		SLFR, #127, T-A2	E/E, Jan. '70, T-A18			
1970		SLFR, #141, T-A2	E/E, Jan. '71, T-A18			
1971			E/E, Jan. '72, T-A18			
1972		SLFR, #162, T-A2	SLFR, #152, T-A19			
1973			SLFR, #163, T-A21			
1974			SLFR, #178, T-A20			
1975			SLFR, #185, T-20			
1976			SLFR, #199, T-21			
1977			SLFR, #212, T-24			
1978			SLFR, #218, T-24			

TABLE A-4 (CONTINUED)

YEAR	SI ₆ A ₆	SI ₂ A	SI ₁₃ A _t	SI ₄₂ E	I ₁₂ O	SAE
1948		P-50, #13, T-5, 6	P-50, #75, T-4			
1949		P-50, #19, T-5, 6				
1950		P-50, #31, T-5, 6	P-50, #75, T-4			
1951		P-50, #40, T-5, 6				
1952		P-50, #45, T-5, 6	P-50, #75, T-4			
1953		P-50, #59, T-C5, 6				
1954		P-50, #59, T-A5, 6	P-50, #75, T-4			
1955		P-50, #67, T-8, 9				
1956		P-50, #72, T-8, 9	P-50, #75, T-4			
1957		P-50, #85, T-9, 10				
1958		P-50, #89, T-9, 10				
1959	P-50, #89, T-18	SLFR, #31, T-C2, 3			SLFR, #4, T-C9	SLFR, #1, T-D
1960		SLFR, #31, T-C2, 3			SLFR, #14, T-C9	
1961		SLFR, #31, T-C2, 3			SLFR, #23, T-C9	
1962		SLFR, #31, T-C2, 3			SLFR, #31, T-C9	SLFR, #30, T-D
1963		SLFR, #69, T-C2, 3			SLFR, #43, T-C9	
1964		SLFR, #69, T-C2, 3			SLFR, #52, T-C9	SLFR, #53, T-D
1965		SLFR, #69, T-C2, 3			SLFR, #69, T-C9	SLFR, #65, T-D
1966		E/E, Jan. '67, T-A13				SLFR, #83, T-D
1967						SLFR, #92, T-D
1968				SLFR, #103, T-N		SLFR, #103, T-D
1969				SLFR, #125, T-N		SLFR, #125, T-D
1970				SLFR, #125, T-N		SLFR, #125, T-D
1971				SLFR, #140, T-N		SLFR, #140, T-D
1972				SLFR, #148, T-N		SLFR, #148, T-D
1973						SLFR, #161, T-D
1974						SLFR, #175, T-D
1975						SLFR, #186, T-D
1976						SLFR, #193, T-D
1977						SLFR, #209, T-E, T-L
1978						SLFR, #225, T-E, SLFR#218, T-3

TABLE A-4 (CONTINUED)

YEAR	SA ₅ E	SAO	SA ₆ O	SA ₅ O	SA ₂ O	SA ₁ A ₆ O
1948						
1949						
1950					P-50, #32, T-4	
1951					P-50, #41, T-4	
1952	P-50, #49, T-2					
1953					P-50, #51, T-4	
1954					P-50, #58, T-3	
1955					P-50, #64, T-3	
1956					P-50, #71, T-3	
1957	P-50, #78, T-2			P-20, #80, T-4	P-50, #83, T-3	
1958			P-50, #89, T-16		P-50, #90, T-3	P-20, #104, T-8
1959		SLFR, #4, T-C8			SLFR, #6, T-G	
1960		SLFR, #14, T-C8			SLFR, #16, T-G	
1961		SLFR, #23, T-C8			SLFR, #22, T-G	
1962		SLFR, #31, T-C8			SLFR, #34, T-G	
1963		SLFR, #43, T-C8			SLFR, #42, T-G	
1964		SLFR, #52, T-C8			SLFR, #55, T-G	
1965		SLFR, #69, T-C8			SLFR, #68, T-F	
1966					SLFR, #87, T-F	
1967					SLFR, #98, T-G	P-20, #171, T-10
1968					SLFR, #111, T-E	P-20, #188, T-9
1969					SLFR, #124, T-E	P-20, #193, T-9
1970					SLFR, #135, T-E	P-20, #210, T-9
1971					SLFR, #147, T-E	P-20, #235, T-9
1972					SLFR, #158, T-E	
1973					SLFR, #163, T-E	
1974					SLFR, #178, A-18	
1975					SLFR, #185, A-18	
1976					SLFR, #199, A-18	
1977					SLFR, #211, T-21, T-38	
1978					SLFR, #218, T-21, T-38	

TABLE A-4 (CONTINUED)

YEAR	SEO	SO
1948	P-50, #14, T-5	P-50, #13, T-15
1949		P-50, #19, T-14
1950		P-50, #31, T-14
1951		P-50, #40, T-14
1952	P-50, #49, T-4	P-50, #45, T-14
1953		P-50, #67, T-25
1954		P-50, #59, T-A10
1955		P-50, #67, T-13
1956		P-50, #72, T-13
1957	P-50, #78, T-7	P-50, #85, T-13
1958		P-50, #89, T-14
1959	SLFR, #1, T-1	
1960		
1961		
1962	SLFR, #30, T-I	
1963		
1964	SLFR, #53, T-I	
1965	SLFR, #65, T-I	
1966	SLFR, #83, T-I	
1967	SLFR, #92, T-I	
1968	SLFR, #103, T-I	
1969	SLFR, #125, T-I	
1970	SLFR, #125, T-I	
1971	SLFR, #140, T-I	
1972	SLFR, #148, T-I	
1973	SLFR, #161, T-I	
1974	SLFR, #175, T-I	
1975	SLFR, #186, T-I	
1976	SLFR, #193, T-I	
1977	SLFR, #209, T-J	
1978	SLFR, #225, T-J	

TABLE A-5

U.S. CENSUS EMPLOYMENT DATA FOR ALASKA AND HAWAII: 1960

CHARACTERISTICS OF THE POPULATION	TABLE	
	NUMBER	TITLE
Vol. 1, Part 3, Alaska	122	Occupation of the experienced civilian labor force by color, of the employed by race and class of worker, and of persons not in labor force with work experience, by sex, for the State: 1960.
Vol. 1, Part 3, Alaska	123	Age of employed persons, by occupation, color, and sex, for the State: 1960.
Vol. 1, Part 3, Alaska	125	Industry group of the employed, by occupation and sex, for the State: 1960.
Vol. 1, Part 3, Alaska	126	Detailed industry of the experienced civilian labor force and of the employed, by sex, for the State: 1960.
Vol. 1, Part 3, Alaska	128	Age of employed persons, by industry and sex, for the State: 1960.

Vol. 1, Part 3, Hawaii	122	Occupation of the experienced civilian labor force by color, of the employed by race and class of worker, and of persons not in labor force with work experience, by sex, for the State and for standard metropolitan statistical areas of 250,000 or more: 1960.
Vol. 1, Part 13, Hawaii	123	Age of employed persons, by occupation, color, and sex, for the State and for standard metropolitan statistical areas of 250,000 or more: 1960.
Vol. 1, Part 13, Hawaii	125	Industry group of the employed by occupation and sex, for the State and for standard metropolitan statistical areas of 250,000 or more: 1960.
Vol. 1, Part 13 Hawaii	127	Detailed industry of the employed, by sex, for the State and for standard metropolitan statistical areas of 100,000 or more: 1960.

(continued)

TABLE A-5 (CONCLUDED)

CHARACTERISTICS OF THE POPULATION	TABLE	
	NUMBER	TITLE
Vol. 1, Part 13, Hawaii	128	Age of employed persons, by industry and sex, for the State and for standard metropolitan statistical areas of 250,000 or more: 1960.

TABLE A-6

MONTHLY LABOR SURVEY EMPLOYMENT DATA: 1966

Table 8.	Employed persons by age and sex, Monthly Labor Survey-- Current Population Survey comparisons, annual average 1966.
Table 11.	Employed persons by class of worker and occupation group, Monthly Labor Survey--Current Population Survey compari- sons, annual average 1966.

Source: Stein [1967].

A.3. HOURS WORKED.

The sources of the data on hours worked are listed in Tables A-7 through A-12. Sources of the data for each decennial census year are presented in Tables A-7 through A-9. For an explanation of the format underlying the presentation of the data sources for each intermediate year in Table A-10 consult the explanation preceding the source tables in Section A.2.

Using formats similar to that used in Table A-10, Tables A-11 and A-12 list the data sources relating to the hours and employment series respectively for multiple job holders. The letter enclosed in parentheses and appended to the variable list at the head of each column indicates whether the recorded sources report data referring to the multiple job holders' demographic and occupational characteristics in their primary (P) or secondary (S) industry of employment.

TABLE A-7

U.S. CENSUS HOURS WORKED DATA: 1950

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
P-E No. 1A	13	Hours worked during census week: employed persons by age, color, and sex, for the U.S., urban and rural: 1950.
P-E No. 1B	14	Hours worked during the census week by employed persons, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1B	15	Hours worked during the census week by employed wage and salary workers, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1D	10	Hours worked during the census week by employed persons, by detailed industry and sex, for the U.S.: 1950.
P-E No. 1D	11	Hours worked during the census week by employed wage and salary workers, by detailed industry and sex, for the U.S.: 1950.

TABLE A-8

U.S. CENSUS HOURS WORKED DATA: 1960

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-6A	12	Hours worked by employed persons, by marital status, presence of own children, age, color, and sex, for the U.S., urban and rural: 1960.
PC(2)-7A	13	Hours worked by employed persons, by detailed occupation and sex, for the U.S.: 1960.
PC(2)-7F	9	Hours worked by employed persons, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	10	Hours worked by employed wage and salary workers, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	23	Hours worked and color of employed persons, by class of worker, agriculture and non-agricultural industries, and sex, for the U.S.: 1960.

TABLE A-9

U.S. CENSUS HOURS WORKED DATA: 1970

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-6A	17	Hours worked of employed persons by marital status, presence of own children, age, race, and sex: 1970.
PC(2)-7A	45	Employed persons by hours worked, detailed occupation, and sex: 1970.
PC(2)-7B	39	Employed persons by hours worked, detailed industry, and sex: 1970.
PC(2)-7B	48	Hours worked of employed persons by class of worker, agriculture and nonagricultural industries, race, Spanish origin, and sex: 1970.

TABLE A-10: HOURS WORKED DATA FOR NONBENCHMARK YEARS

YEAR	SA	SA ₆	SA ₅	SO ₈	C
1948					
1949					
1950					
1951					
1952					
1953					
1954					
1955					
1956	P-50, #72, T-18				
1957	P-50, #85, T-18				
1958	P-50, #89, T-24				
1959		SLFR, #4, T-D7			
1960		SLFR, #14, T-D7			
1961		SLFR, #23, T-D7			
1962		SLFR, #31, T-D7			
1963		SLFR, #43, T-D7			
1964		SLFR, #52, T-D7			
1965		SLFR, #69, T-D7			
1966		E/E, Jan. '67, T-22			
1967			E/E, Jan. '68, T-A21	E/E, Jan. '68, T-A22	E/E, Jan. '68, T-A20
1968			E/E, Jan. '69, T-A23	E/E, Jan. '69, T-A24	E/E, Jan. '69, T-A22
1969			SLFR, #116, T-A24	SLFR, #116, T-A25	SLFR, #116, T-A23
1970			SLFR, #129, T-A24	SLFR, #129, T-A25	SLFR, #129, T-A23
1971			SLFR, #142, T-A24	SLFR, #142, T-A25	SLFR, #142, T-A23
1972			SLFR, #152, T-A24	SLFR, #163, T-A27	SLFR, #152, T-A23
1973			SLFR, #163, T-A26	SLFR, #163, T-A27	SLFR, #163, T-A25
1974	SLFR, #178, T-1		SLFR, #178, T-A25	SLFR, #178, T-A26	SLFR, #178, T-A24
1975	SLFR, #185, T-1		SLFR, #185, T-A25	SLFR, #185, T-26	SLFR, #185, T-24
1976	SLFR, #199, T-1, T-33		SLFR, #199, T-31	SLFR, #199, T-32	SLFR, #199, T-30
1977	SLFR, #212, T-3, T-37		SLFR, #212, T-35	SLFR, #212, T-36	SLFR, #212, T-34
1978	SLFR, #218, T-3, T-37		SLFR, #218, T-35	SLFR, #218, T-36	SLFR, #218, T-34

TABLE A-10 (CONCLUDED)

YEAR	O	O ₈
1948		
1949		
1950		
1951		
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
1968		
1969		
1970		
1971		
1972		
1973		

P-50, #45, T-H

P-50, #89, T-27
 SLFR, #4, T-D6
 SLFR, #14, T-D6
 SLFR, #23, T-D6
 SLFR, #31, T-D6
 SLFR, #43, T-D6
 SLFR, #52, T-D6
 SLFR, #69, T-D6

E/E, Jan. '67, T-20

TABLE A-11: HOURS WORKED DATA FOR MULTIPLE JOB HOLDERS

YEAR	CI ₂ (P)	CI ₂ (S)	C ₁ I ₁₂ (P)	C ₁ I ₁₂ (S)	C ₁ I ₁₁ (P)	C ₁ I ₁₁ (S)
1948						
1949						
1950						
1951						
1952						
1953						
1954						
1955						
1956						
1957						
1958						
1959						
1960	SLFR, #18, T-G	SLFR, #18, T-H			SLFR, #18, T-G	SLFR, #18, T-H
1961						
1962	SLFR, #29, T-F	SLFR, #29, T-G			SLFR, #29, T-F	SLFR, #29, T-G
1963	SLFR, #39, T-F	SLFR, #39, T-G			SLFR, #39, T-F	SLFR, #39, T-G
1964	SLFR, #51, T-F	SLFR, #51, T-G			SLFR, #51, T-F	SLFR, #51, T-G
1965	SLFR, #63, T-G	SLFR, #63, T-H			SLFR, #63, T-G	SLFR, #63, T-H
1966	SLFR, #90, T-G	SLFR, #90, T-H			SLFR, #90, T-G	SLFR, #90, T-H
1967						
1968	SLFR, #123, T-H	SLFR, #123, T-I	SLFR, #123, T-H	SLFR, #123, T-I		
1969	SLFR, #139, T-H	SLFR, #139, T-I	SLFR, #139, T-H	SLFR, #139, T-I		
1970	SLFR, #139, T-H	SLFR, #139, T-I	SLFR, #139, T-H	SLFR, #139, T-I		
1971	SLFR, #166, T-H	SLFR, #166, T-I	SLFR, #166, T-H	SLFR, #166, T-I		
1972	SLFR, #166, T-H	SLFR, #166, T-I	SLFR, #166, T-H	SLFR, #166, T-I		
1973	SLFR, #177, T-H	SLFR, #177, T-I	SLFR, #177, T-H	SLFR, #177, T-I		
1974	SLFR, #182, T-H	SLFR, #182, T-I	SLFR, #182, T-H	SLFR, #182, T-I		
1975	SLFR, #194, T-B8	SLFR, #194, T-B9	SLFR, #194, T-B4	SLFR, #194, T-R9		
1976	SLFR, #194, T-B8	SLFR, #211, T-H	SLFR, #194, T-B4	SLFR, #211, T-H, T-L		
1977	SLFR, #194, T-B8	SLFR, #221, T-H	SLFR, #194, T-B4	SLFR, #221, T-C, T-H		
1978	SLFR, #194, T-B8	SLFR, #221, T-H	SLFR, #194, T-B4	SLFR, #221, T-C, T-H		

TABLE A-12: EMPLOYMENT DATA FOR MULTIPLE JOB HOLDERS

YEAR	CI ₂ (P)	CI ₂ (S)	C ₁ I ₁₆ (P)	C ₁ I ₁₆ (S)	C ₁ I ₁₂ (P)	C ₁ I ₁₂ (S)
1948						
1949						
1950	P-50, #30, T-2	P-50, #30, T-2				
1951						
1952						
1953						
1954						
1955						
1954	P-50, #74, T-2	P-50, #74, T-2				
1957	P-50, #80, T-6	P-50, #80, T-6				
1958	P-50, #88, T-6	P-50, #88, T-6				
1959	SLFR, #9, T-2	SLFR, #9, T-B				
1960	SLFR, #18, T-3	SLFR, #18, T-3				
1961						
1962	SLFR, #29, T-2	SLFR, #29, T-2				
1963	SLFR, #39, T-2	SLFR, #39, T-2				
1964	SLFR, #51, T-4	SLFR, #51, T-4				
1965	SLFR, #63, T-3	SLFR, #63, T-3				
1966	SLFR, #90, T-3	SLFR, #90, T-3				
1967						
1968						
1969	SLFR, #123, T-B	SLFR, #123, T-B			SLFR, #123, T-B	SLFR, #123, T-B
1970	SLFR, #139, T-B	SLFR, #139, T-B			SLFR, #139, T-B	SLFR, #139, T-B
1971	SLFR, #139, T-B	SLFR, #139, T-B			SLFR, #139, T-B	SLFR, #139, T-B
1972	SLFR, #166, T-b	SLFR, #166, T-B			SLFR, #166, T-B	SLFR, #166, T-B
1973	SLFR, #166, T-B	SLFR, #166, T-B			SLFR, #166, T-B	SLFR, #166, T-B
1974	SLFR, #177, T-C	SLFR, #177, T-C			SLFR, #177, T-C	SLFR, #177, T-C
1975	SLFR, #182, T-C	SLFR, #182, T-C			SLFR, #182, T-C	SLFR, #182, T-C
1976	SLFR, #194, T-B3	SLFR, #194, T-B3			SLFR, #194, T-B3	SLFR, #194, T-B3
1977	SLFR, #221, T-C	SLFR, #221, T-C			SLFR, #221, T-C	SLFR, #221, T-C
1978	SLFR, #221, T-C	SLFR, #221, T-C			SLFR, #221, T-C	SLFR, #221, T-C

TABLE A-12 (CONCLUDED)

YEAR	$C_1 I_{11}(P)$	$C_1 I_{11}(S)$	$C_1 I_9(P)$	$C_1 I_9(S)$
1948				
1949				
1950				
1951				
1952				
1953				
1954				
1955				
1956				
1957				
1958				
1959				
1960	SLFR, #18, T-3	SLFR, #18, T-3	SLFR, #9, T-2	SLFR, #8-T-B
1961				
1962	SLFR, #39, T-2	SLFR, #29, T-2		
1963	SLFR, #39, T-2	SLFR, #39, T-2		
1964	SLFR, #51, T-4	SLFR, #51, T-4		
1965	SLFR, #63, T-3	SLFR, #63, T-3		
1966	SLFR, #90, T-3	SLFR, #90, T-3		
1967				
1968				
1969				
1970				
1971				
1972				
1973				
1974				
1975				
1976				
1977				
1978				

A.4. WEEKS.

We require data on weeks paid per person to convert data measuring average compensation per person to estimates of average compensation per job. The necessary data sources are listed in Tables A-13 through A-16. The weeks paid data used to construct the benchmark year series for this research are taken from the 1950, 1960, and 1970 decennial censuses. Since the "weeks paid" responses of those interviewed are based on their work experience during the previous year, the benchmark years for the weeks data are those immediately preceding the decennial census years. The specific data sources are listed in Tables A-13 through A-15.

For an explanation of the abbreviations and format used in Table A-16 to present the sources for the weeks data of the intermediate years, consult the discussion immediately preceding the source tables in Section A.2.

TABLE A-13

U.S. CENSUS WEEKS PAID DATA: 1949

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
P-E No. 1A	14	Weeks worked in 1949 by labor force status: persons by age, color, and sex, for the U.S., urban and rural: 1950.
P-E No. 1B	16	Weeks worked in 1949 by the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1B	17	Weeks worked in 1949 by wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1D	12	Weeks worked in 1949 by the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1950.
P-E No. 1D	13	Weeks worked in 1949 by wage and salary workers in the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1950.
P-E No. 1D	21	Weeks worked in 1949 by the experienced civilian labor force, by class of worker and sex, for the U.S.: 1950.

