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In this issue:

Articles on Black workers in the 1970's,
Occupational winners and losers, Changing the
treatment of housing in the CPI.





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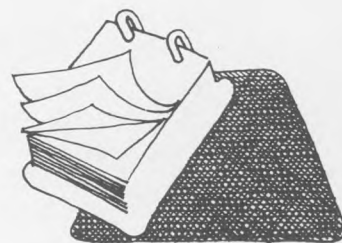
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Labor Month In Review



UP AND DOWN. Two recent reports of the Bureau of Labor Statistics indicate that the proportion of women participating in the labor force continues to rise while at the same time the participation of students appears to be slackening. Some excerpts:

Women up. Even with the slowdown in economic activity, 1.1 million more women were in the labor force in the fourth quarter of 1981 than a year earlier, and their participation rate advanced to 52.2 percent. Over the 1-year period, the number of women with jobs grew by 700,000 with most of this gain occurring in the early part of the year. As the year progressed and economic conditions deteriorated, the number of unemployed women rose by more than 400,000, causing their jobless rate to climb from 7.7 to 8.5 percent. However the rate for men rose even faster, as they were more concentrated in manufacturing jobs where layoffs have been especially severe. By December, the unemployment rate for men (9.1 percent) exceeded that for women (8.6 percent).

Although most women in the United States live in families, about 14.9 million, or 17 percent of all women 16 years old and over, were not living in a family during the third quarter of 1981. They were either living alone (12.5 million), or sharing living quarters with persons not related to them (2.4 million). More than half of those living alone were 60 years of age and over, with widows dominating. About 46 percent of women living alone were in the labor force. By contrast, women living with nonrelatives were much younger; nearly two-thirds were 20 to 34 years old. They were also much more likely to be working. About 76 percent were in the labor force during the third quarter.

The women who live with persons other than relatives were more than

twice as likely as those living alone to be unemployed. More than 1 of every 10 were jobless compared with less than 1 of 20 of their counterparts living alone. About one-fifth of all jobless women not living in families had been unemployed for 15 weeks or more.

Students down. Labor force activity among students 16 to 24 years old edged down over the year ended in October 1981. This was the third year in a row in which labor force participation, which had risen substantially through the 1960's and most of the 1970's, fell.

The unemployment rate for students edged up from 13.7 to 14.4 percent between October 1980 and October 1981. Moreover, recent data on students 16 to 21 indicate further increases in unemployment and a continued slackening in labor force activity since the special survey of October 1981.

From October 1980 to October 1981, labor force participation rates among youth enrolled in school declined from 47.8 to 46.7 percent for men and from 47.0 to 45.7 percent for women. For youth no longer enrolled in school, labor force participation over the year showed little change. Since 1960, the participation rate for men 16 to 24 and no longer in school has drifted down from 95.0 to 91.7 percent. At the same time, the rate for women in this group has risen dramatically, from 50.2 to 73.0 percent, largely reflecting changes in marital and childbearing patterns, increases in demand for white-collar and service workers, and new legislation concerning work opportunities.

For both students and nonstudents, labor force participation patterns by race and Hispanic origin were similar in October 1981 to those that have prevailed for many years. Among students, whites had the highest rate (49.4 percent), followed by Hispanics (38.1

percent) and blacks (28.2 percent). Among youth not in school, the rates were considerably higher, but the order was the same.

A record 1.6 million youth who graduated from high school in 1981 were attending college in October 1981. Some 54 percent of all recent graduates were enrolled, compared with 49 percent a year earlier. The labor force participation rate of the new college students was 43.7 percent, substantially higher than in the early 1970's.

A large proportion of recent high school graduates who did not go on to college were in the labor force in October. At 84 percent, their labor force participation rate was higher than in the early 1970's, mostly because of the increase in the rate for women, which advanced from 69 percent in 1970 to 81 percent in 1981. In both years, almost 1 in 4 of the female graduates in the labor force were unemployed.

The number of recent high school dropouts declined over the year, reflecting the general decrease in the number of young teenagers in the population. Youth who dropped out of high school between October 1980 and October 1981 were much less likely to be in the labor force than their classmates who had graduated but had not enrolled in college. The unemployment rate for dropouts (36.4 percent)—a relatively small youth group—has always been volatile; over the year, it climbed sharply for women while remaining about the same for men.

Additional information may be found in *Employment and Perspective: Working Women, Fourth Quarter 1981* (BLS Report 657), and in the Department of Labor release USDL 82-175. An article on participation of students in the work force will appear in an upcoming issue of the *Review*. □

Measuring productivity in service industries

The growth of the service economy presents special challenges for productivity analysts; output is often difficult to quantify, and measurement of labor input requires great care

JEROME A. MARK

The increased importance of service industries over the last two decades and current concern over productivity growth have stimulated interest in productivity measures for this expanding sector of the economy.

The service sector, as defined here, encompasses the major industry groupings of trade, finance, insurance, communications, public utilities, transportation, and government, as well as business and personal services. It accounts for almost three-fourths of the Nation's employment and provides the greatest potential, as well as some of the greatest difficulties, for developing productivity measures.