TABLE A-14

U.S. CENSUS WEEKS PAID DATA: 1959

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-6A	15	Employment status, by weeks worked in 1959, age, color, and sex, for the U.S., urban and rural: 1960.
PC(2)-7A	14	Weeks worked in 1959 by the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1960.
PC(2)-7A	17	Weeks worked in 1959 by wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1960.
PC(2)-7F	11	Weeks worked in 1959 by the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	13	Weeks worked in 1959 by wage and salary workers in the experienced civilian labor force, by industry, wage or salary income in 1959, and sex, for the U.S.: 1960.
PC(2)-7F	24	Weeks worked in 1959 and color of the experienced civilian labor force, by class of worker, agriculture and nonagricultural industries, and sex, for the U.S.: 1960.

TABLE A-15

U.S. CENSUS WEEKS PAID DATA: 1969

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-6A	22	Employment status by weeks worked in 1969, age, race, Spanish origin, and sex: 1970.
PC(2)-7A	11	Weeks worked in 1969 by the experienced civilian labor force by detailed occupation and sex: 1970.
PC(2)-7A	14	Weeks worked in 1969 by wage and salary workers 16 years old and over in the experienced civilian labor force by the selected occupations and sex: 1970.
PC(2)-7B	6	Weeks worked in 1969 by the experienced civilian labor force, by detailed industry, and sex: 1970.
PC(2)-7B	9	Weeks worked in 1969 by wage and salary workers in the experienced civilian labor force by industry, and sex: 1970.

A.5. COMPENSATION

Tables A-17 through A-21 identify data sources for labor compensation. All the compensation tables for the benchmark years 1949, 1959, and 1969 presented in Tables A-17 through A-19 are derived from the 1950, 1960, and 1970 decennial censuses, respectively. The one year lag is explained by the fact that the census respondent declares his annual compensation for the previous year. The payroll tax tables, A-20 and A-21, are taken directly from Pechman [1971].²

²Pechman [1971], pp. 264-65.

TABLE A-17

U.S. CENSUS LABOR COMPENSATION DATA: 1949

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
P-E No. 1B	19	Income in 1949 of the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1B	22	Wage and salary income in 1949 of wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1950.
P-E No. 1D	15	Income in 1949 of the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1950.
P-E No. 1D	17	Wage and salary income in 1949 of wage and salary workers in the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1950.
P-E No. 5B	12	Income in 1949, persons 14 years old and over, by years of school completed, age, color, and sex, for the U.S., by regions: 1950.

TABLE A-18

U.S. CENSUS LABOR COMPENSATION DATA: 1959

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-5B	6	Total income--males 14 years old and over with incomes in 1959, by years of school completed, age, and color, for the U.S., by type of residence, and by regions: 1960.
PC(2)-5B	7	Total income--females 14 years old and over with income in 1959, by years of school completed, age, and color, for the U.S., by type of residence, and by regions: 1960.
PC(2)-5B	9	Occupation and earnings--persons 18 to 64 years old in the experienced civilian labor force with earnings in 1959, by years of school completed, age, and sex, for the U.S.: 1960.
PC(2)-7A	25	Income in 1959 of the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1960.
PC(2)-7A	27	Wage and salary income in 1959 of wage and salary workers in the experienced civilian labor force, by detailed occupation and sex, for the U.S.: 1960.
PC(2)-7F	15	Income in 1959 of the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	17	Wage or salary income in 1959 of wage and salary workers in the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1960.
PC(2)-7F	18	Earnings in 1959 of the experienced civilian labor force, by detailed industry and sex, for the U.S.: 1960.

TABLE A-19

U.S. CENSUS LABOR COMPENSATION DATA: 1969

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-5B	7	Total income of males 14 years old and over with income in 1969, by years of school completed, age, and race: 1970.
PC(2)-5B	8	Total income of females 14 years old and over with income in 1969, by years of school completed, age, and race: 1970.
PC(2)-7A	24	Wage and salary earnings in 1969 of wage and salary workers, 16 years old and over, in the experienced civilian labor force, by detailed occupation and sex: 1970.
PC(2)-7B	12	Earnings in 1969 of the experienced civilian labor force by detailed industry, and sex: 1970.
PC(2)-7B	16	Earnings in 1969 of the experienced civilian labor force by years of school completed, industry, and sex: 1970.
PC(2)-7B	20	Wage and salary earnings in 1969 of wage and salary workers in the experienced civilian labor force by industry, and sex: 1970.
PC(2)-8B	1	Earnings and occupation of total and white males 25 to 64 years old in the experienced civilian labor force with earnings in 1969, by work experience in 1969, years of school completed, and age: 1970.
PC(2)-8B	5	Earnings and occupation of males 18 to 24 years old in the experienced civilian labor force with earnings in 1969, by work experience in 1969, years of school completed, race, and Spanish origin: 1970.

(continued)

TABLE A-19 (CONCLUDED)

POPULATION SUBJECT REPORT	TABLE	
	NUMBER	TITLE
PC(2)-8B	6	Earnings and occupation of males 65 years old and over in the experienced civilian labor force with earnings in 1969, by work experience in 1969, years of school completed, race, and Spanish origin: 1970.
PC(2)-8B	7	Earnings and occupation of total and white females 25 to 64 years old in the experienced civilian labor force with earnings in 1969, by work experience in 1969, years of school completed, and age: 1970.
PC(2)-8B	11	Earnings and occupation of females 18 to 24 years old in the experienced civilian labor force with earnings in 1969, by work experience in 1969, years of school completed, race, and Spanish origin: 1970.

TABLE A-20
HISTORY OF SOCIAL SECURITY TAX RATES

	MAXIMUM TAXABLE WAGES ^a (DOLLARS)	TAX RATE (PERCENTAGES)		
		EMPLOYER	EMPLOYEE	SELF EMPLOYED
Old-Age, Survivors, Disability, and Health Insurance				
1937-49	3,000	1.0	1.0	b
1950	3,000	1.5	1.5	b
1951-53	3,600	1.5	1.5	2.25
1954	3,600	2.0	2.0	3.0
1955-56	4,200	2.0	2.0	3.0
1957-58	4,200	2.25	2.25	3.375
1959	4,800	2.5	2.5	3.75
1960-61	4,800	3.0	3.0	4.5
1962	4,800	3.125	3.125	4.7
1963-65	4,800	3.625	3.625	5.4
1966	6,600	4.2	4.2	6.15
1967	6,600	4.4	4.4	6.4
1968	7,800	4.4	4.4	6.4
1969-70	7,800	4.8	4.8	6.9
1971	7,800	5.2	5.2	7.5
1972	9,000	5.2	5.2	7.5
1973	10,800	5.85	5.85	8.0
1974	13,200	5.85	5.85	7.9
1975	14,100	5.85	5.85	7.9
1976	15,300	5.85	5.85	7.9
1977	16,500	5.85	5.85	7.9
1978	17,700	6.05	6.05	8.1

Source: Social Security Administration [1980], p. 35.

^aMaximum taxable wages is in dollars per year for OASDHI.

^bNot covered by the program until January 1, 1951.

TABLE A-21

HISTORY OF UNEMPLOYMENT INSURANCE TAX RATES

YEAR	COVERED WAGES ^a (DOLLARS)	STATUTORY RANGE OF RATES ^b (PERCENTAGES)	ACTUAL RATE PAID ^c (PERCENTAGES)
Federal Unemployment Insurance ^d			
1936	All wages	--	1.0
1937	All wages	--	2.0
1938	All wages	--	3.0
1939-60	3,000	--	3.0
1961	3,000	--	3.1
1962	3,000	--	3.5
1963	3,000	--	3.35
1964-69	3,000	--	3.1
1970-71	3,000	--	3.2
1972	4,200	--	3.2
1973	4,200	--	3.28
1974-76	4,200	--	3.2
1977	4,200	--	3.4
1978	6,000	--	3.4

Source: Pechman [1977], p. 312.

^aCovered wages are in dollars per year for federal unemployment insurance.

^bFor federal unemployment insurance, employers are taxed by the states on the basis of an experience rating determined by past unemployment records. All employers are permitted to take the maximum credit allowed against the federal unemployment tax, even though they may, in fact, pay a lower rate because of a good experience rating. In 1969, the effective tax rate on covered wages ranged from 0.4 percent in Texas and Illinois to 2.9 percent in Alaska. Unemployment Compensation, Hearings before the House Committee on Ways and Means, 91 Cong. 1 sess. [1969], p. 183.

^cFor federal unemployment insurance, credit up to 90 percent of the tax is allowed for contributions paid into a state unemployment fund. Beginning in 1961, credits up to 90 percent are computed as if the tax rate were 3 percent.

^dApplicable to employers of 8 persons or more between 1936 and 1956, to employers of 4 persons or more from 1956 through 1971, and to employers of one person or more in 1972 and later years.

APPENDIX B

SECTORAL LABOR INPUT

APPENDIX B

LABOR INPUT									
YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED	
AGRICULTURAL PRODUCTION									
1948	0.353	53.843	19.021	0.884	8094	49.8	0.91	20950	
1949	0.359	51.825	18.621	0.891	7900	48.7	0.93	20025	
1950	0.361	51.655	18.648	0.911	7730	48.5	0.96	19500	
1951	0.402	48.252	19.382	0.893	7271	49.2	1.04	18587	
1952	0.314	47.100	14.830	0.908	7054	48.7	0.83	17871	
1953	0.289	45.800	13.240	0.904	6814	49.3	0.76	17459	
1954	0.274	44.935	12.327	0.909	6836	47.8	0.72	17006	
1955	0.237	43.469	10.303	0.907	6643	47.7	0.63	16477	
1956	0.221	40.610	11.394	0.900	6316	46.8	0.74	15362	
1957	0.355	37.403	13.299	0.908	5988	45.6	0.94	14196	
1958	0.425	36.011	15.305	0.913	5752	45.3	1.13	13561	
1959	0.307	35.426	10.895	0.915	5605	45.7	0.82	13316	
1960	0.412	34.778	14.243	0.950	5275	45.9	1.14	12590	
1961	0.436	32.765	14.290	0.921	5218	45.1	1.17	12235	
1962	0.442	32.314	14.282	0.933	5026	45.6	1.20	11908	
1963	0.490	30.462	14.916	0.919	4727	46.4	1.31	11309	
1964	0.515	28.697	14.786	0.930	4455	45.8	1.39	10610	
1965	0.594	28.056	16.669	0.940	4242	46.5	1.62	10261	
1966	0.732	25.847	18.914	0.964	3830	46.2	2.05	9218	
1967	0.520	24.915	12.949	0.975	3681	45.9	1.47	8787	
1968	0.591	24.738	14.620	0.979	3647	45.9	1.68	8700	
1969	0.860	24.040	20.885	0.979	3501	46.4	2.47	8448	
1970	0.839	24.305	20.402	1.028	3400	46.0	2.51	8130	
1971	0.952	23.150	22.032	0.993	3339	46.2	2.75	8022	
1972	1.000	23.100	23.140	1.000	3243	45.8	2.91	7958	
1973	1.785	23.311	41.616	1.007	3323	46.1	5.23	7964	
1974	1.263	22.819	28.815	0.990	3359	45.0	3.67	7852	
1975	0.660	22.662	14.966	1.008	3304	45.0	1.94	7733	
1976	1.570	21.951	34.555	1.004	3248	44.5	4.61	7517	
1977	1.720	21.306	36.816	1.002	3106	45.4	5.04	7326	
1978	2.502	21.300	53.812	1.008	3060	45.8	7.33	7283	

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
AGRICULTURAL SERVICES								
1948	0.412	1.504	0.652	0.954	345	37.2	0.98	668
1949	0.463	1.553	0.719	0.864	338	36.9	1.11	649
1950	0.477	1.613	0.769	0.906	337	36.7	1.20	643
1951	0.473	1.626	0.797	0.984	358	37.0	1.16	689
1952	0.494	1.759	0.869	0.899	370	38.8	1.23	707
1953	0.513	1.731	0.888	0.884	365	37.3	1.26	707
1954	0.544	1.723	0.937	0.878	368	37.0	1.32	709
1955	0.581	1.602	0.983	0.872	366	36.6	1.40	701
1956	0.596	1.681	1.002	0.866	370	36.4	1.43	701
1957	0.611	1.665	1.016	0.864	371	36.1	1.46	696
1958	0.698	1.632	1.140	0.850	365	36.1	1.66	686
1959	0.699	1.620	1.132	0.841	366	36.5	1.63	695
1960	0.665	1.409	0.997	0.771	372	36.3	1.42	702
1961	0.730	1.545	1.157	0.782	388	35.8	1.60	723
1962	0.675	1.069	1.127	0.815	395	36.0	1.52	740
1963	0.450	1.735	1.129	0.830	400	38.3	1.49	755
1964	0.738	1.824	1.347	0.854	413	35.9	1.75	771
1965	0.692	1.938	1.340	0.865	430	36.2	1.66	809
1966	0.617	2.013	1.242	0.898	433	36.0	1.53	810
1967	0.725	2.112	1.532	0.839	437	35.7	1.89	812
1968	0.721	2.211	1.594	0.864	446	35.7	1.92	828
1969	0.799	2.270	1.814	0.963	456	35.9	2.13	851
1970	0.451	2.228	1.451	0.833	460	36.0	1.68	862
1971	1.010	2.200	2.333	0.997	441	38.2	2.81	830
1972	1.000	2.464	2.464	1.000	466	36.7	2.77	890
1973	1.213	2.677	3.248	1.000	499	38.9	3.39	958
1974	1.375	2.639	3.629	1.015	512	35.3	3.86	939
1975	1.457	2.395	3.489	1.031	486	33.2	4.16	838
1976	1.518	2.698	4.094	1.072	521	33.5	4.51	909
1977	1.421	2.567	4.073	1.072	539	34.5	4.22	966
1978	1.666	3.323	5.536	1.071	629	34.2	4.94	1120

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
METAL MINING								
1948	0.296	1.196	0.357	0.872	105	39.6	1.65	216
1949	0.315	1.093	0.341	0.875	98	38.3	1.75	195
1950	0.329	1.139	0.375	0.879	100	39.3	1.83	204
1951	0.362	1.258	0.455	0.883	107	40.3	2.03	224
1952	0.393	1.291	0.507	0.894	108	40.5	2.23	228
1953	0.425	1.335	0.567	0.900	112	40.2	2.43	234
1954	0.425	1.209	0.514	0.904	106	38.3	2.44	211
1955	0.453	1.284	0.582	0.907	109	39.4	2.61	223
1956	0.481	1.374	0.661	0.912	116	39.4	2.78	237
1957	0.509	1.354	0.690	0.920	117	38.2	2.97	232
1958	0.521	1.070	0.557	0.932	95	36.7	3.08	181
1959	0.551	1.004	0.553	0.936	86	37.8	3.27	169
1960	0.553	1.181	0.654	0.936	98	39.1	3.28	199
1961	0.575	1.109	0.637	0.944	92	38.7	3.44	185
1962	0.585	1.061	0.621	0.953	87	38.8	3.54	175
1963	0.603	1.007	0.607	0.955	83	38.6	3.65	166
1964	0.638	1.021	0.651	0.962	83	38.6	3.89	167
1965	0.636	1.076	0.684	0.962	87	39.0	3.88	176
1966	0.653	1.133	0.740	0.969	90	39.4	4.01	184
1967	0.680	1.035	0.703	0.975	82	39.3	4.20	167
1968	0.712	1.095	0.780	0.986	84	40.1	4.45	175
1969	0.759	1.108	0.902	0.990	92	39.5	4.77	189
1970	0.812	1.229	0.998	0.999	96	38.9	5.14	194
1971	0.896	1.118	1.001	1.002	90	37.9	5.69	176
1972	1.000	1.065	1.065	1.000	87	37.1	6.34	168
1973	1.086	1.102	1.197	0.986	90	37.7	6.79	176
1974	1.185	1.211	1.435	1.004	97	37.7	7.55	190
1975	1.386	1.154	1.600	1.016	94	36.6	8.94	179
1976	1.541	1.144	1.763	1.018	94	36.2	9.95	177
1977	1.711	1.126	1.929	1.015	93	36.2	11.01	175
1978	1.907	1.154	2.200	1.021	94	36.5	12.35	178

APPENDIX B (CONTINUED)

LUMBER INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
COAL MINING								
1948	0.300	6.333	1.958	0.934	544	34.9	1.98	987
1949	0.313	4.871	1.524	0.934	485	30.1	2.01	759
1950	0.333	5.180	1.728	0.939	480	32.2	2.15	804
1951	0.366	4.903	1.893	0.938	452	32.4	2.49	761
1952	0.390	4.321	1.687	0.942	408	31.5	2.53	668
1953	0.432	3.765	1.625	0.940	353	31.8	2.79	583
1954	0.345	2.810	1.252	0.935	278	30.3	2.86	438
1955	0.442	2.995	1.325	0.933	261	34.4	2.83	467
1956	0.476	3.160	1.504	0.937	272	34.7	3.06	491
1957	0.511	2.999	1.534	0.938	266	33.6	3.30	465
1958	0.524	2.363	1.238	0.941	225	31.2	3.39	365
1959	0.552	2.228	1.230	0.944	199	33.2	3.58	344
1960	0.570	2.077	1.164	0.941	185	33.4	3.69	321
1961	0.562	1.872	1.052	0.944	165	33.6	3.64	289
1962	0.566	1.851	1.047	0.953	157	34.6	3.71	283
1963	0.575	1.871	1.075	0.952	152	36.2	3.76	286
1964	0.611	1.650	1.130	0.957	149	36.3	4.02	281
1965	0.626	1.857	1.163	0.959	146	37.1	4.13	282
1966	0.658	1.854	1.220	0.965	143	37.6	4.36	280
1967	0.694	1.860	1.291	0.974	142	37.7	4.64	278
1968	0.735	1.770	1.301	0.978	136	37.2	4.94	263
1969	0.820	1.720	1.408	0.983	138	37.0	5.53	265
1970	0.885	1.972	1.745	0.990	148	37.7	6.02	290
1971	0.951	2.009	1.910	0.990	150	37.5	6.52	293
1972	1.000	2.226	2.226	1.000	163	38.2	6.87	324
1973	1.133	2.185	2.474	1.002	163	37.4	7.80	317
1974	1.416	2.340	3.321	1.007	182	35.9	9.79	339
1975	1.512	2.800	4.368	1.018	216	36.8	10.58	413
1976	1.376	3.211	4.418	1.057	230	37.0	9.99	442
1977	1.731	3.162	5.473	0.954	242	38.3	11.34	483
1978	1.787	3.320	5.952	1.063	236	37.2	13.05	486

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	UNITARY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
CRUDE PETROLEUM AND NATURAL GAS								
1948	0.403	2.473	0.998	0.801	278	38.0	1.81	550
1949	0.417	2.440	1.018	0.805	272	38.1	1.89	539
1950	0.424	2.514	1.066	0.813	275	38.5	1.94	550
1951	0.444	2.817	1.250	0.823	303	38.6	2.05	609
1952	0.467	3.042	1.330	0.842	321	38.7	2.21	646
1953	0.481	3.167	1.522	0.852	330	38.5	2.30	641
1954	0.496	3.217	1.596	0.857	336	38.2	2.39	668
1955	0.512	3.346	1.725	0.862	350	38.2	2.48	695
1956	0.537	3.554	1.909	0.871	363	38.4	2.63	726
1957	0.552	3.617	1.996	0.884	366	38.2	2.74	728
1958	0.557	3.403	1.897	0.900	339	38.1	2.82	672
1959	0.573	3.473	1.939	0.911	339	38.4	2.93	678
1960	0.593	3.288	1.948	0.914	323	38.1	3.05	640
1961	0.611	3.273	2.000	0.932	314	38.0	3.20	624
1962	0.622	3.289	2.046	0.947	311	38.2	3.31	618
1963	0.644	3.179	2.047	0.943	300	36.4	3.41	599
1964	0.658	3.218	2.118	0.955	299	38.5	3.54	599
1965	0.676	3.177	2.162	0.960	296	38.5	3.65	592
1966	0.708	3.108	2.265	0.969	292	38.7	3.86	587
1967	0.757	3.104	2.379	0.968	287	38.7	4.12	578
1968	0.794	3.191	2.526	0.973	288	38.8	4.34	582
1969	0.833	3.318	2.763	0.981	291	39.8	4.59	602
1970	0.882	3.226	2.844	0.997	280	39.5	4.94	576
1971	0.939	3.134	2.944	1.004	272	39.3	5.30	555
1972	1.000	3.176	3.176	1.000	272	39.9	5.62	565
1973	1.079	3.279	3.530	0.998	280	40.1	6.06	584
1974	1.155	3.630	4.424	1.009	310	41.9	6.55	675
1975	1.341	4.008	5.426	1.018	334	40.5	7.68	707
1976	1.451	4.200	6.152	0.995	359	40.6	8.12	758
1977	1.582	4.680	7.418	1.009	388	40.9	8.98	826
1978	1.705	5.405	9.288	1.020	444	41.1	9.79	949

APPENDIX B (CONTINUED)

LARGE INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
NONMETALLIC MINING AND QUARRYING								
1948	0.294	1.062	0.312	0.916	102	41.0	1.44	217
1949	0.293	1.040	0.304	0.919	102	40.0	1.44	212
1950	0.328	1.081	0.355	0.921	104	40.7	1.61	220
1951	0.348	1.187	0.412	0.923	112	41.4	1.71	241
1952	0.361	1.217	0.439	0.932	114	41.3	1.79	245
1953	0.388	1.245	0.483	0.934	117	41.1	1.93	250
1954	0.404	1.228	0.495	0.933	117	40.5	2.01	247
1955	0.422	1.282	0.549	0.933	121	40.9	2.10	258
1956	0.453	1.355	0.614	0.933	128	41.0	2.25	273
1957	0.476	1.327	0.632	0.934	127	40.3	2.37	266
1958	0.501	1.285	0.644	0.941	123	40.0	2.52	256
1959	0.515	1.332	0.685	0.942	125	40.8	2.59	265
1960	0.552	1.274	0.704	0.935	122	40.2	2.76	255
1961	0.556	1.282	0.713	0.944	121	40.5	2.80	255
1962	0.569	1.299	0.740	0.956	120	40.8	2.90	255
1963	0.581	1.297	0.754	0.957	119	41.1	2.97	254
1964	0.618	1.324	0.817	0.965	119	41.6	3.18	257
1965	0.627	1.393	0.874	0.962	124	42.1	3.22	271
1966	0.652	1.417	0.924	0.971	125	42.1	3.38	273
1967	0.669	1.370	0.948	0.978	122	41.6	3.59	264
1968	0.726	1.358	0.986	0.983	120	41.5	3.81	259
1969	0.778	1.357	1.056	0.988	118	42.0	4.10	257
1970	0.835	1.334	1.117	0.988	118	41.3	4.41	253
1971	0.893	1.330	1.168	1.005	118	40.4	4.79	248
1972	1.000	1.270	1.276	1.000	115	40.0	5.33	239
1973	1.068	1.341	1.432	1.003	119	40.5	5.72	251
1974	1.145	1.419	1.625	1.000	124	41.3	6.11	266
1975	1.268	1.362	1.727	1.028	119	40.1	6.95	248
1976	1.315	1.379	1.814	1.025	120	40.4	7.19	252
1977	1.449	1.383	2.003	1.024	120	40.6	7.91	253
1978	1.551	1.465	2.272	1.028	126	40.8	8.50	267

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
CONTRACT CONSTRUCTION								
1948	0.299	33.740	10.082	0.910	3338	37.1	1.57	6440
1949	0.296	32.111	9.496	0.910	3202	36.8	1.55	6120
1950	0.325	34.738	11.303	0.911	3471	36.7	1.71	6616
1951	0.353	37.937	13.395	0.920	3705	37.2	1.87	7157
1952	0.370	36.897	14.393	0.930	3699	37.7	1.98	7253
1953	0.395	37.762	14.918	0.932	3643	37.1	2.12	7031
1954	0.412	36.263	14.954	0.937	3525	36.6	2.23	6717
1955	0.437	37.300	16.311	0.941	3622	36.5	2.37	6880
1956	0.450	39.091	17.599	0.939	3761	36.9	2.44	7224
1957	0.479	37.713	18.078	0.938	3680	36.4	2.59	6972
1958	0.484	36.450	17.657	0.942	3565	36.2	2.63	6712
1959	0.517	39.109	19.712	0.944	3703	36.4	2.81	7003
1960	0.540	37.488	20.243	0.941	3659	36.3	2.93	6911
1961	0.555	37.786	20.958	0.950	3635	36.5	3.04	6898
1962	0.564	39.362	22.216	0.965	3708	36.7	3.14	7076
1963	0.583	40.551	23.600	0.967	3779	37.0	3.25	7277
1964	0.613	42.180	25.872	0.977	3899	37.0	3.45	7492
1965	0.631	44.038	27.790	0.978	4050	37.1	3.56	7816
1966	0.674	45.547	30.722	0.987	4126	37.3	3.84	8004
1967	0.693	45.527	31.568	0.992	4084	37.5	3.97	7959
1968	0.756	46.920	35.088	0.999	4216	37.2	4.36	8145
1969	0.811	49.616	40.263	1.001	4409	37.5	4.68	8598
1970	0.861	48.001	41.323	0.999	4349	36.9	4.96	8338
1971	0.930	49.370	45.901	1.007	4437	36.9	5.40	8504
1972	1.000	50.624	50.624	1.000	4649	36.3	5.76	8783
1973	1.050	54.407	57.208	1.002	4669	36.5	6.06	9439
1974	1.122	53.732	60.263	1.002	4964	36.0	6.48	9305
1975	1.183	48.100	56.919	1.011	4449	35.7	6.89	8256
1976	1.295	49.480	64.090	1.010	4513	36.2	7.54	8504
1977	1.373	52.929	72.712	1.005	4871	36.1	7.96	9135
1978	1.527	59.245	89.515	1.005	5428	36.2	8.26	10227

APPENDIX B (CONTINUED)

LANOP INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
FOOD AND KINDRED PRODUCTS								
1948	0.332	17.499	5.815	0.933	1847	39.6	1.53	3798
1949	0.329	17.206	5.664	0.937	1827	39.2	1.52	3721
1950	0.347	17.420	6.048	0.935	1834	39.6	1.60	3775
1951	0.377	17.712	6.685	0.936	1878	39.2	1.74	3832
1952	0.393	17.790	7.000	0.945	1876	39.1	1.84	3813
1953	0.418	17.735	7.415	0.949	1877	38.8	1.96	3787
1954	0.439	17.501	7.684	0.952	1853	38.6	2.06	3723
1955	0.460	17.500	8.043	0.949	1851	38.8	2.15	3736
1956	0.489	17.519	8.567	0.946	1869	38.6	2.28	3750
1957	0.510	17.171	8.757	0.948	1844	38.2	2.39	3667
1958	0.532	16.737	8.911	0.955	1787	38.2	2.51	3551
1959	0.560	16.919	9.477	0.956	1798	38.3	2.64	3584
1960	0.579	17.097	9.903	0.958	1820	38.2	2.74	3616
1961	0.597	16.803	10.082	0.952	1805	38.3	2.81	3592
1962	0.611	17.035	10.410	0.965	1793	38.4	2.91	3576
1963	0.631	16.820	10.612	0.960	1779	38.4	2.99	3551
1964	0.663	16.929	11.230	0.965	1761	38.4	3.16	3553
1965	0.672	17.032	11.450	0.960	1796	38.5	3.19	3592
1966	0.702	17.360	12.193	0.971	1809	38.5	3.37	3622
1967	0.732	17.489	12.796	0.977	1820	38.3	3.53	3626
1968	0.772	17.578	13.579	0.982	1821	38.3	3.75	3624
1969	0.825	17.812	14.524	0.981	1827	38.3	3.99	3636
1970	0.887	17.371	15.416	0.992	1812	37.6	4.35	3547
1971	0.938	17.214	16.146	1.006	1777	37.5	4.66	3466
1972	1.000	16.903	16.903	1.000	1752	37.6	4.94	3423
1973	1.072	16.703	17.996	0.995	1746	37.6	5.27	3416
1974	1.166	16.848	19.640	1.003	1739	37.6	5.77	3401
1975	1.274	16.545	21.083	1.017	1690	37.5	6.40	3296
1976	1.404	16.643	23.395	1.015	1717	37.2	7.04	3325
1977	1.521	16.721	25.428	1.014	1739	36.9	7.62	3338
1978	1.649	16.881	27.937	1.016	1760	36.8	8.27	3366

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
TOBACCO MANUFACTURERS								
1948	0.265	0.822	0.218	0.832	100	36.2	1.16	186
1949	0.284	0.821	0.233	0.835	102	35.2	1.24	187
1950	0.305	0.803	0.245	0.832	98	36.1	1.33	184
1951	0.320	0.877	0.281	0.835	106	36.3	1.40	200
1952	0.337	0.883	0.298	0.840	106	36.3	1.49	200
1953	0.362	0.876	0.317	0.844	106	35.9	1.60	198
1954	0.379	0.870	0.330	0.862	104	35.5	1.72	192
1955	0.391	0.876	0.343	0.864	102	36.4	1.78	193
1956	0.427	0.857	0.366	0.867	99	36.5	1.94	188
1957	0.460	0.822	0.378	0.873	95	36.2	2.11	179
1958	0.470	0.827	0.388	0.884	93	36.8	2.1A	178
1959	0.468	0.841	0.410	0.889	93	37.2	2.2A	180
1960	0.525	0.841	0.441	0.909	93	36.4	2.51	176
1961	0.531	0.826	0.438	0.903	90	37.2	2.52	174
1962	0.550	0.827	0.462	0.920	90	36.5	2.70	171
1963	0.581	0.617	0.475	0.920	89	36.5	2.81	169
1964	0.595	0.843	0.502	0.927	91	36.6	2.90	173
1965	0.634	0.802	0.508	0.931	88	35.8	3.10	164
1966	0.653	0.800	0.522	0.940	85	36.7	3.22	162
1967	0.674	0.615	0.549	0.951	86	36.4	3.37	163
1968	0.745	0.744	0.584	0.963	84	35.5	3.77	155
1969	0.827	0.754	0.624	0.970	81	35.1	4.21	148
1970	0.814	0.777	0.634	0.985	81	35.6	4.23	150
1971	0.924	0.707	0.691	1.001	77	35.5	4.87	142
1972	1.000	0.736	0.736	1.000	77	35.0	5.26	140
1973	1.087	0.767	0.834	1.000	79	35.5	5.71	146
1974	1.250	0.752	0.947	1.008	79	34.6	6.67	142
1975	1.377	0.705	0.971	1.024	73	34.5	7.42	131
1976	1.613	0.683	1.102	1.023	72	33.9	8.68	127
1977	1.790	0.646	1.193	1.022	70	34.1	9.62	124
1978	1.865	0.643	1.303	1.026	60	34.3	10.60	123

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
TEXTILE MILL PRODUCTS								
1948	0.1104	8.880	3.591	0.940	1333	37.7	1.38	2612
1949	0.114	7.688	3.186	0.942	1196	36.3	1.41	2255
1950	0.131	8.508	3.667	0.942	1260	38.1	1.47	2495
1951	0.163	8.217	3.808	0.941	1243	37.3	1.58	2412
1952	0.172	7.828	3.698	0.948	1168	37.6	1.62	2283
1953	0.178	7.600	3.730	0.948	1163	37.6	1.64	2273
1954	0.180	6.902	3.354	0.957	1053	36.9	1.66	2020
1955	0.184	7.343	3.554	0.954	1064	38.5	1.67	2128
1956	0.508	7.134	3.624	0.954	1043	38.1	1.75	2067
1957	0.528	6.669	3.522	0.957	990	37.4	1.83	1927
1958	0.536	6.250	3.347	0.964	927	37.2	1.87	1792
1959	0.561	6.688	3.750	0.963	954	38.7	1.95	1920
1960	0.575	6.498	3.738	0.978	931	37.9	2.04	1836
1961	0.586	6.209	3.691	0.960	902	38.3	2.06	1796
1962	0.599	6.558	3.926	0.981	913	38.9	2.13	1847
1963	0.619	6.435	3.985	0.977	900	38.9	2.19	1821
1964	0.653	6.507	4.248	0.977	902	39.3	2.31	1841
1965	0.683	6.841	4.670	0.973	935	40.0	2.40	1943
1966	0.717	7.147	5.128	0.974	974	40.0	2.53	2028
1967	0.750	6.989	5.249	0.977	971	39.2	2.65	1978
1968	0.803	7.316	5.871	0.980	1006	39.5	2.84	2064
1969	0.856	7.311	6.261	0.978	1016	39.1	3.03	2066
1970	0.999	7.022	6.313	0.994	989	38.0	3.23	1952
1971	0.942	7.010	6.610	1.003	965	38.5	3.42	1933
1972	1.000	7.414	7.414	1.000	1005	39.2	3.62	2049
1973	1.090	7.534	8.212	0.997	1036	38.8	3.93	2049
1974	1.207	6.938	8.375	1.003	990	37.2	4.38	1913
1975	1.281	6.176	7.915	1.018	872	37.0	4.72	1676
1976	1.394	6.640	9.264	1.014	921	37.8	5.11	1811
1977	1.516	6.611	10.023	1.013	915	37.9	5.56	1804
1978	1.638	6.599	10.806	1.007	916	38.0	5.97	1811

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	UNITLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
APPAREL AND OTHER FABRICATED TEXTILE PRODUCTS								
1948	0.433	7.432	3.219	0.973	1234	34.9	1.44	2238
1949	0.420	7.232	3.092	0.975	1211	34.5	1.42	2175
1950	0.455	7.516	3.422	0.970	1234	35.4	1.51	2272
1951	0.492	7.396	3.639	0.967	1243	34.7	1.62	2243
1952	0.490	7.698	3.730	0.966	1258	35.3	1.62	2308
1953	0.507	7.603	3.899	0.962	1284	35.1	1.66	2344
1954	0.517	7.207	3.747	0.972	1221	34.4	1.71	2186
1955	0.523	7.566	3.955	0.964	1256	35.2	1.72	2301
1956	0.561	7.523	4.223	0.962	1260	35.0	1.84	2293
1957	0.572	7.334	4.142	0.963	1236	34.7	1.88	2233
1958	0.590	6.944	4.099	0.960	1180	34.2	1.95	2100
1959	0.599	7.473	4.480	0.966	1239	35.2	1.97	2269
1960	0.604	7.522	4.566	0.988	1252	34.5	2.04	2244
1961	0.633	7.200	4.611	0.968	1231	34.5	2.09	2207
1962	0.629	7.920	4.904	0.981	1281	35.5	2.11	2368
1963	0.648	7.935	5.141	0.974	1294	35.5	2.15	2388
1964	0.678	8.006	5.431	0.972	1314	35.3	2.25	2414
1965	0.697	8.360	5.931	0.968	1363	35.8	2.30	2534
1966	0.727	8.668	6.298	0.966	1414	35.8	2.40	2630
1967	0.769	8.559	6.579	0.968	1406	35.4	2.54	2591
1968	0.849	8.633	7.329	0.973	1421	35.2	2.82	2600
1969	0.897	8.623	7.736	0.970	1430	35.0	2.97	2605
1970	0.930	8.264	7.687	0.967	1381	34.2	3.13	2454
1971	0.955	8.334	7.962	1.004	1359	34.4	3.27	2433
1972	1.000	8.570	8.570	1.000	1389	34.8	3.41	2512
1973	1.074	8.707	9.354	0.996	1424	34.6	3.65	2564
1974	1.164	8.207	9.553	1.004	1366	33.7	3.99	2396
1975	1.221	7.719	9.425	1.023	1259	33.8	4.26	2212
1976	1.299	6.440	10.963	1.016	1346	34.8	4.50	2434
1977	1.417	8.319	11.791	1.016	1339	34.5	4.91	2400
1978	1.526	8.447	12.890	1.018	1357	34.5	5.30	2432

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
PAPER AND ALLIED PRODUCTS								
1948	0.334	4.731	1.578	0.867	471	39.8	1.62	976
1949	0.347	4.475	1.554	0.870	454	39.0	1.69	920
1950	0.362	4.952	1.795	0.870	486	40.3	1.76	1018
1951	0.396	5.221	2.068	0.877	511	40.1	1.94	1065
1952	0.413	5.205	2.148	0.891	505	39.8	2.06	1045
1953	0.427	5.572	2.379	0.898	534	39.9	2.15	1109
1954	0.443	5.564	2.467	0.908	535	39.4	2.25	1096
1955	0.463	5.835	2.705	0.909	552	40.0	2.36	1148
1956	0.486	6.023	2.930	0.913	571	39.7	2.48	1180
1957	0.512	5.973	3.057	0.919	568	39.3	2.63	1162
1958	0.529	5.904	3.125	0.930	559	39.0	2.75	1135
1959	0.550	6.202	3.459	0.935	583	39.7	2.87	1204
1960	0.565	6.402	3.615	0.948	593	39.2	2.99	1208
1961	0.584	6.526	3.808	0.948	600	39.5	3.09	1231
1962	0.604	6.726	4.065	0.962	616	39.0	3.25	1250
1963	0.623	6.808	4.239	0.959	623	39.2	3.34	1269
1964	0.647	6.802	4.458	0.965	626	39.2	3.49	1277
1965	0.663	7.084	4.638	0.963	641	39.5	3.57	1315
1966	0.687	7.499	5.153	0.972	669	39.7	3.74	1380
1967	0.712	7.612	5.420	0.980	681	39.2	3.90	1389
1968	0.757	7.807	5.906	0.985	693	39.3	4.17	1417
1969	0.807	6.069	6.513	0.986	715	39.4	4.45	1464
1970	0.875	7.774	6.806	0.995	708	38.2	4.87	1397
1971	0.928	7.608	7.058	1.004	680	38.5	5.21	1354
1972	1.000	7.721	7.731	1.000	685	38.8	5.59	1382
1973	1.074	7.903	8.486	0.999	702	38.8	6.00	1415
1974	1.188	7.772	9.232	1.005	702	37.9	6.68	1382
1975	1.308	7.151	9.352	1.019	643	37.5	7.46	1254
1976	1.446	7.548	10.912	1.017	675	37.8	8.22	1327
1977	1.573	7.768	12.220	1.014	694	38.0	8.92	1370
1978	1.712	7.888	13.508	1.018	702	38.0	9.75	1386

APPENDIX B (CONTINUED)