Over the last decade, the Bureau of Labor Statistics has been expanding the number of service industries for which it publishes productivity measures, and at present provides measures for 16 industries, representing almost a third of the employment in the sector. The Bureau is continuing to develop additional measures, and hopes eventually to extend coverage to most of the service sector.

This article describes that effort, discusses some of the problems of measuring productivity, particularly labor productivity in service industries, and explains how the Bureau is working to resolve some of the problems.

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Linking output to input

Productivity measures relate real physical output to real input. They range from single factor measures, such as output per unit of labor input or output per unit of capital input, to measures of output per unit of multifactor input. Such measures also reflect changes in technology, scale of production, educational levels of workers, managerial techniques, and many other factors in addition to the contributions of the particular inputs.

Although BLS is currently developing multifactor productivity measures, at present, the published productivity measures relate output to labor input. This is the most extensively developed and widely used productivity measure because of its relevance to economic analyses and because, as a practical matter, labor is the most easily measured input.

Problems of measuring output

In many ways, the problems of measuring output in the service industries are similar to those of measuring output in the goods-producing industries. That is, the output indicator must be quantifiable and independent of the input measures. If an output measure for an activity is based on an input measure, as is the case in some instances in the national accounts, obviously no change in productivity can be ascertained. In the case of general government, for example, output in the national

income and product accounts is measured in terms of compensation of government employees. The deflated or constant-dollar measure is derived from changes in employment. Hence, changes in the output measure are closely related to changes in the input measure.

It is also important to distinguish between intermediate and final services. In productivity measurement, we attempt to ensure that the indicators represent output flowing from the industry being measured rather than intermediate steps in the service flow. In this sense, productivity measurement differs from work measurement, which generally refers to the analysis of the operation of an activity and the labor requirements at each intermediate stage. Productivity measurement refers only to the final service and its relationship to input.

For example, in the trucking industry, a count of the ton-miles of freight moved would be the appropriate indicator of the final output—that is, the result of all the activities of the industry. The intermediate steps, such as pickup and delivery, platform work, billing, and collecting, are considered to be subsumed in the final output.

In the case of an organization or an industry providing one type of service, output is merely a count of the units of this service, however defined. In the more usual case of an industry producing a number of heterogeneous services, the various units must be expressed in some common basis for aggregation. For example, the output of franchised new-car dealerships should be a combination of the number of cars sold and the repair activities of the dealers, with appropriate weighting.

To obtain a productivity measure that is an average of the changes of individual components, the appropriate weights for combining the various elements in the output measure are in terms of their factor input requirements. In a labor productivity measure, the weights are unit labor requirements.

Homogeneity among services, after considerations of quality and specifications, is indicated by similarity in unit labor requirements. In this way, the output measure for the development of labor productivity statistics differs from more traditional production measures based on total price or value-added price weighting.

When there are quality changes within the service, adjustments must be made in the output measure to account for the fact that the output is no longer the same homogeneous unit. However, the indicator of quality change for labor productivity measurement differs from the usual concept of quality change associated with consumer price measurements in that it reflects differences in producers' labor requirements or labor costs rather than consumer utility differences.

Ideally, then, the output measure should incorporate data on the number of services provided, differentiated

by unit labor requirements, and in sufficient detail to adjust for quality changes. In practice, however, such data are not generally available for service industries (and, in many cases, for goods-producing industries as well). As a result, approximations based on alternative approaches must be used.

The principal alternative is to remove the change in price from the change in total value of the volume of services. This approach is tantamount to price weighting quantities of services provided. Insofar as price relationships among the various component services of a service industry are similar to the unit labor requirements or unit labor costs, this is a close approximation of the desired measure. And because it is easier to measure price change for a specified group of services than it is to measure the number of services provided directly, this is the approach most generally followed.

However, the adjustment requires data in sufficient detail to adequately represent the price trends of the components included in the price change. Otherwise, price movements of the covered areas will be implicitly imputed to the uncovered areas. But because the relationship among the price movements of similar services is much stronger than the relationship among quantity changes, this alternative still has greater viability than imputing quantity changes for uncovered services.

In practice, BLS uses the two approaches to develop output measures for service industries. In some instances, quantity data are available, particularly for utilities and transportation industries. In others, price deflation is employed, and for some, deflation at lower levels of aggregation is combined with labor input weighting at higher levels. For example, in developing the measure for gasoline service stations, gasoline sales, repair, and other services are deflated separately and summed, but in the case of retail food stores, sales by major department are deflated and combined with employee labor cost weights.

Measuring labor input

With regard to labor input measures, the principal problems are data gaps. Information is needed on hours worked by all persons—nonsupervisory workers, supervisory workers, and self-employed and unpaid family workers—in an individual industry. But although data on hours worked are collected by various government agencies as part of such ongoing programs as the Bureau's occupational safety and health surveys, they tend to be limited in scope, or otherwise inconsistent with the output data developed.

The principal source of data on employment and hours is the BLS Current Employment Survey of establishments. This payroll series provides good measures of the employment and hours of nonsupervisory workers. However, it is collected on an hours paid basis, rather

than on an hours worked basis. To the extent that hours paid for but not worked are changing, this measure has limitations. To overcome this problem, the Bureau is measuring hours at work as a proportion of hours paid for a sample of establishments in the survey and will use these data to adjust the industry hours paid series.

In general, data on the hours of supervisory workers are poor. Although employment data on supervisory workers are available from the payroll survey, hours data are not. Other sources, such as the censuses of population, are used to estimate this component of the labor input measure.

Data on the number of self-employed, an important component of the input series measure for retail industries, come from the Internal Revenue Service (IRS). The IRS data lag current estimates by 3 years, but may be projected forward with special tabulations from the Current Population Survey (CPS).

These CPS tabulations break out the numbers and hours of self-employed and unpaid family workers at the 3-digit Standard Industrial Classification level. Although the sample size at this level is small and the statistical error is high, the data are the only continuous series of the number and hours for unpaid family workers and for the hours of the self-employed.

The measures derived from these data are unweighted hours; that is, the hours of various types of employees are treated as being equally productive. This would not be a problem if the proportions of workers at different levels of productivity were constant over time. However, to the extent that there are changes in the composition of the work force, such as age, sex, and occupational mix, it may be desirable to adjust the labor input measure for these changes which otherwise would be reflected in the productivity measure.

Data gaps hamper the making of these adjustments. Industry data on employment and hours by age and occupation are limited, although various sources, such as the CPS and BLS occupational employment surveys, provide some pieces. And while worker groups may be differentiated into productivity levels according to their wages or compensation, pay is a factor which may reflect other than productivity differences.¹

Measures for service industries

At present, BLS publishes indexes of output per unit of labor input for industries in each major service activity—trade, communications, transportation, utilities, and business and personal services, a total of 16 separate measures. Data for these industries, presented in table 1, indicate a wide range of productivity growth since 1973, the year in which a productivity slowdown for the general business economy appeared to begin. In many cases, the growth rates exceeded those for indus-

Table 1. Average annual rates of change in output per hour of all employees in selected service industries, 1965-73 and 1973-80

[In percent]

SIC Code	Industry	1965-73	1973-80
Transportation:			
401	Railroad transportation, revenue traffic	4.2	2.2
4111;4131;414 (parts)	Bus carriers	-1.5	-0.4
4213 (parts)	Intercity trucking ¹	2.7	0.5
4511	Air transportation ¹	5.3	4.3
4612,13	Petroleum pipelines	7.9	0.0
Communications:			
4811	Telephone communications	4.7	7.0
Public utilities:			
491;492;493	Gas and electric utilities	4.9	0.7
491;493 (part)	Electric utilities	5.4	1.3
492;493 (part)	Gas utilities	3.9	-0.4
Trade:			
54	Retail food stores	2.2	-1.2
5511	Franchised new car dealers	2.6	0.5
5541	Gasoline service stations	4.9	3.1
58	Eating and drinking places	1.1	-1.0
5912	Drug and proprietary stores	6.2	1.9
Services:			
7011	Hotels, motels, and tourist courts	1.8	1.3
721	Laundry and cleaning services	1.7	-1.1

¹ Output per employee.

tries in the goods-producing sector.

In addition, a measure for commercial banking is being developed, and work has begun on measures for the insurance and hospital industries. In a related area, productivity measures for Federal agencies which provide functions such as recordkeeping, insurance, libraries, building and grounds maintenance, and medical services have been published.

It is not possible within the confines of this article to discuss all of the productivity measures prepared by the Bureau, but reference to some of the more important and interesting ones in each of the major areas can illustrate the difficulties encountered in constructing such statistics.

Trade. The Bureau has published measures for retail trade industries since 1975 (with the data beginning in 1958). At present, statistics are published for five important industries—retail food stores, new car dealerships, gasoline service stations, eating and drinking places, and drugstores. Work is underway on a measure for apparel stores, including shoe stores, to be published separately. The effort to develop productivity measures in the wholesale area has not yet succeeded.

For most retail trade industries, data on gross sales in current dollars, deflated by the appropriate price indexes, are used to estimate real output. This method, as mentioned earlier, can yield good estimates of real output. However, such measures can reflect shifts among services with different values, but having the same labor requirements. Therefore, the overall industry productivi-

ty index can show movements without any change in component elements.

In retail industries, a large portion of the value of sales has been provided by the manufacturer and the wholesaler of the product sold. A net output measure would be desirable, because it would most closely correspond to the value added by the retailer. However, a gross or total sales measure will yield the same results as a net or value-added measure if the value added as a percent of sales (gross margin) does not change over time. Available data indicate that, among retail industries for which productivity data are published, gross margins have not changed significantly over time.