LABOR INPUT									
YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY	HOURLY	HOURS	
						HOURS PER PERSON			COMPENSATION
PRINTING AND PUBLISHING									
1948	0.365	7.656	2.793	0.900	812	37.2	1.78	1572	
1949	0.376	7.615	2.860	0.908	809	36.8	1.85	1549	
1950	0.407	7.560	3.079	0.934	820	35.1	2.06	1495	
1951	0.417	7.907	3.331	0.914	843	36.9	2.06	1616	
1952	0.429	8.217	3.524	0.927	855	36.8	2.15	1638	
1953	0.449	8.533	3.832	0.930	876	36.9	2.28	1679	
1954	0.468	8.603	4.020	0.941	886	36.5	2.39	1683	
1955	0.487	8.786	4.279	0.943	905	36.6	2.49	1721	
1956	0.519	8.924	4.620	0.930	929	36.7	2.61	1772	
1957	0.542	9.014	4.890	0.936	940	36.4	2.75	1780	
1958	0.560	8.889	4.982	0.943	930	36.0	2.86	1741	
1959	0.573	9.234	5.287	0.950	945	36.6	2.94	1796	
1960	0.561	10.048	5.632	1.003	973	36.6	3.04	1850	
1961	0.600	9.760	5.851	0.966	983	36.5	3.14	1866	
1962	0.622	9.653	6.125	0.972	994	36.2	3.27	1873	
1963	0.640	9.919	6.344	0.971	999	36.3	3.36	1887	
1964	0.660	10.224	6.745	0.983	1014	36.4	3.51	1922	
1965	0.677	10.498	7.108	0.979	1043	36.5	3.59	1982	
1966	0.708	10.919	7.730	0.985	1074	36.7	3.78	2047	
1967	0.720	11.325	8.254	0.997	1108	36.4	3.93	2099	
1968	0.773	11.505	8.891	0.997	1126	36.4	4.17	2132	
1969	0.828	11.701	9.758	0.993	1155	36.5	4.45	2191	
1970	0.876	11.673	10.224	1.014	1147	35.7	4.81	2127	
1971	0.944	11.191	10.563	1.010	1107	35.6	5.16	2046	
1972	1.000	11.380	11.380	1.000	1118	36.2	5.41	2102	
1973	1.063	11.671	12.408	0.993	1153	36.2	5.72	2171	
1974	1.150	11.555	13.288	0.995	1155	35.7	6.20	2144	
1975	1.216	11.389	13.853	1.006	1136	35.4	6.63	2091	
1976	1.313	11.570	15.197	1.013	1151	35.2	7.20	2110	
1977	1.385	12.005	16.624	1.004	1201	35.4	7.53	2208	
1978	1.472	12.583	18.525	1.009	1253	35.3	8.04	2303	

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
CHEMICALS AND ALLIED PRODUCTS								
1948	0.331	7.017	2.319	0.829	640	36.0	1.83	1265
1949	0.349	6.628	2.315	0.832	608	37.7	1.94	1191
1950	0.369	6.948	2.560	0.836	627	38.1	2.06	1243
1951	0.400	7.837	3.135	0.846	700	38.1	2.26	1385
1952	0.416	8.200	3.408	0.864	723	37.8	2.40	1420
1953	0.431	8.799	3.797	0.877	763	37.8	2.53	1501
1954	0.450	8.713	3.925	0.867	749	37.7	2.67	1468
1955	0.468	9.001	4.212	0.892	767	37.9	2.79	1510
1956	0.495	9.426	4.666	0.898	798	37.8	2.97	1570
1957	0.524	9.663	5.064	0.908	811	37.7	3.18	1591
1958	0.542	9.435	5.110	0.924	781	37.6	3.35	1528
1959	0.560	9.852	5.514	0.934	799	38.0	3.49	1578
1960	0.563	10.291	5.795	0.957	816	37.9	3.60	1609
1961	0.589	10.165	6.007	0.956	817	37.5	3.76	1595
1962	0.606	10.480	6.353	0.960	826	37.7	3.93	1618
1963	0.626	10.817	6.647	0.963	843	37.6	4.03	1649
1964	0.651	10.860	7.071	0.970	855	37.7	4.22	1674
1965	0.663	11.288	7.487	0.969	886	37.8	4.30	1743
1966	0.690	12.103	8.352	0.977	941	37.9	4.51	1853
1967	0.710	12.603	8.953	0.985	977	37.7	4.68	1913
1968	0.758	12.939	9.813	0.980	1007	37.4	5.02	1957
1969	0.809	13.350	10.803	0.989	1039	37.4	5.35	2019
1970	0.861	13.267	11.417	0.996	1028	37.3	5.73	1902
1971	0.914	12.691	11.787	1.006	989	37.2	6.15	1915
1972	1.000	12.579	12.579	1.000	980	36.9	6.69	1881
1973	1.070	12.981	13.889	1.000	1009	37.0	7.16	1941
1974	1.182	13.261	15.609	1.007	1028	36.8	7.95	1970
1975	1.302	13.268	17.274	1.019	1025	36.5	8.87	1947
1976	1.409	13.752	19.378	1.021	1051	36.8	9.62	2014
1977	1.529	14.113	21.583	1.016	1082	36.9	10.39	2077
1978	1.639	14.568	23.872	1.025	1105	37.0	11.23	2125

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
PETROLEUM AND COAL PRODUCTS								
1948	0.366	2.955	1.082	0.827	222	36.5	2.57	421
1949	0.389	2.879	1.121	0.829	217	36.3	2.74	409
1950	0.391	2.942	1.149	0.834	219	36.6	2.76	416
1951	0.441	3.130	1.380	0.841	231	36.6	3.14	439
1952	0.469	3.232	1.515	0.855	235	36.4	3.40	446
1953	0.481	3.351	1.612	0.865	240	36.5	3.53	457
1954	0.505	3.334	1.682	0.873	237	36.5	3.73	450
1955	0.517	3.361	1.736	0.876	237	36.6	3.84	452
1956	0.543	3.369	1.828	0.883	236	36.6	4.06	450
1957	0.571	3.412	1.949	0.892	237	36.6	4.32	451
1958	0.584	3.296	1.924	0.906	225	36.6	4.49	429
1959	0.620	3.164	1.962	0.917	215	36.4	4.82	407
1960	0.620	3.113	1.931	0.936	208	36.3	4.93	392
1961	0.656	2.978	1.954	0.937	200	36.0	5.22	375
1962	0.658	2.929	1.927	0.947	194	36.1	5.29	364
1963	0.684	2.859	1.956	0.949	189	36.1	5.51	355
1964	0.689	2.813	1.938	0.959	184	36.2	5.60	346
1965	0.711	2.792	1.986	0.960	181	36.4	5.79	343
1966	0.724	2.826	2.047	0.969	181	36.5	5.95	344
1967	0.746	2.853	2.128	0.981	180	36.6	6.20	343
1968	0.793	2.915	2.311	0.984	185	36.2	6.64	308
1969	0.849	2.965	2.516	0.993	187	36.2	7.15	352
1970	0.869	3.050	2.649	0.992	190	36.7	7.31	362
1971	0.928	3.034	2.814	1.001	188	36.6	7.88	357
1972	1.000	2.904	2.994	1.000	184	36.4	8.48	353
1973	1.071	3.016	3.229	1.002	185	36.9	9.10	355
1974	1.206	3.222	3.887	1.005	190	38.3	10.28	378
1975	1.405	3.162	4.444	1.013	189	37.4	12.08	368
1976	1.531	3.280	5.022	1.018	194	37.7	13.22	380
1977	1.460	3.302	5.631	1.013	200	38.0	14.26	395
1978	1.776	3.554	6.311	1.022	205	38.5	15.39	410

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS								
1948	0.380	2.938	1.116	0.923	323	37.4	1.78	628
1949	0.382	2.686	1.026	0.926	299	36.8	1.79	572
1950	0.406	3.067	1.247	0.925	324	38.8	1.91	654
1951	0.442	3.304	1.461	0.930	350	38.5	2.08	701
1952	0.460	3.380	1.554	0.940	353	38.6	2.19	709
1953	0.480	3.591	1.724	0.946	376	38.3	2.30	749
1954	0.493	3.325	1.640	0.960	347	37.8	2.40	683
1955	0.515	3.762	1.938	0.958	379	39.3	2.50	775
1956	0.544	3.757	2.044	0.959	388	38.3	2.64	773
1957	0.574	3.705	2.178	0.962	389	38.5	2.80	778
1958	0.597	3.495	2.085	0.971	365	37.4	2.94	710
1959	0.607	3.960	2.405	0.972	397	38.9	2.99	804
1960	0.626	3.936	2.464	0.986	399	37.9	3.13	787
1961	0.643	3.899	2.508	0.982	393	38.3	3.20	783
1962	0.644	4.439	2.858	0.992	438	38.7	3.24	882
1963	0.667	4.480	2.989	0.985	447	38.6	3.33	897
1964	0.691	4.687	3.240	0.985	463	39.0	3.45	938
1965	0.708	5.061	3.582	0.978	497	39.5	3.51	1021
1966	0.730	5.526	4.035	0.980	541	39.5	3.63	1112
1967	0.766	5.546	4.249	0.986	546	39.1	3.83	1109
1968	0.810	5.982	4.845	0.988	587	39.1	4.06	1194
1969	0.855	6.338	5.417	0.986	628	38.6	4.27	1268
1970	0.903	6.070	5.480	0.995	611	37.9	4.56	1203
1971	0.952	6.096	5.804	1.006	607	37.9	4.86	1195
1972	1.000	6.662	6.662	1.000	656	38.5	5.07	1314
1973	1.061	7.166	7.600	0.996	710	38.4	5.36	1419
1974	1.171	6.909	8.198	1.002	706	37.5	5.95	1377
1975	1.253	6.015	7.540	1.019	603	37.1	6.47	1165
1976	1.343	6.524	8.762	1.013	654	37.4	6.90	1271
1977	1.463	7.205	10.540	1.009	721	37.6	7.48	1409
1978	1.575	7.607	11.983	1.013	760	37.5	8.09	1480

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	COST/LB	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
LEATHER AND LEATHER PRODUCTS								
1948	0.392	2.681	1.051	0.971	411	35.6	1.38	761
1949	0.390	2.558	0.997	0.976	396	35.2	1.38	724
1950	0.402	2.656	1.068	0.976	401	36.1	1.42	751
1951	0.433	2.503	1.085	0.973	386	35.4	1.53	710
1952	0.452	2.615	1.182	0.974	388	36.7	1.60	741
1953	0.469	2.583	1.214	0.974	391	36.0	1.66	733
1954	0.482	2.453	1.183	0.982	374	35.4	1.72	689
1955	0.496	2.574	1.276	0.976	384	36.2	1.75	728
1956	0.528	2.525	1.334	0.972	383	36.0	1.86	717
1957	0.545	2.474	1.349	0.972	377	35.8	1.92	703
1958	0.565	2.331	1.316	0.976	360	35.2	2.00	659
1959	0.583	2.479	1.445	0.971	375	36.1	2.05	704
1960	0.593	2.400	1.425	0.989	364	35.4	2.13	670
1961	0.609	2.361	1.439	0.972	360	35.8	2.15	670
1962	0.623	2.409	1.500	0.984	361	36.0	2.22	676
1963	0.649	2.328	1.510	0.979	351	35.9	2.30	656
1964	0.682	2.342	1.597	0.979	350	36.3	2.42	660
1965	0.692	2.393	1.655	0.973	357	36.5	2.44	678
1966	0.721	2.467	1.779	0.973	365	36.9	2.54	699
1967	0.761	2.382	1.813	0.975	355	36.5	2.69	674
1968	0.816	2.401	1.893	0.977	361	36.7	2.89	689
1969	0.860	2.249	1.996	0.975	345	35.8	3.11	642
1970	0.921	2.122	1.954	0.989	321	35.5	3.30	592
1971	0.951	2.041	1.942	1.000	302	35.8	3.45	563
1972	1.000	2.050	2.050	1.000	300	36.3	3.62	566
1973	1.047	2.002	2.096	0.994	297	36.0	3.77	556
1974	1.164	1.824	2.123	1.001	279	34.6	4.22	503
1975	1.240	1.634	2.031	1.017	247	34.5	4.58	403
1976	1.298	1.708	2.333	1.011	267	35.3	4.76	490
1977	1.413	1.730	2.443	1.004	262	34.9	5.14	475
1978	1.508	1.758	2.651	0.998	266	35.1	5.46	486

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
LUMBER AND WOOD PRODUCTS EXCEPT FURNITURE								
1948	0.296	7.290	2.160	0.932	973	38.8	1.10	1961
1949	0.306	6.311	1.930	0.931	859	36.1	1.14	1699
1950	0.330	6.882	2.271	0.936	924	38.3	1.23	1843
1951	0.371	7.256	2.695	0.931	983	38.2	1.38	1954
1952	0.363	6.960	2.668	0.938	927	38.6	1.44	1858
1953	0.394	6.681	2.632	0.937	899	38.2	1.47	1786
1954	0.411	6.110	2.500	0.936	825	38.1	1.53	1636
1955	0.431	6.472	2.789	0.939	865	38.4	1.61	1727
1956	0.483	6.281	3.033	0.935	854	37.9	1.80	1683
1957	0.491	5.631	2.762	0.934	776	37.4	1.83	1510
1958	0.487	5.307	2.603	0.935	732	37.6	1.82	1433
1959	0.530	5.709	3.073	0.930	773	38.5	1.99	1547
1960	0.541	5.575	3.017	0.945	749	38.0	2.04	1479
1961	0.552	5.236	2.893	0.943	698	38.3	2.08	1392
1962	0.570	5.400	3.076	0.958	703	38.7	2.18	1413
1963	0.609	5.469	3.328	0.960	705	38.9	2.33	1428
1964	0.635	5.725	3.634	0.966	730	39.1	2.45	1485
1965	0.637	5.871	3.738	0.966	741	39.5	2.45	1523
1966	0.685	5.993	4.107	0.977	749	39.5	2.67	1537
1967	0.700	5.838	4.085	0.984	733	39.0	2.75	1487
1968	0.748	6.085	4.490	0.993	748	39.0	2.97	1515
1969	0.824	6.171	5.088	0.992	777	38.6	3.26	1559
1970	0.880	5.980	5.261	1.004	761	37.7	3.52	1483
1971	0.928	6.214	5.769	1.003	782	38.2	3.72	1552
1972	1.000	6.504	6.504	1.000	803	39.0	3.99	1630
1973	1.070	6.720	7.193	0.994	837	38.9	4.25	1693
1974	1.217	6.193	7.538	1.003	798	37.3	4.87	1547
1975	1.332	5.272	7.023	1.017	685	36.5	5.41	1299
1976	1.423	6.019	8.563	1.011	759	37.8	5.74	1492
1977	1.569	6.394	10.032	1.010	807	37.8	6.32	1507
1978	1.721	6.603	11.521	1.011	844	37.8	6.95	1658

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
FURNITURE AND FIXTURES								
1948	0.365	2.794	1.021	0.927	363	39.5	1.37	746
1949	0.373	2.552	0.952	0.930	339	38.7	1.40	679
1950	0.386	3.045	1.176	0.941	384	40.1	1.47	801
1951	0.429	2.943	1.264	0.939	378	39.5	1.63	776
1952	0.442	3.010	1.330	0.947	381	39.7	1.69	787
1953	0.461	3.053	1.407	0.950	389	39.4	1.77	795
1954	0.479	2.780	1.332	0.955	359	38.6	1.85	721
1955	0.503	3.046	1.532	0.956	383	39.6	1.94	789
1956	0.531	3.067	1.630	0.955	391	39.2	2.05	795
1957	0.547	3.005	1.643	0.957	389	38.5	2.11	777
1958	0.563	2.832	1.594	0.963	369	38.0	2.19	728
1959	0.591	3.036	1.794	0.964	387	38.7	2.30	779
1960	0.613	2.993	1.834	0.970	385	38.2	2.40	764
1961	0.626	2.848	1.783	0.969	366	38.2	2.45	728
1962	0.623	3.096	1.929	0.980	385	39.1	2.47	782
1963	0.645	3.117	2.009	0.977	387	39.3	2.54	790
1964	0.664	3.250	2.177	0.980	404	39.4	2.63	828
1965	0.671	3.476	2.334	0.978	426	39.7	2.65	880
1966	0.715	3.736	2.672	0.982	457	39.6	2.84	942
1967	0.738	3.615	2.667	0.981	452	38.8	2.92	912
1968	0.803	3.708	2.978	0.988	464	38.5	3.20	929
1969	0.863	3.753	3.241	0.985	473	38.3	3.44	943
1970	0.898	3.482	3.127	0.994	446	37.4	3.61	867
1971	0.939	3.528	3.311	1.002	443	37.8	3.80	872
1972	1.000	3.845	3.845	1.000	482	38.0	4.04	952
1973	1.078	4.037	4.351	0.998	514	37.5	4.34	1001
1974	1.164	3.803	4.504	0.990	497	36.5	4.78	942
1975	1.266	3.243	4.106	1.013	427	35.7	5.18	792
1976	1.340	3.556	4.795	1.015	454	36.7	5.53	867
1977	1.452	3.768	5.474	0.998	487	36.9	5.86	934
1978	1.563	4.002	6.257	1.006	510	37.1	6.36	985

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
STONE, CLAY, AND GLASS PRODUCTS								
1948	0.327	5.500	1.798	0.874	579	38.4	1.56	1155
1949	0.336	5.033	1.692	0.877	540	37.6	1.61	1054
1950	0.356	5.495	1.957	0.878	571	38.7	1.70	1148
1951	0.391	5.941	2.322	0.883	610	38.9	1.88	1234
1952	0.397	5.806	2.305	0.896	591	38.7	1.94	1189
1953	0.426	5.911	2.515	0.904	601	38.4	2.09	1201
1954	0.443	5.607	2.499	0.911	573	38.2	2.20	1138
1955	0.462	6.070	2.801	0.913	604	38.8	2.30	1220
1956	0.491	6.199	3.046	0.915	619	38.6	2.45	1243
1957	0.517	6.044	3.127	0.921	609	38.0	2.60	1205
1958	0.531	5.753	3.055	0.930	579	37.7	2.69	1136
1959	0.548	6.360	3.485	0.936	615	39.0	2.79	1248
1960	0.558	6.403	3.572	0.948	619	38.5	2.88	1240
1961	0.571	6.177	3.524	0.949	595	38.6	2.95	1195
1962	0.595	6.313	3.757	0.963	603	38.4	3.12	1204
1963	0.610	6.452	3.938	0.961	612	38.7	3.20	1232
1964	0.635	6.698	4.251	0.968	627	38.9	3.35	1270
1965	0.650	6.877	4.471	0.966	642	39.1	3.42	1307
1966	0.677	7.118	4.815	0.975	658	39.2	3.59	1340
1967	0.700	6.980	4.887	0.980	647	38.8	3.74	1307
1968	0.758	7.010	5.311	0.986	650	38.6	4.07	1304
1969	0.804	7.204	5.865	0.986	674	38.7	4.32	1357
1970	0.854	7.120	6.034	0.994	657	38.5	4.63	1315
1971	0.915	7.056	6.457	1.005	646	38.4	5.01	1289
1972	1.000	7.219	7.219	1.000	667	38.2	5.45	1325
1973	1.059	7.683	8.140	1.000	707	38.4	5.77	1411
1974	1.158	7.557	8.754	1.006	701	37.8	6.35	1379
1975	1.261	6.875	8.667	1.020	641	37.1	7.00	1237
1976	1.376	7.086	9.754	1.018	660	37.2	7.64	1277
1977	1.496	7.321	10.949	1.015	682	37.3	8.27	1324
1978	1.621	7.760	12.575	1.021	714	37.6	9.02	1395