To incorporate labor input weights, the indexes for most of the retail trade industries are developed in two stages. First, deflated output measures based on sales volume are developed for detailed merchandise lines. These are aggregated to higher levels and then combined with labor costs weights. For example, in retail food stores, sales for 13 key merchandise lines are deflated using specially prepared price indexes based on CPI components. The merchandise lines are aggregated to five department lines—meat, produce, frozen food, dry groceries, and dairy and all others. These are then aggregated with labor cost weights from Department of Agriculture data to develop the overall output measure for groceries. The labor input data for retail trade productivity statistics are generally derived from the Bureau's establishment survey, supplemented by IRS and CPS data.

Transportation. BLS publishes productivity measures for five transportation industries—railroads, intercity trucking, intercity buses, air transportation, and petroleum pipelines. These measures cover 57 percent of transportation employment.

Conceptually, productivity measures for the transportation industries are easier to develop than those for other non-goods producing industries. This is because transportation industry output—the movement of goods or passengers or both from one point to another—is more easily quantified. Output units in transportation have two dimensions, amount and distance; they reflect not only how much has been transported, but also how far. As such, ton-miles, passenger-miles, barrel-miles, and so forth are the primary output indicators for these industries.

Although the basic information for developing good transportation productivity measures is available and is, of course, being used, there are some data gaps that place certain limitations on the BLS measures. For example, it is sometimes impossible to adjust the productivity measures adequately for changes in the average length of haul. The unit labor requirements associated

with the movement of goods and passengers are usually greater for short hauls than for long hauls. Therefore, a shift from a long haul to a short haul trip or vice versa could be reflected as a change in productivity although only the mix of trips had changed.

For the two major freight-carrying industries, railroads and trucking, undifferentiated ton-mile information is reported for total freight operations. In trucking, the ton-mile data are also reported separately for three types of carriers—general, contract, and others. But output measures should reflect the *kinds* of commodities handled and the average distance they are moved. The preferred way to develop these measures would be to combine the tonnage and the average haul of each commodity by its respective labor requirements and aggregate the results for all commodities transported. Unfortunately, this cannot be done with available data.

However, supplementary information on tonnage for railroads is available from the ICC for about 200 commodity lines, ranging from agricultural and mining products to motor vehicles and scientific instruments. Until recently, similar information was also available for the trucking industry. BLS uses these data to adjust the overall measure of freight ton-miles for changes in the composition of goods carried.

Although this commodity adjustment is a significant improvement, refinements to the undifferentiated ton-miles cannot be developed to the extent desired. For example, separate labor requirements data are not available for weighting the individual commodity groups. The commodity index adjustments are therefore made in terms of unit revenue weights, the underlying assumption being that differences between labor requirements among commodities are similar to differences in terms of unit revenues. This does not seem unreasonable because labor costs constitute more than half of each industry's total operating costs, although the proportion could conceivably differ by commodity. For railroads, the adjusted freight ton-mile measure is combined with a measure of revenue passenger-miles to obtain the total industry output index.

For air transportation and trucking, employment is the only available measure of labor input. Thus, the productivity measures for these two industries should be interpreted with caution, for if changes occur in the average workweek, the trends in productivity would not show the true relationship between output and labor time expended on the output.

The transportation industries for which BLS publishes productivity measures all are regulated to some degree by the Federal Government. Recent efforts to reduce the paperwork burden, coupled with the effects of deregulation, have acted to eliminate some of the operating statistics previously published. As a result, some

productivity measures have had to be extended on the basis of more limited information. The outlook for expanding the data base, at least in the near future, is not favorable. However, BLS is cooperating with other government agencies to ensure that adequate statistics for transportation industries remain available.

Communications. The BLS productivity measure for telephone communications covers about four-fifths of the employment in the communications sector. The output index is derived from revenues of all telephone companies reporting to the Federal Communications Commission. The revenues are stratified by major source—local, toll, or miscellaneous—and deflated by specially prepared price indexes for these different services. The labor hours data are based on the Bureau's establishment payroll survey.

At one time, BLS published a productivity measure, the numerator of which was derived from the number of local and long-distance telephone calls, aggregated on the basis of revenue weights. This measure was discontinued in the mid-1950's because of concern that the labor input measure was not consistent with the output measure. For example, private line services, such as leased telephone lines, radio and TV transmission, teletype, and so forth, were reflected in employee hours but not in the output measure as defined. The same was true for calls between stations transmitted through private switchboards and directory services.

A different type of productivity index for the industry was initiated in 1973, with data back to 1951. The numerator of this measure was derived from annual revenue data stratified by major services and deflated, until last year, by price indexes furnished by American Telephone and Telegraph Co. Beginning in 1982, the BLS producer price index for telephone communications will be used to deflate the revenue data, and productivity indexes published for the industry since 1972 will be revised in accordance with the new procedure.

The BLS deflated revenue measure of the output of the telephone communications industry is fairly comprehensive. It includes revenues from private line services, which have grown in importance over the years, as well as those arising from the maintenance of private switchboards by telephone carriers. It also accounts for TV, radio, and computer data transmission by telephone industry facilities, and for directory services. However, certain measurement problems remain unresolved, including the unsatisfactory treatment of differences in intensity of the use of telephone equipment by customers. Intensity of use differences occur when revenue does not vary in proportion to the number of calls made because of flat charges, as in the case of local telephone service or WATS lines. Implicitly, the BLS output measure as-

sumes that the maximum permissible usage takes place under any flat charge system used in the industry.