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
PRIMARY METAL INDUSTRIES								
1948	0.303	14.558	4.405	0.905	1234	37.0	1.86	2373
1949	0.313	12.364	3.872	0.906	1088	35.6	1.92	2013
1950	0.336	14.317	4.806	0.909	1191	37.5	2.07	2324
1951	0.367	15.959	5.858	0.912	1304	38.1	2.27	2582
1952	0.390	15.059	5.872	0.923	1236	37.4	2.44	2407
1953	0.411	16.218	6.667	0.928	1319	37.6	2.59	2579
1954	0.428	13.858	5.935	0.932	1176	35.9	2.71	2194
1955	0.455	15.910	7.231	0.932	1281	37.8	2.87	2519
1956	0.484	16.296	7.880	0.935	1316	37.6	3.06	2572
1957	0.523	15.866	8.302	0.939	1313	36.5	3.33	2493
1958	0.547	13.167	7.208	0.947	1110	35.6	3.51	2052
1959	0.564	14.314	8.079	0.949	1138	37.6	3.63	2225
1960	0.585	14.463	8.462	0.959	1173	36.5	3.80	2225
1961	0.598	13.561	8.115	0.963	1094	36.5	3.91	2078
1962	0.614	14.159	8.687	0.973	1117	37.0	4.05	2147
1963	0.620	14.483	8.986	0.971	1127	37.6	4.08	2201
1964	0.642	15.519	9.971	0.977	1182	38.1	4.25	2345
1965	0.653	16.476	10.755	0.975	1249	38.4	4.31	2494
1966	0.681	17.148	11.685	0.980	1293	36.4	4.53	2581
1967	0.700	16.586	11.604	0.987	1267	37.6	4.68	2479
1968	0.753	16.629	12.526	0.991	1267	37.6	5.06	2475
1969	0.801	17.174	13.753	0.992	1303	37.7	5.38	2555
1970	0.851	16.108	13.736	0.995	1266	36.4	5.74	2394
1971	0.915	15.108	13.820	1.001	1180	36.3	6.21	2227
1972	1.000	15.479	15.479	1.000	1182	37.2	6.78	2284
1973	1.086	16.852	18.303	1.002	1266	37.7	7.37	2482
1974	1.214	17.188	20.859	1.007	1287	37.6	8.28	2519
1975	1.389	14.770	20.522	1.018	1145	36.0	9.59	2141
1976	1.513	15.033	22.745	1.019	1156	36.2	10.45	2177
1977	1.672	15.521	25.954	1.016	1189	36.5	11.51	2255
1978	1.808	16.219	29.322	1.018	1226	36.9	12.47	2351

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
FABRICATED METAL INDUSTRIES								
1948	0.340	11.224	3.816	0.914	1106	38.2	1.74	2195
1949	0.352	10.011	3.522	0.917	1004	37.4	1.80	1952
1950	0.373	11.445	4.268	0.918	1105	38.8	1.91	2229
1951	0.408	12.778	5.219	0.927	1215	39.0	2.12	2466
1952	0.425	13.266	5.635	0.942	1244	38.9	2.24	2519
1953	0.441	14.555	6.420	0.950	1351	39.0	2.34	2740
1954	0.454	13.101	5.940	0.958	1229	38.2	2.43	2445
1955	0.470	14.002	6.605	0.959	1294	38.9	2.52	2618
1956	0.502	14.237	7.146	0.962	1318	38.6	2.70	2646
1957	0.524	14.365	7.520	0.968	1333	38.5	2.83	2654
1958	0.541	12.765	6.907	0.979	1194	37.6	2.96	2332
1959	0.563	13.653	7.690	0.983	1248	38.5	3.09	2485
1960	0.576	13.809	7.952	0.993	1258	38.0	3.20	2486
1961	0.589	13.323	7.841	0.992	1215	36.0	3.27	2401
1962	0.601	14.263	8.574	1.000	1276	38.4	3.36	2550
1963	0.618	14.434	8.926	0.993	1294	38.6	3.43	2600
1964	0.650	14.978	9.731	0.995	1333	38.9	3.61	2693
1965	0.663	15.865	10.523	0.988	1411	39.1	3.86	2872
1966	0.690	17.324	11.959	0.991	1527	39.4	3.82	3128
1967	0.720	17.654	12.716	0.993	1579	38.7	4.00	3179
1968	0.772	18.112	13.990	0.995	1629	38.4	4.30	3256
1969	0.822	18.689	15.363	0.991	1691	38.4	4.55	3374
1970	0.868	18.986	15.075	0.994	1575	37.5	4.94	3055
1971	0.947	18.065	15.219	1.005	1482	37.1	5.32	2859
1972	1.000	18.984	16.984	1.000	1535	38.1	5.59	3037
1973	1.061	18.401	19.519	0.999	1652	38.4	5.97	3295
1974	1.182	17.961	21.236	1.004	1446	37.4	6.64	3199
1975	1.304	16.085	20.982	1.017	1476	36.8	7.42	2828
1976	1.410	16.749	23.624	1.016	1532	37.0	8.01	2949
1977	1.530	17.388	26.606	1.013	1593	37.1	8.66	3071
1978	1.633	18.428	30.097	1.016	1481	37.1	9.28	3244

APPENDIX B (CONTINUED)

LABOR INPUT													
YEAR	PRICE	QUANTITY	COST	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED					
MACHINERY EXCEPT ELECTRICAL													
1948	0.320	15.509	5.107	0.886	1437	38.7	1.77	2893					
1949	0.340	12.956	4.411	0.885	1240	37.5	1.82	2418					
1950	0.359	13.875	4.982	0.891	1266	39.1	1.94	2574					
1951	0.395	17.342	6.856	0.898	1525	40.2	2.15	3191					
1952	0.417	18.311	7.639	0.910	1605	39.9	2.30	3327					
1953	0.441	16.511	7.299	0.916	1628	39.4	2.44	3338					
1954	0.456	16.321	7.437	0.922	1471	38.2	2.54	2925					
1955	0.467	16.905	7.840	0.923	1497	39.1	2.61	3044					
1956	0.502	18.426	9.257	0.926	1600	39.3	2.81	3289					
1957	0.524	18.182	9.534	0.931	1614	38.5	2.95	3227					
1958	0.540	15.543	8.398	0.940	1398	37.6	3.07	2713					
1959	0.565	17.064	9.649	0.945	1498	38.3	3.23	2983					
1960	0.584	17.208	10.050	0.954	1509	38.0	3.37	2981					
1961	0.598	16.677	9.976	0.960	1454	38.0	3.47	2871					
1962	0.612	18.136	11.108	0.972	1528	38.8	3.60	3084					
1963	0.626	18.563	11.626	0.969	1566	38.9	3.67	3166					
1964	0.652	19.816	12.922	0.976	1644	39.2	3.85	3354					
1965	0.667	21.418	14.295	0.970	1780	39.3	3.93	3635					
1966	0.700	23.906	16.723	0.980	1952	39.7	4.15	4033					
1967	0.722	24.306	17.537	0.989	2004	38.9	4.32	4061					
1968	0.782	23.623	18.637	0.992	1998	38.2	4.70	3966					
1969	0.837	24.865	20.806	0.994	2070	38.4	5.03	4134					
1970	0.890	23.496	21.116	0.990	2014	37.1	5.44	3885					
1971	0.951	21.442	20.291	1.006	1840	36.8	5.79	3521					
1972	1.000	23.009	23.009	1.000	1922	38.0	6.05	3802					
1973	1.059	25.631	27.153	1.000	2119	38.4	6.41	4236					
1974	1.156	26.971	31.174	1.005	2255	37.8	7.03	4435					
1975	1.283	24.750	31.750	1.016	2090	36.9	7.89	4026					
1976	1.392	25.114	34.950	1.017	2112	37.2	8.56	4083					
1977	1.516	26.227	39.750	1.014	2203	37.3	9.30	4274					
1978	1.616	28.520	46.116	1.019	2363	37.6	9.97	4626					

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY		HOURLY COMPENSATION	HOURS WORKED
						HOURS PER PERSON			
ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES									
1948	0.353	9.353	3.299	0.857	978	37.2		1.74	1692
1949	0.368	8.010	2.945	0.860	843	36.8		1.82	1614
1950	0.369	9.575	3.515	0.865	968	37.9		1.84	1910
1951	0.403	10.931	4.410	0.876	1093	38.0		2.04	2162
1952	0.422	12.037	5.077	0.895	1180	38.0		2.18	2332
1953	0.438	13.454	5.895	0.906	1314	37.7		2.29	2573
1954	0.450	12.040	5.433	0.920	1183	36.9		2.39	2273
1955	0.465	12.800	5.947	0.921	1231	37.6		2.47	2410
1956	0.488	13.080	6.675	0.925	1306	37.7		2.60	2563
1957	0.514	13.860	7.119	0.933	1331	37.2		2.76	2576
1958	0.540	12.790	7.019	0.947	1220	36.9		3.00	2340
1959	0.576	14.603	8.463	0.948	1379	37.4		3.15	2685
1960	0.586	15.607	9.150	0.968	1451	37.0		3.28	2794
1961	0.611	15.524	9.488	0.964	1456	36.9		3.40	2792
1962	0.620	16.929	10.490	0.977	1557	37.1		3.49	3004
1963	0.640	16.469	10.543	0.972	1530	36.9		3.59	2938
1964	0.664	16.335	10.880	0.975	1511	37.0		3.74	2906
1965	0.680	17.473	11.884	0.968	1614	37.3		3.80	3128
1966	0.685	20.245	13.876	0.971	1857	37.4		3.84	3614
1967	0.721	20.750	14.952	0.983	1914	36.8		4.08	3661
1968	0.777	20.805	16.157	0.986	1933	36.4		4.42	3659
1969	0.840	21.121	17.732	0.986	1983	36.0		4.78	3712
1970	0.904	19.785	17.921	1.000	1871	35.3		5.23	3430
1971	0.961	18.457	17.740	1.008	1730	35.3		5.59	3176
1972	1.000	19.259	19.259	1.000	1782	36.0		5.77	3339
1973	1.051	21.251	22.341	0.994	1967	36.2		6.03	3706
1974	1.124	21.302	24.042	1.001	1985	35.9		6.49	3704
1975	1.263	18.630	23.535	1.019	1706	35.7		7.43	3169
1976	1.375	19.384	26.650	1.016	1783	35.7		8.06	3308
1977	1.490	20.341	30.373	1.008	1881	35.8		8.66	3506
1978	1.593	22.072	35.164	1.014	2029	35.8		9.32	3774

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	COST	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
TRANSPORTATION EQUIPMENT AND ORDNANCE EXCEPT MOTOR VEHICLES								
1948	0.318	5.601	1.795	0.870	473	37.0	1.97	911
1949	0.310	5.459	1.742	0.871	460	36.8	1.98	881
1950	0.327	5.506	1.800	0.875	456	37.3	2.04	884
1951	0.350	8.947	3.136	0.885	703	38.9	2.21	1422
1952	0.361	12.905	4.696	0.898	1000	38.8	2.31	2034
1953	0.386	14.752	5.698	0.906	1158	38.0	2.49	2288
1954	0.403	13.263	5.350	0.913	1050	37.4	2.62	2043
1955	0.425	12.838	5.461	0.913	1005	37.8	2.76	1976
1956	0.448	13.805	6.220	0.916	1072	38.3	2.92	2133
1957	0.472	14.727	6.946	0.922	1147	37.7	3.09	2247
1958	0.508	13.404	6.825	0.930	1044	37.4	3.36	2031
1959	0.534	13.521	7.225	0.932	1045	37.5	3.54	2040
1960	0.561	12.507	7.022	0.936	962	37.5	3.70	1879
1961	0.578	12.477	7.216	0.947	944	37.7	3.89	1853
1962	0.592	13.511	7.992	0.950	1004	37.9	4.04	1980
1963	0.630	13.620	8.578	0.959	1012	37.9	4.30	1997
1964	0.602	13.287	8.796	0.967	993	37.4	4.56	1931
1965	0.671	13.763	9.233	0.968	1021	37.7	4.62	1999
1966	0.691	16.421	11.340	0.970	1193	38.2	4.79	2370
1967	0.711	17.532	12.460	0.986	1268	37.9	4.98	2500
1968	0.760	17.438	13.322	0.992	1277	37.2	5.39	2472
1969	0.838	16.566	13.886	0.994	1228	36.7	5.92	2344
1970	0.812	13.753	12.567	0.998	1043	35.8	6.47	1941
1971	0.930	12.158	11.417	1.005	908	36.0	6.72	1700
1972	1.000	12.413	12.413	1.000	920	36.1	7.11	1745
1973	1.063	12.509	13.650	0.999	963	35.4	7.70	1773
1974	1.195	12.560	15.006	1.005	967	34.9	8.54	1757
1975	1.206	12.263	15.895	1.018	918	35.5	9.38	1694
1976	1.309	12.168	17.022	1.019	912	35.4	10.14	1679
1977	1.513	12.500	18.916	1.011	941	35.5	10.89	1737
1978	1.622	13.562	22.001	1.019	1011	35.6	11.76	1870

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
MOTOR VEHICLES AND EQUIPMENT								
1948	0.265	10.107	2.670	0.899	752	36.6	1.86	1443
1949	0.279	9.929	2.773	0.901	736	37.0	1.96	1415
1950	0.308	11.406	3.519	0.904	802	38.8	2.17	1619
1951	0.330	11.607	3.948	0.900	843	37.5	2.40	1644
1952	0.360	11.233	4.043	0.921	787	38.2	2.58	1565
1953	0.379	13.223	5.021	0.927	911	38.7	2.74	1833
1954	0.392	11.264	4.420	0.934	777	36.3	2.86	1547
1955	0.413	13.444	5.543	0.935	890	39.9	3.00	1846
1956	0.448	11.501	5.192	0.939	800	38.1	3.28	1584
1957	0.472	11.190	5.283	0.945	772	37.9	3.47	1520
1958	0.512	8.641	4.526	0.956	617	37.0	3.81	1187
1959	0.504	10.142	5.110	0.960	686	38.0	3.77	1355
1960	0.514	10.712	5.510	0.960	719	37.9	3.88	1419
1961	0.525	9.450	4.962	0.973	643	37.3	3.98	1247
1962	0.539	10.916	5.861	0.982	701	39.2	4.12	1427
1963	0.565	11.574	6.538	0.978	745	39.2	4.30	1519
1964	0.594	11.884	7.056	0.980	769	38.9	4.53	1556
1965	0.617	13.342	8.236	0.977	846	39.8	4.70	1752
1966	0.651	13.559	8.825	0.981	879	38.8	4.97	1774
1967	0.677	12.483	8.451	0.987	835	37.4	5.21	1623
1968	0.743	13.784	10.242	0.989	891	36.6	5.73	1788
1969	0.790	13.736	10.849	0.991	922	37.1	6.09	1780
1970	0.837	11.811	9.882	0.997	816	35.0	6.50	1520
1971	0.955	12.537	11.971	1.002	848	36.4	7.45	1606
1972	1.000	13.688	13.688	1.000	887	38.1	7.79	1757
1973	1.078	15.083	16.252	0.998	970	38.4	8.38	1939
1974	1.230	13.014	16.005	1.004	911	35.1	9.62	1664
1975	1.348	11.446	15.424	1.015	787	35.4	10.66	1447
1976	1.436	13.465	19.341	1.015	878	37.3	11.36	1703
1977	1.595	14.702	23.592	1.010	954	37.9	12.55	1880
1978	1.704	15.515	26.440	1.015	1009	37.4	13.48	1962

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	UNITARY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
PROFESSIONAL PHOTOGRAPHIC EQUIPMENT AND WATCHES								
1948	0.343	2.655	0.912	0.855	274	37.3	1.71	533
1949	0.261	2.419	0.972	0.858	251	37.0	1.80	483
1950	0.283	2.743	1.051	0.863	275	38.1	1.93	545
1951	0.409	3.341	1.368	0.874	325	38.8	2.09	655
1952	0.431	3.768	1.597	0.892	355	38.6	2.24	712
1953	0.440	4.061	1.824	0.905	387	36.2	2.37	769
1954	0.471	3.795	1.789	0.919	366	37.2	2.53	708
1955	0.490	3.917	1.920	0.921	371	37.8	2.63	729
1956	0.514	4.210	2.165	0.925	396	37.9	2.77	780
1957	0.544	4.337	2.301	0.933	409	37.5	2.96	797
1958	0.569	4.118	2.344	0.946	387	37.1	3.14	746
1959	0.589	4.411	2.595	0.950	406	37.7	3.26	796
1960	0.597	4.538	2.711	0.970	412	37.5	3.38	802
1961	0.622	4.425	2.753	0.963	404	37.5	3.50	788
1962	0.632	4.629	2.924	0.975	414	37.8	3.59	814
1963	0.656	4.633	3.038	0.969	418	37.7	3.71	820
1964	0.676	4.655	3.145	0.971	419	37.7	3.83	822
1965	0.691	4.973	3.438	0.968	445	38.0	3.91	880
1966	0.708	5.645	3.695	0.971	498	38.5	4.01	907
1967	0.736	5.803	4.237	0.983	520	38.0	4.22	1027
1968	0.789	5.945	4.704	0.985	538	37.1	4.53	1038
1969	0.844	6.115	5.163	0.985	556	36.8	4.85	1064
1970	0.890	5.820	5.240	0.995	535	36.1	5.22	1004
1971	0.958	5.480	5.240	1.006	500	35.9	5.62	934
1972	1.000	5.226	5.226	1.000	523	36.7	5.83	999
1973	1.060	6.313	6.693	0.995	568	36.8	6.15	1088
1974	1.133	6.621	7.501	1.003	596	36.5	6.63	1132
1975	1.238	6.156	7.619	1.020	551	36.1	7.36	1035
1976	1.346	6.445	8.701	1.017	579	36.2	7.98	1090
1977	1.447	6.942	10.049	1.010	623	36.4	8.53	1170
1978	1.533	7.424	11.383	1.010	658	36.5	9.11	1249

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	UNITLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
MISCELLANEOUS MANUFACTURING INDUSTRIES								
1948	0.363	3.369	1.222	0.894	444	30.6	1.37	890
1949	0.386	3.050	1.179	0.896	410	37.7	1.47	804
1950	0.410	3.278	1.343	0.898	428	38.7	1.56	862
1951	0.446	3.293	1.464	0.898	432	38.5	1.70	864
1952	0.449	3.270	1.468	0.905	425	38.0	1.72	854
1953	0.464	3.503	1.627	0.909	455	38.5	1.79	911
1954	0.483	3.297	1.592	0.917	432	37.8	1.87	849
1955	0.509	3.347	1.705	0.916	434	38.2	1.97	863
1956	0.534	3.375	1.802	0.916	440	38.0	2.07	871
1957	0.566	3.218	1.823	0.919	421	37.8	2.20	828
1958	0.573	3.047	1.746	0.928	399	37.4	2.25	776
1959	0.610	3.196	1.951	0.930	412	37.9	2.40	812
1960	0.604	3.207	1.960	0.951	414	37.5	2.43	807
1961	0.617	3.153	1.945	0.944	403	37.6	2.46	799
1962	0.624	3.320	2.073	0.963	414	37.8	2.55	814
1963	0.642	3.293	2.114	0.980	413	37.7	2.61	811
1964	0.665	3.394	2.240	0.968	421	37.7	2.72	826
1965	0.688	3.562	2.440	0.967	441	38.0	2.81	870
1966	0.709	3.734	2.647	0.971	459	38.1	2.91	908
1967	0.750	3.674	2.753	0.975	455	37.6	3.09	890
1968	0.808	3.694	2.985	0.984	458	37.3	3.36	887
1969	0.859	3.723	3.200	0.985	465	37.0	3.58	894
1970	0.901	3.645	3.285	0.999	452	36.7	3.81	862
1971	0.943	3.544	3.380	1.006	444	36.5	4.02	842
1972	1.000	3.607	3.697	1.000	462	36.4	4.23	874
1973	1.066	3.794	4.044	1.001	477	36.1	4.51	886
1974	1.155	3.800	4.387	1.004	481	35.8	4.90	895
1975	1.230	3.516	4.322	1.010	442	35.8	5.25	823
1976	1.319	3.707	4.889	1.010	458	36.1	5.68	860
1977	1.416	3.779	5.351	0.998	476	36.1	5.98	894
1978	1.500	3.905	5.858	0.978	501	36.2	6.21	943