Business and personal services. In the area of business and personal services, which includes not only business, personal, and repair services, but also education, social services, and political organizations, BLS currently publishes only two measures of productivity, one for hotels and motels, and the other for laundry and dry cleaning services. These measures cover 13 percent of the total employment in the sector.

Because physical quantity information is not available for these two industries, output measures are developed using price-deflated value techniques. The techniques are similar to those described earlier, in that both revenues and employee-hour weights are used to aggregate the output indicators into a total industry output index.

On the input side, the hours of all persons are used as the measure of labor time. As in the trade sector, partners, proprietors, and unpaid family workers make up a significant portion of the work force. Currently, this group accounts for about 15 percent of all persons employed in laundries and 20 percent of the workers in hotels and motels.

BLS efforts to expand coverage in the business and personal service area have been hampered by two major problems. First, because many business service categories are quite broad, it is impossible to account adequately for changes in the mix of their component services. For example, we cannot publish a productivity index for automotive repair shops because there are almost no data available on the types of repairs that are made. The second problem is that not enough services are covered by the Consumer Price Index and, consequently, the deflated value of the output of many uncovered areas would have to be imputed.

Finance. In the finance area, BLS is developing a banking measure in terms of the three major services commercial banks render their customers—deposits, loans, and trust services. While banks also provide non-fund-using services, such as safe deposit and customer payroll accounting, lack of adequate data preclude deriving a measure for them. However, because the proportion of employees engaged in such services is very small, the overall output measure is little affected by the omission.

There has been much controversy over the years as to the appropriate measure of the output of banking. Some analysts have advocated a "liquidity" approach, others, a "transactions" approach. In the former, the banks are viewed as holders of money, and their output is equivalent to the net interest they receive on the volume of deposits held. This interest is the income depositors are willing to forgo to maintain deposits rather than in-

vesting directly in assets less readily converted to cash, that is, the value to customers of the liquidity they enjoy from bank services. This approach can be extended to all types of savings accounts, on the principle that the forgone net interest is the value of the bank's services.

The other approach views banking output as a series of transactions; the volume of the bank's output is proportional to the volumes of the transactions handled. BLS has adopted this second approach for its productivity measure.

Accordingly, the final output of banks is defined as an array of depository, lending, and fiduciary services. Estimates of the number of transactions for each of the three service functions must be derived. Because no direct count of the number of transactions is available in many instances, estimates are made from data on the total value of transactions and surveys of average transaction amounts.

Deposit activity is measured in terms of the number of checks transacted and the number of time and savings deposits and withdrawals. (An electronic funds transfer is treated as a transaction on par with one involving payment by check.) The data for demand deposit activities are from Federal Reserve counts and official benchmark surveys. For time and savings deposit activity, the output measure is based on data published by the Federal Deposit Insurance Corporation and on the Functional Cost Analysis conducted annually by the Federal Reserve.

Lending services provided by banks are also measured in terms of units. As in the case of deposit and trust activity, BLS does not use banks' financial data to arrive at the component output measures. Use of such data would be highly misleading even if appropriate deflators could be found. For example, an increase in the aggregate deflated value of loans might simply reflect the making of a few large loans; similarly, a decrease might indicate the repayment of a few large loans, even as the number of small loans increased.

Twelve types of loan output are measured, for the most part using data generated by the Federal Reserve and the Department of Housing and Urban Develop-

ment. Included in the loan output measure are commercial and residential mortgage loans; consumer loans; single-payment loans; credit card loans; and commercial and "other" loans. The number of loans can usually be derived by dividing the dollar value of total loans in a given category by the average face value of a loan. For the category of commercial loans, the actual number of loans extended has been available since the mid-1970's.

An experimental output measure for the trust department services of commercial banks is derived from the trend in the number of accounts. Trust accounts are stratified into five major categories, including benefit trusts, personal trusts, and estates.

After output estimates are developed for depository, loan, and fiduciary segments, they are aggregated to the industry level using employment weights.

SOME OF THE MAJOR PROBLEMS in developing labor productivity measures in the service activities and how BLS has tried to meet some of these problems have been highlighted above. Considerable work in this very important area has been conducted and the outlook for improvements in certain subareas is optimistic. For example, as price measures are improved and hours worked data become available, and as work in the area of government productivity measurement progresses, BLS will be able to provide a better picture of what is happening to productivity in more activities within the sector. Additional measures in communications, finance, insurance, and real estate, and business and personal services can and will be developed, and indexes for wholesale trade are very possible. However, there are severe conceptual as well as data problems in measuring productivity in such industries as education and social services and in the important field of medical services, and progress in these areas is expected to be much slower. □

— FOOTNOTE —

¹ In connection with work on multifactor productivity measurement, BLS is exploring the possibility of making adjustments for changes in work force composition.

Changing the treatment of shelter costs for homeowners in the CPI

In 1983, the treatment of housing in the official Consumer Price Index for All Urban Consumers will change to reflect only the cost of shelter services of owner-occupied housing

ROBERT GILLINGHAM AND WALTER LANE

In late 1981, Commissioner of Labor Statistics Janet L. Norwood announced plans to change the procedures used to compile the homeownership component of the Consumer Price Index (CPI). Although the particular procedures used in compiling the CPI might seem dry and technical and of little general interest, such is not the case with respect to the homeownership component. The treatment of owner-occupied housing in the CPI has been one of the most widely discussed issues in economic statistics in recent years. The interest in this component stems from its substantial weight in the CPI and the sensitivity of the overall index—our most widely publicized measure of inflation—to the particular procedures used.

Currently, the homeownership component is based on house prices, mortgage interest rates, property taxes and insurance, and maintenance costs. This treatment captures elements of both the service flow and asset investment aspects of housing expenditures. The Bureau first raised questions about this component 10 years ago and, since then, has encouraged public review of alternative approaches. For some time, the Bureau staff has supported a change in favor of a treatment which would

focus solely on the cost of the shelter services of owner-occupied housing, thus abstracting from investment aspects. The Commissioner believes that the increased general understanding of the issues surrounding this component, along with the growing problems inherent in continuing the current procedure, make a change imperative. This paper summarizes the proposed modifications and the reasons why an immediate decision to make them was necessary,¹ describes the current treatment of homeownership to provide an understanding of the flaws in the current approach,² explains why the proposed rental equivalence approach is the best alternative for improving the index, and outlines the technical procedures which the Bureau is currently implementing to ensure an adequate rental equivalence index.

Why the CPI must be changed

As noted, the current approach to homeownership is based on, *inter alia*, house prices and mortgage interest rates. In announcing the changes for the CPI homeownership component, the Commissioner cited several serious difficulties in obtaining reliable data on these components to continue the current approach. First, important changes have occurred in financial markets which are not reflected in the CPI. Funds available for long-term mortgage commitments have declined sharply. New types of mortgage instruments involving variable rates, shorter financing terms, and other special arrangements have developed so that the standard,

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long-term, fixed rate mortgage used in the CPI is becoming increasingly unrepresentative of the mortgage market. In fact, some of the new instruments have characteristics, such as variable rates and principal amounts, which make it impossible to use them in computing the CPI which assumes a long-term mortgage at fixed interest rates. Furthermore, because of high interest rates and difficulties faced by home buyers in securing bank mortgages, many owners who wish to sell their homes are facilitating sales by providing financing to buyers at below bank rates. These financing arrangements are not reflected in the CPI. The house prices used in the CPI are obtained from the Federal Housing Administration (FHA) and pertain to sales financed with FHA-insured mortgages. This data base represents a small and specialized segment of the housing market and presents BLS with increasingly serious estimation problems.

In addition to problems of data adequacy, impetus to change the homeownership component stems from an important new use of the index. The Economic Recovery Tax Act of 1981 (Public Law 97-34) requires use of the CPI for All Urban Consumers (CPI-U) for escalation of income tax brackets and the personal exemption amount. The law requires announcement of the new tax brackets in December 1984 based on CPI-U data for the prior 2 years. This is a major new use of the index which will have a broad effect on total Federal Government revenues, and this new use underscores the importance of action to ensure that the CPI reflects the consumption cost experience of consumers to the fullest extent possible.

Another reason to immediately initiate the proposed change is the increasing public awareness of the issues surrounding the measurement of homeownership costs in the CPI. A growing number of concerned parties feel that this component is seriously flawed and that changes must be made in order to maintain public confidence in the index. The specific changes to be made are detailed in exhibit 1. The essence of the decision is to change the homeownership component of the CPI from its current form, which includes both investment and consumption aspects, to a flow of services approach, which focuses only on the consumption of shelter services, on the principle that the index should focus only on current consumption.

Current treatment

In its current form in the index, homeownership has five parts, or elements. Each has its own weight and procedure to estimate monthly price change. The appropriateness of these methods can only be judged in terms of underlying conceptual framework for CPI homeowner costs. Unfortunately, the current treatment of homeownership has no clear conceptual rationale, so the par-

Exhibit 1. Dates of change in the Consumer Price Index

Date	Action
January 1982	Publication of CPI for December 1981 <ul style="list-style-type: none"> • increased prominence for experimental rental equivalence measure (CPI-U-X1) in the text of CPI press release
1982	Work on enhancement of CPI-U-X1
February 1983	Publication of CPI for January 1983 <ul style="list-style-type: none"> • first publication of CPI-U with rental equivalence homeownership • last publication of CPI experimental measures
July 1983	Publication of CPI for June 1983 <ul style="list-style-type: none"> • last publication of overlap CPI-U with current homeownership methods
1984	Publication of rental equivalence homeownership with expanded rent sample and improved computation methods
February 1985	Publication of CPI for January 1985 <ul style="list-style-type: none"> • first publication of CPI for Urban Wage Earners and Clerical Workers (CPI-W) with rental equivalence homeownership
July 1985	Publication of CPI for June 1985 <ul style="list-style-type: none"> • last publication of overlap CPI-W with current homeownership method

ticular procedures used are largely definitional and cannot be justified by resorting to any broader conceptual framework. It is not surprising, then, that much of the debate over homeownership has focused on them.