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	COST	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
RAILROADS AND MAIL EXPRESS SERVICE								
1948	0.302	19,276	5.817	0.880	1505	41.7	1.78	3262
1949	0.327	16,437	5.382	0.881	1351	39.6	1.94	2778
1950	0.359	15,572	5.587	0.875	1375	37.1	2.11	2651
1951	0.390	16,423	6.410	0.880	1435	37.3	2.31	2779
1952	0.407	15,845	6.452	0.888	1385	36.9	2.43	2658
1953	0.414	15,615	6.458	0.890	1361	36.9	2.47	2614
1954	0.424	13,927	5.907	0.891	1207	37.1	2.54	2328
1955	0.429	14,189	6.091	0.892	1198	38.0	2.57	2369
1956	0.469	14,005	6.567	0.894	1185	37.9	2.82	2333
1957	0.500	13,263	6.626	0.897	1118	37.9	3.01	2200
1958	0.534	11,408	6.094	0.904	957	37.8	3.24	1879
1959	0.555	11,177	6.190	0.910	925	38.0	3.39	1828
1960	0.572	10,707	6.120	0.915	886	37.8	3.51	1742
1961	0.575	10,023	5.795	0.927	812	38.3	3.58	1620
1962	0.584	10,038	5.864	0.938	793	38.6	3.68	1593
1963	0.594	9,837	5.847	0.939	771	38.9	3.75	1559
1964	0.605	9,872	5.970	0.948	756	39.4	3.85	1550
1965	0.640	9,625	6.156	0.950	735	39.5	4.08	1509
1966	0.651	9,645	6.280	0.961	724	39.7	4.20	1494
1967	0.687	9,248	6.359	0.973	696	39.1	4.49	1415
1968	0.722	9,095	6.571	0.983	667	39.7	4.77	1377
1969	0.768	8,807	6.836	0.991	643	40.0	5.12	1336
1970	0.847	8,502	7.273	0.984	626	39.9	5.59	1300
1971	0.941	8,217	7.731	1.008	597	39.1	6.37	1214
1972	1.000	7,885	7.885	1.000	575	39.3	6.72	1174
1973	1.141	7,977	9.105	1.005	572	39.7	7.70	1182
1974	1.266	7,645	9.629	1.008	570	38.5	8.57	1158
1975	1.342	7,373	9.892	1.017	548	37.9	9.17	1079
1976	1.520	7,268	11.049	1.020	528	38.6	10.41	1061
1977	1.651	7,310	12.066	1.018	534	38.5	11.29	1069
1978	1.794	7,304	13.102	1.021	530	38.6	12.30	1065

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	COST	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
STREET RAILWAYS, BUS LINES AND TAXICABS								
1948	0.407	3.333	1.358	0.970	426	41.1	1.49	911
1949	0.412	3.227	1.330	0.972	412	41.1	1.51	881
1950	0.431	3.074	1.324	0.969	393	41.2	1.57	842
1951	0.453	3.060	1.390	0.973	391	41.1	1.66	830
1952	0.469	3.062	1.435	0.979	388	41.1	1.73	829
1953	0.476	3.008	1.433	0.981	382	41.0	1.76	813
1954	0.494	2.855	1.409	0.984	362	40.9	1.83	770
1955	0.517	2.712	1.401	0.980	346	40.8	1.91	734
1956	0.525	2.651	1.393	0.981	338	40.8	1.94	717
1957	0.545	2.641	1.440	0.988	336	40.6	2.03	709
1958	0.541	2.537	1.372	0.993	322	40.4	2.02	677
1959	0.566	2.487	1.407	0.996	315	40.4	2.13	662
1960	0.560	2.500	1.411	1.000	316	40.3	2.13	663
1961	0.594	2.469	1.465	1.000	313	40.3	2.24	655
1962	0.605	2.440	1.477	1.005	307	40.4	2.29	644
1963	0.619	2.408	1.490	0.998	304	40.6	2.33	640
1964	0.645	2.357	1.519	1.001	301	39.9	2.43	624
1965	0.674	2.340	1.577	0.988	304	39.5	2.51	628
1966	0.731	2.332	1.703	0.996	308	38.8	2.74	621
1967	0.752	2.302	1.798	0.997	318	38.5	2.82	637
1968	0.821	2.363	1.940	0.998	319	37.9	3.09	628
1969	0.863	2.328	2.000	0.994	318	37.6	3.23	621
1970	0.885	2.327	2.121	1.008	322	37.7	3.36	631
1971	0.963	2.359	2.273	1.003	318	37.7	3.64	624
1972	1.000	2.292	2.292	1.000	310	37.7	3.77	608
1973	1.039	2.148	2.231	1.004	303	36.0	3.93	567
1974	1.152	2.108	2.428	1.011	306	34.8	4.39	553
1975	1.268	2.066	2.619	1.019	301	34.4	4.87	538
1976	1.371	1.999	2.741	1.018	298	33.6	5.26	521
1977	1.491	1.927	2.872	1.031	289	33.1	5.79	496
1978	1.592	1.933	3.077	1.022	292	33.1	6.13	502

APPENDIX B (CONTINUED)

LADDER INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
TRUCKING SERVICES AND WAREHOUSING								
1948	0.274	6.901	1.892	0.898	727	39.4	1.27	1486
1949	0.292	6.883	2.007	0.901	723	39.3	1.36	1479
1950	0.312	7.431	2.319	0.901	779	39.4	1.45	1596
1951	0.332	8.089	2.685	0.910	841	39.4	1.56	1722
1952	0.360	8.379	3.015	0.921	861	39.4	1.71	1762
1953	0.387	9.745	3.386	0.927	893	39.3	1.85	1826
1954	0.405	8.539	3.459	0.932	870	39.2	1.95	1775
1955	0.432	8.956	3.870	0.935	911	39.2	2.09	1855
1956	0.457	9.328	4.262	0.935	947	39.2	2.21	1931
1957	0.473	9.411	4.448	0.938	957	39.1	2.29	1944
1958	0.489	9.200	4.495	0.942	934	38.9	2.38	1891
1959	0.506	9.897	5.002	0.951	984	39.3	2.49	2012
1960	0.542	9.979	5.207	0.952	1002	38.9	2.67	2027
1961	0.553	9.938	5.493	0.959	989	39.0	2.74	2007
1962	0.566	10.402	5.890	0.972	1018	39.1	2.84	2072
1963	0.594	10.625	6.315	0.972	1030	39.5	2.99	2114
1964	0.610	10.995	6.703	0.980	1054	39.7	3.08	2174
1965	0.628	11.635	7.311	0.981	1097	40.3	3.18	2296
1966	0.651	12.228	7.960	0.992	1140	40.3	3.33	2388
1967	0.679	12.274	8.333	0.994	1154	39.8	3.49	2391
1968	0.731	12.763	9.324	1.001	1187	40.0	3.78	2469
1969	0.765	13.212	10.104	1.002	1227	40.0	3.96	2554
1970	0.821	12.949	10.625	1.010	1218	39.2	4.28	2483
1971	0.900	13.212	11.885	1.004	1237	39.6	4.66	2549
1972	1.000	13.608	13.608	1.000	1276	39.7	5.16	2635
1973	1.080	14.416	15.692	1.007	1342	39.7	5.66	2773
1974	1.176	14.333	16.852	1.000	1373	38.9	6.07	2777
1975	1.268	13.173	16.652	1.001	1287	38.1	6.53	2550
1976	1.385	15.522	18.755	1.005	1318	38.0	7.19	2605
1977	1.518	14.309	21.719	1.002	1397	38.1	7.85	2766
1978	1.652	15.240	25.211	0.999	1493	38.1	8.52	2959

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	UNITLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
WATER TRANSPORTATION								
1948	0.293	3.165	0.928	0.953	274	33.9	1.92	483
1949	0.288	2.935	0.840	0.957	253	33.9	1.89	446
1950	0.320	2.756	0.883	0.930	242	34.0	2.07	427
1951	0.352	3.106	1.092	0.948	270	33.9	2.29	477
1952	0.382	3.059	1.168	0.959	263	34.0	2.51	465
1953	0.429	2.969	1.273	0.959	255	34.0	2.83	451
1954	0.427	2.731	1.168	0.955	236	33.9	2.80	416
1955	0.449	2.848	1.278	0.954	246	34.0	2.94	434
1956	0.463	2.947	1.305	0.952	255	34.0	3.03	450
1957	0.500	3.054	1.528	0.950	264	34.0	3.28	466
1958	0.492	2.694	1.327	0.959	232	33.9	3.24	409
1959	0.511	2.769	1.414	0.964	237	33.9	3.38	418
1960	0.556	2.746	1.526	0.954	237	34.0	3.64	419
1961	0.562	2.683	1.507	0.961	230	34.0	3.71	407
1962	0.588	2.688	1.581	0.974	227	34.0	3.94	402
1963	0.616	2.652	1.632	0.970	225	34.0	4.10	396
1964	0.624	2.768	1.728	0.978	233	34.0	4.19	412
1965	0.651	2.710	1.763	0.974	229	34.0	4.35	405
1966	0.690	2.910	2.008	0.968	244	33.8	4.68	429
1967	0.698	2.993	2.090	0.995	246	34.2	4.77	438
1968	0.773	2.933	2.267	1.003	245	33.4	5.33	426
1969	0.841	2.726	2.292	1.003	230	33.1	5.79	396
1970	0.911	2.627	2.393	0.992	222	33.2	6.21	385
1971	0.940	2.406	2.298	1.016	204	33.0	6.56	350
1972	1.000	2.390	2.390	1.000	208	32.2	6.87	348
1973	1.104	2.417	2.668	1.010	207	32.3	7.66	348
1974	1.191	2.421	2.885	1.017	208	32.0	8.32	347
1975	1.309	2.326	3.045	1.028	198	32.0	9.25	329
1976	1.446	2.315	3.348	1.028	198	31.8	10.22	328
1977	1.564	2.307	3.609	1.028	198	31.7	11.05	327
1978	1.653	2.507	4.210	1.037	211	32.6	11.77	358

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	COST/LY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
AIR TRANSPORTATION								
1948	0.243	1.614	0.344	0.958	92	36.3	1.99	173
1949	0.250	1.383	0.359	0.960	90	36.2	2.12	169
1950	0.278	1.388	0.386	0.963	90	36.3	2.28	169
1951	0.297	1.549	0.460	0.977	99	36.3	2.47	186
1952	0.310	1.801	0.559	0.986	114	36.2	2.61	214
1953	0.322	1.925	0.621	0.994	121	36.2	2.73	227
1954	0.335	1.943	0.657	0.996	123	36.2	2.84	231
1955	0.350	2.115	0.740	0.995	133	36.1	2.97	249
1956	0.361	2.434	0.878	0.993	153	36.2	3.06	287
1957	0.379	2.706	1.026	0.994	170	36.2	3.21	319
1958	0.391	2.705	1.058	0.993	170	36.2	3.31	319
1959	0.426	2.845	1.211	0.997	178	36.2	3.62	335
1960	0.441	3.088	1.362	0.987	195	36.2	3.71	367
1961	0.460	3.121	1.437	0.983	198	36.2	3.86	372
1962	0.485	3.183	1.544	0.992	200	36.2	4.10	376
1963	0.505	3.261	1.649	0.998	204	36.1	4.30	383
1964	0.537	3.410	1.833	1.005	215	35.6	4.61	398
1965	0.564	3.622	2.041	1.002	232	35.1	4.82	424
1966	0.585	4.072	2.384	1.010	258	35.2	5.04	473
1967	0.622	4.708	2.830	1.011	303	34.7	5.37	546
1968	0.665	5.215	3.467	1.014	335	34.6	5.75	603
1969	0.731	5.567	4.068	1.017	359	34.4	6.34	642
1970	0.831	5.403	4.564	1.025	357	33.8	7.27	628
1971	0.906	5.333	4.832	1.009	348	34.2	7.80	620
1972	1.000	5.343	5.343	1.000	352	34.2	8.53	626
1973	1.058	5.640	5.986	1.001	372	34.3	9.03	663
1974	1.133	5.737	6.483	0.995	375	34.6	9.61	675
1975	1.240	5.720	7.144	0.996	373	34.7	10.61	673
1976	1.377	5.740	7.930	0.997	377	34.6	11.71	678
1977	1.547	5.676	8.087	0.994	390	34.2	13.12	693
1978	1.707	6.100	10.414	0.997	412	33.5	14.52	717

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
PIPELINES EXCEPT NATURAL GAS								
1948	0.398	0.331	0.132	0.809	30	36.6	2.30	57
1949	0.405	0.321	0.130	0.812	29	36.5	2.35	55
1950	0.422	0.299	0.126	0.814	27	36.4	2.45	51
1951	0.454	0.315	0.143	0.827	28	36.4	2.68	53
1952	0.467	0.334	0.156	0.846	29	36.5	2.82	55
1953	0.486	0.327	0.159	0.860	28	36.4	2.98	53
1954	0.495	0.319	0.158	0.872	27	36.3	3.08	51
1955	0.511	0.309	0.158	0.880	26	36.2	3.21	49
1956	0.533	0.313	0.167	0.891	26	36.3	3.39	49
1957	0.548	0.316	0.174	0.904	26	36.2	3.53	49
1958	0.554	0.311	0.172	0.922	25	36.2	3.64	47
1959	0.583	0.302	0.176	0.936	24	36.1	3.89	45
1960	0.593	0.290	0.172	0.941	23	36.0	3.98	43
1961	0.621	0.279	0.173	0.948	22	35.9	4.20	41
1962	0.631	0.268	0.169	0.957	21	35.8	4.31	39
1963	0.646	0.260	0.168	0.953	20	36.6	4.40	38
1964	0.672	0.248	0.167	0.961	19	36.5	4.61	36
1965	0.663	0.249	0.165	0.963	19	36.5	4.56	36
1966	0.720	0.238	0.171	0.973	18	36.4	5.00	34
1967	0.731	0.241	0.176	0.984	18	36.4	5.14	34
1968	0.766	0.243	0.186	0.992	18	36.3	5.43	34
1969	0.788	0.245	0.193	1.000	18	36.3	5.63	34
1970	0.820	0.224	0.206	1.001	17	35.1	6.57	31
1971	0.934	0.234	0.218	1.011	17	36.2	6.74	32
1972	1.000	0.232	0.232	1.000	17	36.2	7.14	32
1973	1.080	0.218	0.235	1.005	16	36.1	7.74	30
1974	1.187	0.216	0.259	1.008	16	36.0	8.54	30
1975	1.401	0.227	0.318	1.010	17	35.0	10.10	31
1976	1.462	0.243	0.355	1.020	18	35.2	10.64	33
1977	1.608	0.242	0.389	1.015	18	35.2	11.65	33
1978	1.771	0.273	0.484	1.015	20	35.5	12.83	38

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
TRANSPORTATION SERVICES								
1948	0.321	0.751	0.241	0.880	83	36.9	1.52	159
1949	0.358	0.714	0.256	0.882	79	36.7	1.70	151
1950	0.355	0.690	0.245	0.875	77	36.7	1.67	147
1951	0.425	0.764	0.325	0.885	84	36.8	2.02	161
1952	0.420	0.796	0.335	0.895	87	36.6	2.02	165
1953	0.420	0.809	0.343	0.890	68	36.6	2.05	167
1954	0.470	0.766	0.353	0.900	83	36.7	2.29	158
1955	0.481	0.785	0.378	0.901	85	36.7	2.33	162
1956	0.507	0.783	0.397	0.898	85	36.7	2.44	162
1957	0.551	0.762	0.420	0.898	83	36.6	2.66	158
1958	0.558	0.725	0.404	0.900	79	36.5	2.70	150
1959	0.601	0.769	0.462	0.906	83	36.6	2.92	158
1960	0.620	0.705	0.493	0.901	86	36.7	3.00	164
1961	0.627	0.811	0.509	0.919	86	36.7	3.10	164
1962	0.641	0.837	0.537	0.941	87	36.6	3.25	165
1963	0.652	0.863	0.563	0.947	89	36.7	3.32	170
1964	0.656	0.915	0.601	0.959	93	36.7	3.38	178
1965	0.690	0.939	0.648	0.962	95	36.8	3.57	182
1966	0.702	1.054	0.740	0.984	105	36.5	3.71	199
1967	0.732	1.123	0.822	0.989	111	36.6	3.89	211
1968	0.781	1.124	0.878	0.995	111	36.5	4.18	210
1969	0.794	1.195	0.949	0.996	118	36.4	4.25	223
1970	0.860	1.213	1.055	0.991	122	35.9	4.63	226
1971	0.899	1.242	1.117	1.013	124	35.4	4.89	228
1972	1.000	1.236	1.236	1.000	127	34.9	5.38	230
1973	1.071	1.315	1.408	1.011	135	34.5	5.82	242
1974	1.167	1.390	1.629	1.017	141	34.9	6.38	255
1975	1.240	1.412	1.763	1.016	146	34.1	6.82	259
1976	1.387	1.471	2.041	1.025	152	33.8	7.64	267
1977	1.674	1.600	2.677	1.027	167	33.4	9.24	290
1978	1.668	1.479	3.131	1.036	192	33.9	9.29	337

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS ACKED
TELEPHONE AND TELEGRAPH AND MISCELLANEOUS COMMUNICATION SERVICES								
1948	0.267	7.695	2.055	0.850	690	35.4	1.61	1278
1949	0.266	7.528	2.151	0.848	690	34.9	1.72	1252
1950	0.328	7.393	2.424	0.849	671	35.2	1.97	1228
1951	0.318	7.827	2.489	0.861	698	35.3	1.94	1283
1952	0.330	8.164	2.766	0.876	725	34.9	2.10	1315
1953	0.353	8.508	3.034	0.886	752	35.0	2.21	1370
1954	0.382	8.639	3.303	0.892	747	35.2	2.42	1367
1955	0.387	8.975	3.478	0.898	760	35.7	2.46	1411
1956	0.396	9.524	3.769	0.899	807	35.6	2.52	1495
1957	0.400	9.649	3.856	0.902	823	35.3	2.55	1509
1958	0.457	9.021	4.122	0.911	772	34.8	2.95	1397
1959	0.486	9.020	4.383	0.928	745	35.4	3.19	1372
1960	0.457	9.403	4.290	0.956	748	35.7	3.09	1389
1961	0.490	9.074	4.443	0.942	735	35.6	3.27	1359
1962	0.506	9.264	4.689	0.958	730	35.9	3.44	1364
1963	0.523	9.308	4.965	0.962	720	36.0	3.56	1365
1964	0.562	9.717	5.460	0.977	747	36.1	3.89	1404
1965	0.567	10.138	5.751	0.978	775	36.3	3.93	1463
1966	0.570	10.778	6.144	0.981	818	36.4	3.96	1550
1967	0.602	10.988	6.688	0.990	849	35.5	4.27	1567
1968	0.637	11.232	7.150	0.995	856	35.8	4.49	1593
1969	0.659	12.299	8.110	0.999	923	36.2	4.67	1738
1970	0.732	13.218	9.678	1.004	993	36.0	5.21	1857
1971	0.860	12.933	11.172	1.010	992	35.0	6.18	1807
1972	1.000	13.157	13.157	1.000	1005	35.5	7.09	1856
1973	1.081	13.613	14.445	1.002	1032	35.7	7.53	1917
1974	1.167	13.833	15.706	1.001	1046	35.3	8.27	1923
1975	1.331	13.201	17.566	1.002	1023	34.9	9.45	1858
1976	1.521	13.010	19.786	1.002	1009	34.9	10.81	1831
1977	1.610	13.565	21.520	0.999	1022	35.5	11.40	1887
1978	1.760	14.000	24.645	1.002	1061	35.8	12.49	1973

APPENDIX B (CONTINUED)