Weights. The weights reflect consumption patterns reported in the 1972-73 Consumer Expenditure Survey, which forms the basis for the overall weighting scheme of the CPI. (The relative importance of the items as of December 1980 is given in table 1.) The weight for home purchase is the purchase price for homes bought in the survey year, less the sales price for homes sold, plus transactions costs for these purchases and sales. Thus, consideration is limited to those consumers who purchased or sold homes during the survey period. To reduce the sampling error, data from a longer period (1968-73), annualized and adjusted for the price increase which took place over the period, were used to compute this weight. Use of these procedures resulted in a home purchase weight which is quite large.

Like home purchase, the mortgage interest concept is limited to mortgages obtained in the survey period. The mortgages must be for the purchase of homes, and only mortgages initiated at the time of house purchase are included in the weight. The weight for "contracted

mortgage interest cost" is the amount of interest that survey period borrowers promise to pay during the first half of the term of their mortgage loans. It is called contracted mortgage interest cost because it includes future payments. With long mortgages, homeowners will not, in general, hold their mortgages for the full term. The choice of half the term for the specification of this weight was based on procedures established during the 1964 CPI revision.

The weight derivations for the other homeownership elements follow more conventional CPI methods. They depend only on expenditures actually made in the survey year, and refer to expenses incurred by all survey year homeowners—not just home buyers.

Measuring house price changes. The estimate of the monthly change in house prices is one of the most difficult tasks entailed in the CPI. This estimate moves the weight for home purchase and, with a mortgage interest rate index, is also used in estimating the mortgage interest cost index. It is not feasible to follow, over time, the prices of a fixed sample of houses—a practice which would be analogous to that used to track price change on most consumer goods and services—because individual houses change hands only infrequently. So, a new selection of recently sold homes must be used each month. To obtain an estimate for the change in house prices from last month to this month, the average price of this month's set of homes must be compared—after adjustment for quality difference—to the average price for last month's set.

The primary difficulty in pursuing this approach is finding a source of data on recent house sales, with both price and quality information, that are (1) available promptly and (2) inclusive of the various types of houses and housing areas. In the current CPI, the data are for house sales on which financing is insured by the Federal Housing Administration. These data fall far short of the ideal. Processing delays often mean that several months elapse between the time a house sale occurs and the time it is used in the CPI. For some geographic areas, especially those in the Northeast, the number of FHA transactions is very small. In addition, the FHA mortgage ceiling virtually eliminates higher priced homes from consideration. The impact of the ceiling—and especially changes in the ceiling—may be quite substantial, possibly resulting in a downward bias in the house price indexes used in the CPI.³

The other important difficulty in estimating house price change is the development of good quality adjustment procedures, required before a valid comparison between two different samples can be made. Quality adjustment is currently accomplished by sorting the observations on FHA sales into 600 mutually exclusive cells. The cells were generated from the cross classification of

the 40 CPI geographic areas, 5 age ranges, and 3 size groups. The estimate of change in house prices is computed from the cells. First, the average of the prices per square foot is obtained for each cell. Second, the change is computed for each cell from the average price per square foot of the previous month. Finally, the average of the change is taken over the cells with weights that reflect the base period importance of each cell.⁴

Mortgage interest and other cost changes. Changes in mortgage interest costs are determined from the combination of (1) an estimate of changes in mortgage interest rates and (2) the estimate of the changes in house prices. Thus, the mortgage interest cost element of the CPI shows the effect of changing interest rates, with other loan features held constant, and changing house values, with house quality held constant. Put another way, this element shows the change in the amount required to finance a given house in the face of changes in both the interest rate and the price of the house.

The rate change is estimated using quality control cells similar to those used for house prices. For conventional loans, the cells result from the cross classification of the 40 CPI geographic areas, 3 downpayment classes, and 2 classes to distinguish between mortgages on new and existing houses. The source data for conventional loans are provided by the Federal Home Loan Bank Board. They consist of all mortgages closed during the first 5 business days each month by a sample of savings and loans and other lenders. There is currently a 1-month lag before the data are used in the CPI. In addition, there are cells for FHA and VA ceiling rates; these have 13.5 percent of the mortgage weight.

Price changes for the other homeownership elements are estimated with the standard CPI technique of following the prices of a fixed set of selected items over time. The property taxes on a sample of homes are tracked from year to year, after removing the effect of capital changes and exemption changes which are not the result of new tax rules. Price change for property insurance is

Table 1. Relative importance of index components of the official (CPI-U) and experimental (CPI-U-X1) measures, December 1980

Component	Relative importance	
	CPI-U	CPI-U-X1
All items	100.000	100.00
Food and beverages	18.309	21.264
Housing	45.519	36.720
Shelter	31.650	20.613
Rent, residential	5.120	5.946
Other rental costs .....	.714	.830
Homeownership	25.816	13.837
Fuel and other utilities	6.550	7.604
Household furnishings and operation	7.319	8.503
Apparel and upkeep	4.854	5.639
Transportation	18.955	22.020
Medical care	4.717	5.476
Entertainment	3.647	4.237
Other goods and services	3.999	4.643

estimated by following the price of a specified amount of homeowners or fire and extended coverage insurance, with annual inflation adjustments to any dollar values used in the specifications. For maintenance and repair expenses, a specified set of commodities and services are priced in retail outlets by CPI field representatives.