LABOR INPUT										WEEKLY				HOURS	
YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED							
RADIO BROADCASTING AND TELEVISION															
1948	0.369	0.565	0.208	0.952	52	35.1	2.19	95							
1949	0.380	0.604	0.220	0.957	55	35.3	2.27	101							
1950	0.407	0.648	0.264	0.961	59	35.2	2.44	108							
1951	0.429	0.707	0.303	0.968	64	35.1	2.59	117							
1952	0.460	0.739	0.340	0.985	66	35.0	2.83	120							
1953	0.478	0.802	0.383	0.996	71	34.9	2.97	129							
1954	0.506	0.864	0.437	0.995	77	34.7	3.15	139							
1955	0.529	0.894	0.473	0.988	80	34.8	3.27	145							
1956	0.572	0.913	0.522	0.974	83	34.7	3.48	150							
1957	0.598	0.945	0.556	0.976	86	34.6	3.59	155							
1958	0.624	0.948	0.592	0.972	87	34.5	3.79	156							
1959	0.620	0.991	0.624	0.980	90	34.6	3.85	162							
1960	0.645	1.036	0.668	0.986	93	34.7	3.98	168							
1961	0.663	1.056	0.700	0.988	95	34.6	4.10	171							
1962	0.666	1.076	0.717	0.996	96	34.6	4.15	173							
1963	0.686	1.123	0.771	0.999	99	35.0	4.28	180							
1964	0.701	1.182	0.829	1.007	103	35.1	4.41	188							
1965	0.732	1.221	0.894	0.994	108	35.0	4.55	197							
1966	0.779	1.271	0.991	0.997	113	34.7	4.66	204							
1967	0.784	1.359	1.066	1.001	121	34.5	4.91	217							
1968	0.845	1.393	1.177	1.009	124	34.3	5.33	221							
1969	0.864	1.481	1.279	1.005	131	34.6	5.43	236							
1970	0.912	1.529	1.394	1.015	132	35.1	5.79	241							
1971	0.930	1.565	1.456	1.012	136	35.0	5.88	248							
1972	1.000	1.615	1.615	1.000	141	35.3	6.25	259							
1973	1.056	1.668	1.761	0.998	146	35.2	6.58	268							
1974	1.134	1.715	1.946	0.997	151	35.1	7.07	275							
1975	1.230	1.737	2.138	1.002	156	34.2	7.70	270							
1976	1.237	1.814	2.424	1.011	161	34.3	8.45	287							
1977	1.464	1.889	2.765	0.998	170	34.3	9.12	303							
1978	1.572	2.031	2.102	1.003	182	34.2	9.85	324							

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
ELECTRIC UTILITIES								
1948	0.289	4.172	1.205	0.890	309	37.7	1.99	606
1949	0.307	4.228	1.298	0.891	317	37.2	2.12	613
1950	0.329	4.232	1.407	0.894	321	37.1	2.27	619
1951	0.347	4.414	1.542	0.902	326	37.5	2.42	637
1952	0.371	4.492	1.668	0.915	329	37.1	2.63	635
1953	0.387	4.628	1.791	0.924	335	37.1	2.77	648
1954	0.402	4.690	1.883	0.931	336	37.2	2.90	650
1955	0.416	4.713	1.960	0.933	339	37.1	3.00	653
1956	0.436	4.805	2.093	0.936	342	37.3	3.15	654
1957	0.458	4.619	2.208	0.939	344	37.1	3.33	664
1958	0.483	4.910	2.373	0.947	352	36.7	3.54	671
1959	0.506	4.901	2.479	0.954	348	36.7	3.73	664
1960	0.517	4.982	2.578	0.965	349	36.8	3.86	667
1961	0.545	4.984	2.715	0.968	349	36.7	4.08	666
1962	0.562	5.005	2.815	0.977	347	36.7	4.25	663
1963	0.586	5.050	2.961	0.979	348	36.9	4.44	667
1964	0.615	5.131	3.155	0.989	349	36.9	4.70	671
1965	0.621	5.323	3.397	1.008	353	37.2	4.84	683
1966	0.662	5.316	3.517	0.995	357	37.3	5.09	691
1967	0.592	5.443	3.764	1.000	363	37.3	5.35	704
1968	0.739	5.527	4.083	0.999	369	37.2	5.71	715
1969	0.774	5.736	4.432	1.008	377	37.5	6.03	736
1970	0.847	5.849	4.955	0.995	387	37.8	6.52	760
1971	0.909	6.006	5.432	1.009	393	37.7	7.06	770
1972	1.000	6.010	6.010	1.000	401	37.3	7.73	777
1973	1.069	6.161	6.583	0.998	411	37.4	8.24	799
1974	1.147	6.199	7.112	1.000	416	37.1	8.87	802
1975	1.268	6.072	7.699	1.001	410	36.8	9.81	785
1976	1.433	6.016	8.620	0.999	411	36.4	11.07	779
1977	1.567	6.110	9.576	0.994	419	36.5	12.05	795
1978	1.477	6.455	10.826	1.001	435	36.8	12.98	834

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
GAS UTILITIES								
1948	0.286	1.718	0.492	0.871	141	37.7	1.78	276
1949	0.305	1.743	0.532	0.872	144	37.2	1.90	280
1950	0.327	1.768	0.577	0.875	146	37.2	2.04	283
1951	0.350	1.850	0.647	0.883	150	37.6	2.21	293
1952	0.370	1.845	0.713	0.895	153	37.1	2.42	295
1953	0.399	1.958	0.782	0.904	157	37.2	2.58	303
1954	0.421	1.920	0.840	0.911	159	37.1	2.74	307
1955	0.440	2.025	0.892	0.913	161	37.0	2.87	310
1956	0.467	2.092	0.972	0.915	164	37.2	3.06	318
1957	0.498	2.103	1.047	0.918	167	37.0	3.27	320
1958	0.531	2.161	1.147	0.926	172	36.6	3.51	326
1959	0.563	2.177	1.225	0.933	171	36.6	3.75	326
1960	0.581	2.231	1.297	0.940	173	36.7	3.92	331
1961	0.605	2.233	1.352	0.946	173	36.6	4.09	330
1962	0.620	2.243	1.392	0.955	172	36.7	4.24	329
1963	0.642	2.253	1.453	0.957	173	36.8	4.40	331
1964	0.667	2.300	1.535	0.967	173	36.9	4.62	333
1965	0.649	2.424	1.565	1.006	176	37.0	4.67	340
1966	0.688	2.432	1.673	0.994	177	37.2	4.89	342
1967	0.710	2.491	1.778	0.999	181	37.1	5.10	349
1968	0.754	2.529	1.909	0.999	184	37.1	5.39	354
1969	0.783	2.623	2.055	1.008	188	37.3	5.64	364
1970	0.848	2.676	2.269	0.996	192	37.6	6.04	376
1971	0.904	2.707	2.484	1.009	195	37.5	6.52	381
1972	1.000	2.749	2.749	1.000	199	37.1	7.15	385
1973	1.066	2.819	3.006	0.998	204	37.3	7.61	395
1974	1.144	2.836	3.245	1.000	206	37.0	8.18	397
1975	1.271	2.779	3.531	1.001	203	36.7	9.10	388
1976	1.432	2.753	3.942	0.999	204	36.3	10.23	385
1977	1.568	2.726	4.384	0.995	208	36.4	11.15	393
1978	1.674	2.955	4.945	1.002	216	36.7	11.99	413

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	WEEKLY HOURS PER PERSON	EMPLOYMENT	WATER SUPPLY AND SANITARY SERVICES	HOURLY COMPENSATION	HOURS WORKED
1948	0.198	0.648	0.129	0.035	88	0.79	162
1949	0.209	0.664	0.139	0.047	89	0.85	164
1950	0.225	0.670	0.150	0.045	90	0.91	160
1951	0.246	0.686	0.169	0.040	93	0.99	171
1952	0.269	0.695	0.187	0.053	93	1.09	171
1953	0.291	0.705	0.205	0.046	96	1.18	175
1954	0.317	0.696	0.221	0.028	98	1.26	176
1955	0.330	0.702	0.235	0.030	98	1.33	177
1956	0.360	0.714	0.257	0.028	99	1.43	180
1957	0.383	0.723	0.277	0.040	99	1.54	180
1958	0.415	0.733	0.304	0.041	102	1.67	182
1959	0.446	0.739	0.325	0.043	101	1.70	181
1960	0.471	0.733	0.345	0.042	101	1.89	182
1961	0.499	0.740	0.369	0.047	102	2.02	183
1962	0.516	0.756	0.390	0.067	102	2.13	183
1963	0.547	0.767	0.419	0.067	103	2.26	186
1964	0.583	0.781	0.455	0.080	103	2.44	187
1965	0.606	0.797	0.484	0.077	106	2.53	191
1966	0.639	0.821	0.520	0.088	108	2.69	195
1967	0.685	0.835	0.572	0.072	113	2.84	201
1968	0.730	0.864	0.630	0.086	115	3.07	205
1969	0.790	0.883	0.698	0.074	120	3.28	212
1970	0.838	0.945	0.792	0.088	125	3.53	224
1971	0.910	0.951	0.866	0.093	125	3.86	224
1972	1.000	0.957	0.957	1.000	125	4.27	224
1973	1.057	0.901	1.048	1.008	125	4.55	230
1974	1.139	0.900	1.135	1.003	126	4.88	233
1975	1.244	0.927	1.247	1.032	130	5.48	226
1976	1.375	1.000	1.375	1.043	127	6.12	225
1977	1.495	1.023	1.530	1.046	125	6.67	229
1978	1.612	1.069	1.723	1.041	126	7.16	240

APPENDIX B (CONTINUED)

LABOR INPUT					WEEKLY			HOURS	
YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	HOURS PER PERSON	HOURLY COMPENSATION	WORKED	
WHOLESALE TRADE									
1948	0.363	31.213	11.340	0.913	3010	39.0	1.86	6111	
1949	0.367	30.453	11.178	0.918	2934	38.9	1.88	5932	
1950	0.392	20.462	11.936	0.910	2947	38.9	2.00	5954	
1951	0.416	32.220	13.610	0.919	3100	38.9	2.14	6270	
1952	0.415	33.124	13.758	0.929	3160	38.8	2.16	6375	
1953	0.430	33.656	14.485	0.937	3190	38.7	2.26	6421	
1954	0.445	33.397	14.860	0.941	3162	38.6	2.34	6347	
1955	0.483	34.125	16.466	0.941	3220	38.7	2.54	6480	
1956	0.517	35.268	18.220	0.940	3344	38.6	2.72	6705	
1957	0.539	35.422	19.077	0.943	3370	38.3	2.84	6715	
1958	0.538	35.440	19.061	0.950	3358	38.2	2.86	6645	
1959	0.572	36.759	21.035	0.980	3424	38.4	3.07	6846	
1960	0.570	38.400	21.903	0.981	3504	38.4	3.13	6999	
1961	0.591	38.236	22.611	0.972	3519	38.4	3.22	7032	
1962	0.605	39.303	23.768	0.983	3564	38.6	3.33	7148	
1963	0.627	39.605	24.815	0.978	3610	38.6	3.43	7241	
1964	0.661	40.713	26.900	0.984	3689	38.6	3.64	7397	
1965	0.647	42.020	27.167	0.981	3801	38.7	3.55	7657	
1966	0.695	44.152	30.704	0.992	3956	38.7	3.86	7954	
1967	0.726	44.655	32.441	0.993	4031	38.4	4.03	8041	
1968	0.784	45.483	35.666	0.997	4108	38.2	4.37	8158	
1969	0.844	46.917	39.602	0.993	4246	38.2	4.69	8443	
1970	0.865	47.747	41.318	0.998	4527	38.0	4.83	8550	
1971	0.923	48.520	44.764	1.010	4380	37.9	5.21	8587	
1972	1.000	49.111	49.111	1.000	4455	37.9	5.59	8778	
1973	1.075	51.140	54.974	1.001	4673	37.6	6.02	9132	
1974	1.207	51.500	62.138	1.005	4796	36.7	6.79	9157	
1975	1.272	50.893	64.775	1.018	4706	36.5	7.25	8938	
1976	1.370	52.670	72.399	1.017	4964	36.6	7.82	9257	
1977	1.470	54.225	79.694	1.015	5017	36.6	8.34	9552	
1978	1.576	57.323	90.337	1.022	5286	36.6	9.02	10021	

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	WEEKLY HOURS PER PERSON	EMPLOYMENT	HOURLY COMPENSATION	HOURS WORKED
RETAIL TRADE						
1948	0.340	61.808	42.3	8999	1.06	19777
1949	0.347	62.241	42.5	9009	1.09	19895
1950	0.366	63.074	42.4	9083	1.15	20025
1951	0.388	65.469	42.3	9511	1.22	20898
1952	0.392	65.876	41.8	9638	1.23	20943
1953	0.398	65.623	41.2	9738	1.25	20882
1954	0.433	64.813	41.3	9632	1.36	20685
1955	0.462	65.822	41.2	9898	1.43	21225
1956	0.476	66.332	41.1	10165	1.46	21708
1957	0.486	66.020	40.5	10260	1.49	21589
1958	0.472	65.149	40.4	10177	1.44	21377
1959	0.537	66.204	40.2	10369	1.64	21685
1960	0.519	68.911	39.9	10519	1.64	21844
1961	0.542	66.280	39.5	10465	1.68	21503
1962	0.564	67.476	39.2	10558	1.77	21502
1963	0.577	67.038	38.8	10621	1.62	21439
1964	0.663	69.246	38.5	10946	2.10	21902
1965	0.595	70.540	38.0	11332	1.67	22408
1966	0.700	72.057	37.2	11664	2.23	22577
1967	0.710	71.651	36.5	11823	2.27	22458
1968	0.790	73.251	36.0	12166	2.57	22746
1969	0.848	74.926	35.6	12672	2.71	23436
1970	0.806	77.224	35.2	12940	2.63	23657
1971	0.822	78.007	35.2	13236	2.97	24206
1972	1.000	78.409	34.9	13567	3.10	24595
1973	1.085	80.416	34.4	14050	3.47	25128
1974	1.139	80.024	33.6	14318	3.81	24995
1975	1.207	80.458	33.2	14412	3.90	24907
1976	1.344	82.823	32.9	14922	4.37	25500
1977	1.470	84.954	32.5	15628	4.73	26393
1978	1.569	87.960	31.9	16413	5.06	27252

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	QUILAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
FINANCE, INSURANCE AND REAL ESTATE								
1948	0.354	25.605	9.056	0.878	1998	35.9	2.43	3732
1949	0.379	25.720	9.757	0.879	2012	35.8	2.61	3744
1950	0.409	26.334	10.783	0.871	2081	35.8	2.79	3870
1951	0.422	28.116	11.875	0.886	2188	35.7	2.92	4063
1952	0.410	29.829	12.238	0.902	2261	35.7	2.89	4232
1953	0.395	31.605	12.485	0.915	2383	35.7	2.82	4423
1954	0.393	33.250	13.080	0.924	2485	35.6	2.84	4604
1955	0.420	34.312	14.022	0.925	2569	35.6	3.04	4750
1956	0.402	35.368	14.228	0.922	2659	35.5	2.90	4912
1957	0.488	36.116	17.622	0.926	2710	35.4	3.53	4993
1958	0.482	36.816	17.753	0.932	2757	35.3	3.51	5058
1959	0.478	38.051	18.193	0.945	2813	35.2	3.53	5153
1960	0.479	40.627	19.443	0.981	2895	35.2	3.67	5300
1961	0.510	40.838	20.826	0.965	2954	35.2	3.85	5412
1962	0.569	42.356	24.102	0.981	3014	35.3	4.36	5528
1963	0.636	43.303	27.585	0.980	3087	35.3	4.87	5668
1964	0.668	44.983	30.071	0.990	3167	35.3	5.17	5815
1965	0.665	46.544	30.942	0.991	3270	35.4	5.15	6012
1966	0.690	48.395	33.409	1.001	3363	35.4	5.40	6186
1967	0.736	49.752	35.628	0.996	3488	35.3	5.73	6396
1968	0.817	52.307	42.746	0.999	3656	35.3	6.38	6702
1969	0.892	54.403	48.505	0.996	3813	35.3	6.94	6994
1970	0.904	55.753	50.002	0.998	3937	34.9	7.05	7152
1971	0.908	57.603	52.002	1.010	4028	34.9	7.16	7314
1972	1.000	58.626	58.626	1.000	4160	34.7	7.81	7504
1973	1.217	62.335	75.855	1.009	4399	34.6	9.59	7908
1974	1.310	63.712	83.944	1.000	4529	34.3	10.32	8082
1975	1.403	65.057	91.256	1.018	4600	34.2	11.16	8178
1976	1.515	68.631	100.834	1.024	4704	34.1	12.12	8331
1977	1.629	69.541	113.306	1.020	4915	34.2	12.98	8731
1978	1.601	74.912	110.053	1.028	5242	34.2	12.86	9326

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	WAGE	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
SERVICES, EXCLUDING PRIVATE HOUSEHOLDS, INSTITUTIONS								
1948	0.238	42.414	10.101	1.000	5753	37.5	0.90	11233
1949	0.226	42.186	9.532	1.009	5730	37.5	0.85	11166
1950	0.242	43.219	10.470	1.021	5804	37.5	0.93	11304
1951	0.258	44.054	11.373	1.009	5997	37.4	0.98	11662
1952	0.278	45.471	12.648	1.017	6147	37.4	1.06	11940
1953	0.294	46.435	13.653	1.016	6289	37.3	1.12	12207
1954	0.312	46.946	14.634	1.019	6356	37.2	1.19	12310
1955	0.338	47.946	16.207	1.010	6554	37.2	1.28	12687
1956	0.377	49.987	18.843	1.004	6555	37.3	1.42	13304
1957	0.395	51.545	20.378	1.006	7105	37.1	1.49	13699
1958	0.413	52.176	21.566	1.005	7228	36.9	1.56	13864
1959	0.438	53.657	23.495	1.004	7470	36.8	1.65	14280
1960	0.436	57.024	24.877	1.033	7730	36.7	1.69	14752
1961	0.477	57.329	27.318	1.009	7078	36.6	1.80	15174
1962	0.493	59.723	29.467	1.020	8250	36.5	1.88	15645
1963	0.519	61.010	32.002	1.016	8558	36.4	1.98	16203
1964	0.561	64.202	36.023	1.017	8922	36.3	2.14	16863
1965	0.593	66.468	39.395	1.012	9324	36.2	2.25	17539
1966	0.642	69.435	44.593	1.012	9867	35.7	2.43	18337
1967	0.692	71.605	49.555	1.012	10306	35.3	2.62	18909
1968	0.746	73.621	54.950	1.012	10717	34.9	2.83	19429
1969	0.811	77.124	62.573	1.011	11339	34.6	3.07	20374
1970	0.879	78.935	69.406	1.023	11559	34.3	3.37	20617
1971	0.936	79.577	74.461	1.009	11871	34.1	3.53	21075
1972	1.000	85.012	83.012	1.000	12535	34.0	3.74	22177
1973	1.070	87.315	93.447	1.002	13242	33.2	4.01	23284
1974	1.164	89.397	104.016	1.000	13793	33.3	4.35	23800
1975	1.248	90.592	113.099	1.002	14057	33.0	4.68	24151
1976	1.335	94.059	125.530	1.009	14568	32.9	5.04	24909
1977	1.435	98.988	142.016	1.003	15393	32.9	5.38	26374
1978	1.569	103.879	162.935	1.014	16150	32.6	5.95	27369

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
PRIVATE HOUSEHOLDS								
1948	0.308	7.692	2.364	1.087	1936	36.1	0.65	3634
1949	0.312	7.547	2.357	1.084	1969	34.9	0.66	3578
1950	0.316	8.146	2.573	1.095	2179	33.7	0.67	3822
1951	0.340	7.823	2.662	1.089	2200	32.3	0.72	3696
1952	0.371	7.054	2.615	1.090	2088	30.9	0.72	3357
1953	0.398	6.757	2.691	1.071	2109	29.6	0.83	3241
1954	0.423	6.075	2.571	1.058	2021	28.1	0.87	2951
1955	0.444	6.875	3.053	1.046	2319	28.0	0.90	3377
1956	0.460	7.106	3.268	1.036	2479	27.3	0.93	3525
1957	0.479	6.942	3.323	1.032	2476	26.8	0.96	3456
1958	0.500	7.008	3.503	1.019	2578	26.4	0.99	3533
1959	0.527	6.737	3.553	1.005	2600	25.5	1.03	3444
1960	0.547	6.937	3.797	1.031	2577	25.8	1.10	3457
1961	0.573	6.516	3.734	0.999	2679	24.1	1.11	3354
1962	0.587	6.487	3.807	1.002	2716	23.6	1.14	3329
1963	0.598	6.407	3.831	1.004	2678	23.6	1.17	3281
1964	0.622	6.202	3.916	1.001	2704	23.0	1.21	3229
1965	0.654	6.066	3.968	0.998	2626	22.9	1.27	3123
1966	0.688	5.846	4.022	1.002	2578	22.4	1.34	2998
1967	0.729	5.739	4.182	1.002	2495	22.7	1.42	2904
1968	0.797	5.491	4.377	1.001	2464	22.0	1.55	2820
1969	0.856	5.193	4.439	0.992	2345	22.0	1.65	2686
1970	0.885	5.082	4.490	1.034	2293	21.2	1.72	2526
1971	0.963	4.723	4.550	0.998	2248	20.8	1.87	2432
1972	1.000	4.623	4.623	1.000	2207	20.7	1.95	2376
1973	1.072	4.478	4.799	0.998	2101	21.1	2.08	2306
1974	1.173	3.823	4.556	1.001	1916	20.0	2.29	1994
1975	1.262	3.625	4.575	1.003	1871	19.1	2.46	1857
1976	1.419	3.774	5.354	1.012	1874	19.7	2.79	1917
1977	1.530	3.632	5.864	1.014	1926	19.4	3.02	1941
1978	1.636	3.768	6.166	1.014	1886	19.5	3.23	1909

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
INSTITUTIONS								
1948	0.387	3.909	1.514	0.931	727	31.2	1.28	1180
1949	0.415	4.158	1.725	0.931	774	31.2	1.37	1256
1950	0.426	4.375	1.862	0.947	799	31.2	1.43	1298
1951	0.451	4.554	2.054	0.945	833	31.2	1.52	1354
1952	0.464	4.738	2.198	0.957	856	31.3	1.58	1391
1953	0.492	4.945	2.432	0.955	895	31.3	1.67	1456
1954	0.513	5.123	2.628	0.958	925	31.3	1.75	1503
1955	0.526	5.397	2.838	0.951	979	31.3	1.78	1595
1956	0.544	5.624	3.059	0.942	1029	31.4	1.82	1677
1957	0.567	5.869	3.326	0.948	1066	31.4	1.91	1740
1958	0.587	6.159	3.616	0.953	1113	31.4	1.99	1817
1959	0.596	6.827	4.066	0.954	1234	31.4	2.02	2012
1960	0.591	7.638	4.517	0.972	1354	31.4	2.05	2208
1961	0.607	8.082	4.906	0.965	1442	31.4	2.08	2354
1962	0.614	8.717	5.351	0.980	1530	31.4	2.14	2499
1963	0.633	8.902	5.639	0.981	1562	31.4	2.21	2550
1964	0.646	9.213	5.955	0.989	1613	31.2	2.27	2619
1965	0.670	9.524	6.380	0.991	1664	31.2	2.36	2700
1966	0.703	10.052	7.068	0.992	1773	30.9	2.48	2849
1967	0.738	10.504	7.750	0.999	1859	30.6	2.62	2955
1968	0.761	10.978	8.358	1.005	1948	30.3	2.72	3071
1969	0.805	11.776	9.469	1.005	2024	31.3	2.88	3292
1970	0.879	11.307	9.940	1.004	2010	30.3	3.14	3166
1971	0.932	11.611	10.826	1.005	2047	30.5	3.33	3247
1972	1.000	11.712	11.712	1.000	2134	29.7	3.56	3292
1973	1.053	11.838	12.815	1.005	2162	29.4	3.87	3309
1974	1.157	12.028	13.917	1.009	2203	29.2	4.16	3349
1975	1.204	12.800	15.523	1.014	2343	29.3	4.34	3574
1976	1.294	12.948	16.752	1.021	2412	28.4	4.70	3566
1977	1.398	13.083	18.293	1.017	2462	28.2	5.06	3615
1978	1.484	13.780	20.450	1.027	2573	28.2	5.42	3772

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
FEDERAL PUBLIC ADMINISTRATION								
1948	0.270	17.367	4.691	0.856	1428	34.7	1.82	2577
1949	0.282	17.619	5.078	0.856	1448	34.7	1.94	2613
1950	0.301	17.968	5.401	0.861	1468	34.7	2.04	2649
1951	0.318	22.515	7.151	0.872	1817	34.7	2.18	3279
1952	0.336	23.950	8.056	0.883	1910	34.7	2.33	3446
1953	0.348	22.737	7.905	0.895	1814	34.2	2.45	3226
1954	0.348	21.398	7.452	0.902	1693	34.2	2.47	3011
1955	0.374	21.625	8.080	0.908	1701	34.2	2.67	3025
1956	0.397	22.056	8.766	0.912	1727	34.2	2.85	3071
1957	0.415	22.198	9.204	0.910	1724	34.2	3.00	3066
1958	0.460	21.845	10.053	0.929	1702	33.7	3.36	2988
1959	0.465	22.100	10.314	0.931	1707	34.1	3.41	3027
1960	0.490	22.567	11.052	0.921	1755	34.1	3.55	3112
1961	0.508	23.226	11.807	0.947	1757	34.1	3.79	3116
1962	0.515	24.423	12.588	0.963	1818	34.1	3.91	3222
1963	0.542	24.750	13.408	0.966	1836	34.1	4.12	3254
1964	0.578	24.753	14.313	0.973	1823	34.1	4.43	3230
1965	0.600	25.114	15.076	0.977	1842	34.1	4.62	3265
1966	0.621	26.701	16.574	0.977	1960	34.0	4.78	3470
1967	0.625	26.727	17.075	0.987	2087	34.1	4.86	3699
1968	0.680	29.103	19.783	0.996	2098	34.0	5.33	3712
1969	0.732	28.897	21.139	0.994	2069	34.3	5.72	3693
1970	0.853	27.384	23.377	0.991	2029	33.3	6.66	3512
1971	0.915	27.724	25.366	1.008	1991	33.7	7.26	3493
1972	1.000	27.411	27.411	1.000	2005	33.4	7.87	3481
1973	1.075	27.006	29.025	1.006	1991	32.9	8.51	3409
1974	1.124	28.071	31.544	1.007	2039	33.4	8.91	3540
1975	1.234	28.357	34.992	1.010	2063	33.2	9.81	3566
1976	1.312	28.944	37.969	1.016	2074	33.5	10.49	3618
1977	1.413	29.082	41.056	1.016	2079	33.6	11.30	3630
1978	1.522	29.533	44.960	1.017	2105	33.7	12.10	3689

APPENDIX B (CONTINUED)

Labor Input

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
FEDERAL GOVERNMENT ENTERPRISES								
1948	0.271	6.186	1.676	0.960	570	35.2	1.61	1042
1949	0.283	6.568	1.857	0.961	605	35.1	1.68	1105
1950	0.302	6.407	1.935	0.966	587	35.2	1.80	1073
1951	0.310	6.715	2.140	0.971	612	35.1	1.91	1118
1952	0.335	7.270	2.433	0.986	656	35.0	2.04	1193
1953	0.336	7.124	2.407	0.994	644	34.6	2.08	1159
1954	0.337	7.152	2.410	0.998	644	34.6	2.08	1159
1955	0.363	7.121	2.588	0.995	643	34.6	2.24	1157
1956	0.363	7.165	2.744	0.991	650	34.6	2.35	1170
1957	0.394	7.389	2.914	0.993	669	34.6	2.42	1204
1958	0.430	7.549	3.247	0.994	659	35.8	2.64	1228
1959	0.428	7.809	3.343	0.994	695	34.6	2.67	1251
1960	0.450	8.054	3.627	1.012	715	34.6	2.82	1297
1961	0.473	8.170	3.866	1.005	734	34.5	2.94	1315
1962	0.487	8.319	4.051	1.013	746	34.2	3.05	1328
1963	0.530	8.309	4.401	1.010	750	34.1	3.31	1331
1964	0.559	8.362	4.677	1.013	756	34.0	3.50	1335
1965	0.588	8.517	5.005	1.010	776	33.8	3.67	1364
1966	0.595	9.226	5.490	1.006	849	33.6	3.70	1484
1967	0.609	9.654	5.881	1.011	867	33.5	3.81	1544
1968	0.670	9.780	6.553	1.011	896	33.6	4.19	1545
1969	0.718	9.997	7.177	1.014	907	33.8	4.50	1595
1970	0.824	10.245	8.442	1.010	924	34.1	5.15	1640
1971	0.884	10.061	8.899	1.008	918	33.8	5.51	1615
1972	1.000	9.670	9.670	1.000	888	33.9	6.18	1544
1973	1.066	9.654	10.484	1.001	884	33.9	6.72	1560
1974	1.204	9.808	11.805	1.002	897	33.9	7.46	1583
1975	1.345	9.586	12.895	1.009	880	33.6	8.39	1537
1976	1.473	9.466	13.844	1.012	853	34.1	9.22	1513
1977	1.606	9.225	14.814	1.005	841	34.0	9.98	1485
1978	1.694	9.474	16.052	1.013	846	34.4	10.62	1512

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
STATE AND LOCAL EDUCATIONAL SERVICES								
1948	0.259	13.883	3.599	0.909	1579	28.8	1.52	2367
1949	0.272	14.621	3.983	0.910	1660	28.8	1.60	2489
1950	0.279	15.392	4.292	0.930	1718	28.7	1.67	2564
1951	0.298	15.921	4.740	0.935	1768	28.7	1.80	2639
1952	0.326	17.115	5.574	0.960	1850	28.7	2.02	2763
1953	0.336	18.143	6.096	0.973	1944	28.6	2.11	2891
1954	0.354	19.211	6.797	0.984	2043	28.5	2.25	3025
1955	0.363	20.366	7.402	0.987	2180	28.2	2.32	3197
1956	0.388	21.467	8.320	0.989	2309	28.0	2.47	3363
1957	0.409	22.938	9.373	1.004	2426	28.1	2.65	3541
1958	0.430	24.355	10.470	1.014	2552	28.1	2.81	3724
1959	0.448	25.728	11.514	1.021	2687	27.9	2.95	3905
1960	0.469	27.703	12.979	1.036	2869	27.8	3.13	4143
1961	0.498	28.746	14.321	1.026	3006	27.8	3.30	4341
1962	0.527	29.945	15.784	1.033	3163	27.3	3.51	4493
1963	0.552	31.653	17.463	1.025	3375	27.3	3.65	4784
1964	0.573	33.788	19.345	1.026	3603	27.2	3.79	5102
1965	0.592	35.936	21.285	1.025	3890	26.9	3.92	5435
1966	0.635	38.189	24.255	1.018	4251	26.3	4.17	5816
1967	0.688	39.776	27.377	1.019	4537	25.6	4.52	6051
1968	0.745	41.772	31.126	1.017	4811	25.4	4.89	6366
1969	0.807	43.472	35.086	1.012	5069	25.3	5.27	6658
1970	0.882	45.206	39.856	1.009	5313	25.1	5.74	6944
1971	0.941	46.883	44.138	1.003	5563	25.0	6.09	7244
1972	1.000	48.570	48.570	1.000	5740	25.2	6.45	7528
1973	1.063	50.485	53.665	1.004	5923	25.3	6.89	7792
1974	1.124	51.998	58.426	1.007	6151	25.0	7.30	8006
1975	1.237	53.146	65.735	1.009	6355	24.7	8.05	8165
1976	1.341	53.945	72.352	1.014	6430	24.7	8.78	8242
1977	1.438	54.625	78.556	1.013	6562	24.5	9.40	8355
1978	1.512	56.311	85.124	1.021	6690	24.6	9.96	8547
1979	1.354	68.808	93.193	1.022	6804	29.5	8.93	10433

APPENDIX B (CONTINUED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
STATE AND LOCAL PUBLIC ADMINISTRATION								
1948	0.294	15.462	4.545	0.906	2153	32.4	1.25	3629
1949	0.298	16.828	5.022	0.905	2234	34.0	1.27	3954
1950	0.304	17.513	5.327	0.910	2311	34.0	1.30	4091
1951	0.321	17.959	5.764	0.922	2283	34.9	1.39	4139
1952	0.363	18.405	6.678	0.935	2305	34.9	1.59	4187
1953	0.377	19.211	7.238	0.943	2358	35.3	1.67	4331
1954	0.392	20.131	7.901	0.952	2469	35.0	1.76	4496
1955	0.407	20.746	8.435	0.957	2561	34.6	1.83	4611
1956	0.427	21.779	9.301	0.957	2701	34.4	1.92	4837
1957	0.446	22.813	10.185	0.965	2807	34.4	2.03	5024
1958	0.460	24.124	11.108	0.974	2945	34.4	2.11	5266
1959	0.476	24.386	11.619	0.974	2997	34.1	2.18	5321
1960	0.505	24.738	12.491	0.966	3073	34.1	2.29	5444
1961	0.513	26.539	13.613	0.986	3180	34.6	2.38	5724
1962	0.529	27.342	14.459	1.001	3229	34.6	2.49	5809
1963	0.552	27.882	15.394	0.999	3302	34.6	2.59	5935
1964	0.569	29.064	16.528	1.002	3426	34.6	2.68	6169
1965	0.597	30.156	18.009	1.001	3565	34.6	2.81	6408
1966	0.634	31.338	19.860	0.997	3765	34.1	2.97	6681
1967	0.684	32.379	22.153	1.002	3897	33.9	3.22	6873
1968	0.730	33.951	24.772	1.011	4054	33.9	3.47	7138
1969	0.794	34.643	27.515	1.004	4173	33.8	3.75	7339
1970	0.875	35.663	31.211	0.992	4349	33.8	4.08	7647
1971	0.935	37.557	35.117	1.007	4483	34.0	4.43	7929
1972	1.000	39.162	39.162	1.000	4714	34.0	4.70	8326
1973	1.079	40.802	44.032	1.006	4893	33.9	5.11	8623
1974	1.168	41.833	48.864	1.006	5020	33.9	5.53	8840
1975	1.259	43.613	54.889	1.008	5214	33.9	5.97	9196
1976	1.352	44.310	59.898	1.012	5263	34.0	6.44	9307
1977	1.443	45.376	65.486	1.012	5366	34.2	6.87	9531
1978	1.535	47.145	72.358	1.013	5610	33.9	7.31	9899
1979	1.386	57.087	79.136	1.012	5744	40.2	6.60	11995

APPENDIX B (CONCLUDED)

LABOR INPUT

YEAR	PRICE	QUANTITY	OUTLAY	QUALITY	EMPLOYMENT	WEEKLY HOURS PER PERSON	HOURLY COMPENSATION	HOURS WORKED
STATE AND LOCAL GOVERNMENT ENTERPRISES								
1948	0.267	2.304	0.640	1.021	230	37.1	1.44	444
1949	0.283	2.495	0.707	1.020	239	37.3	1.52	464
1950	0.290	2.621	0.760	1.014	252	37.4	1.55	490
1951	0.309	2.784	0.859	1.027	260	38.0	1.67	514
1952	0.327	3.233	1.056	1.036	298	38.2	1.78	592
1953	0.344	3.308	1.138	1.033	303	38.5	1.87	607
1954	0.360	3.296	1.187	1.028	305	38.3	1.95	608
1955	0.382	3.327	1.274	1.019	311	38.4	2.05	621
1956	0.395	3.320	1.310	1.010	312	38.4	2.10	623
1957	0.410	3.338	1.368	1.008	315	38.3	2.18	628
1958	0.430	3.472	1.494	1.002	337	37.5	2.27	657
1959	0.453	3.863	1.750	1.016	354	39.2	2.43	721
1960	0.477	4.054	1.934	1.011	380	38.5	2.54	760
1961	0.496	3.959	1.962	1.001	389	37.1	2.62	750
1962	0.518	4.231	2.192	1.012	402	37.9	2.76	793
1963	0.539	4.312	2.325	1.008	429	36.4	2.87	811
1964	0.567	4.543	2.574	1.009	444	37.0	3.01	854
1965	0.601	4.618	2.777	1.009	458	36.4	3.20	868
1966	0.655	4.582	3.000	1.001	451	37.0	3.46	868
1967	0.697	4.631	3.227	1.012	454	36.8	3.72	868
1968	0.735	4.977	3.658	1.014	483	37.1	3.93	931
1969	0.791	5.179	4.094	1.018	502	37.0	4.24	965
1970	0.844	5.447	4.597	1.013	530	37.0	4.51	1020
1971	0.928	5.537	5.140	1.003	546	36.9	4.91	1047
1972	1.000	5.606	5.606	1.000	547	37.4	5.27	1063
1973	1.093	5.872	6.419	1.001	579	36.9	5.77	1112
1974	1.163	6.303	7.330	1.003	623	36.8	6.15	1192
1975	1.243	6.616	8.470	1.005	674	36.7	6.59	1286
1976	1.338	6.827	9.149	1.008	676	36.0	7.11	1286
1977	1.438	6.786	9.756	1.001	679	36.4	7.59	1286
1978	1.524	7.122	10.869	1.000	703	36.6	8.12	1338

Footnotes

1. Kendrick purposely avoids disaggregating the employed population by demographic or occupational characteristics. Any difference in the productivity of an hour worked by laborers of differing personal characteristics should, in Kendrick's view, be captured not in a measure of factor input, but in an index of productivity change. By contrast, Denison posits that disaggregation by personal characteristics is essential in measuring labor input. In his view, however, any shifting composition by industrial and occupational characteristics does not reflect changes in the level of labor input, but should be included in the measure of productivity change.

2. Detailed discussions of quality indexes and applications to disaggregated labor data can be found in doctoral dissertations by Barger [1971] and Chinloy [1974]. Chinloy [1980, 1981] presents an application to U.S. aggregate data.

3. Kendrick [1961, 1973], relies occasionally on Bureau of Labor Statistics [1973] data on hours paid. See Kendrick [1973], p. 156. In the more recent study, Kendrick and Grossman [1980] rely on BLS hours paid data for all laborers except proprietors and unpaid family workers. See Kendrick and Grossman [1980], p. 25.

Denison [1967, 1974, 1979] begins from the BLS hours paid series when constructing his hours estimates for wage and salary workers. He converts the average hours paid for per job to average hours worked per job, using "unpublished BLS ratios of 'hours at work' to 'hours paid for'." These ratios, extrapolated from data collected for a single year, 1966, were developed by BLS for the 1952-1974 period. Based on the trends in the 1952-1974 series, Denison [1979] further extrapolates his hours worked series back to 1947 and forward to 1976. See Denison [1979], p. 155.

4. Bureau of Labor Statistics [1971], pp. 214-15.

5. Bureau of the Census [1972], Table 5. The Census occupational category for "managers" best identifies the group of nonsupervisory workers underlying BLS estimates. The occupations of nonsupervisory workers are defined in the technical note to Bureau of Labor Statistics [1976], p. 774.

6. Bureau of the Census [1973c], Table 45. Also see note 5.

7. Denison [1979], pp. 32-33.

8. Bureau of Census [1973a], Tables 1 and 11.

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