The rental equivalence approach

The current treatment of homeownership in the CPI has some very ad hoc aspects: there is no recognition of the distinction between investment and consumption, nor is there any clearly identified underlying conceptual structure. This is not the case for the rental equivalence approach. The following summarizes the conceptual arguments for this approach and outlines the operational steps which will be taken to ensure that the approach is effectively implemented.⁵

Conceptual framework. The overall conceptual framework for the Consumer Price Index was presented by Robert Gillingham in 1974. To summarize, we assume that the consumer's welfare is determined by the flow of consumption services received, where the services can be (1) directly provided, (2) obtained coincidentally with the consumption of a nondurable good (in which case the distinction between a good and a service is unnecessary), or (3) obtained from the use of a durable good owned by the consumer. In each case, satisfaction is derived from the act of consumption; ownership of a source of consumption services—a durable good—produces no additional satisfaction. In other words, the purchase of a durable good is an "investment," designed to provide consumption services over a future time span.

Within this framework, we want the CPI to measure the cost over time of the market basket of services consumed in the base period. For the services provided by directly-purchased services and nondurable goods, this implies observing market prices and transaction levels in the base period, as well as the subsequent time path of market prices. However, for the services provided by durable goods owned by consumers, the implicit price of the services must be estimated, because market transactions do not take place each time the service is consumed.

Within this framework, the problem is basically one of estimation. This problem is not serious for many durable goods because aggregate service flows and aggregate purchase flows are closely related, and asset price movements are closely related to service price movements. Thus, standard techniques can be used. For housing, however, this pattern does not typically hold, and alternative procedures must be developed. To analyze this problem for housing, we will start by defining the user cost of housing in the simplest case—in a

world of certainty without taxes, and with perfectly competitive markets—and proceed to outline the complications which arise when these assumptions are dropped.

In a world with perfect rental and resale markets and no uncertainty, the user cost of a house in a given period can be shown to be the following:

$$(1) \quad C_t = r_t P_t - A_t + Z_t$$

where r is the (single) rate of interest in period t , P is the average price of the house in period t , A is equal to the change in the average price over the period, and Z represents all other cost components. In other words, the user cost is defined as the opportunity cost of holding the house, $r \cdot P + Z$, less the increase in the house's value. In equilibrium, the rental price of the house, R , will be equal to the user cost and, because we have assumed frictions away, the rent received by a landlord will equal the rent paid by a tenant. Thus, in a perfect world the following obtains

$$(2) \quad R_t^L = C_t = R_t^T$$

where the superscripts L and T denote landlord and tenant.

Under the conditions we have assumed, measurement of the value of the flow of shelter services from a house becomes a trivial matter. It can be measured with information from either rental or resale and money markets and it does not matter whether the information refers to buyers' or sellers' prices. Problems arise, however, when we attempt to measure the cost of shelter for homeowners in a more complicated setting, in which the exact form of the user cost function is more difficult to define and the equalities above need not hold.

To lay out this problem more clearly, we will drop the assumption of perfect certainty, thereby allowing for a structure of differing asset yields. We will also relax the assumption of perfect markets to allow for the possibility that the rent received by a homeowner may be less than the rent paid by a tenant, the difference representing, for instance, the value of a management function. Although we no longer assume perfect rental markets, we do assume that there is some price at which each homeowner can rent shelter services equivalent to those provided by his own home, and some strictly positive price at which another consumer would be willing to rent his house. Under these conditions, the user cost measure can be redefined as

$$(3) \quad C_t = r_{et} E_t + r_{mt} M_t - A_t + Z_t$$

where M and E are mortgage and equity amounts which sum to the average price of housing (P), r_m is the

mortgage interest rate, and r_c is the opportunity cost of equity capital.⁶

The relationship between user cost, defined in this manner, and the alternative rent measures defined above is now ambiguous, and depends critically on the manner in which the opportunity cost of equity capital is defined. Certainly, the rent paid by a tenant must be greater than or equal to that received by a landlord, but depending on the manner in which one chooses to define and estimate the opportunity cost of equity capital, the relationship between each of the rent measures and user cost is uncertain.

The variables included in the redefined user cost function are all conceptually and operationally straightforward with one crucial exception—the opportunity cost of equity capital. Unfortunately, estimates of user cost are also sensitive to alternative definitions of this variable. In 1980, Gillingham presented several somewhat “natural” alternatives for defining the opportunity cost of equity capital.⁷ In 1972, he had suggested that r_c be estimated as an internal rate of return defined by the identity

$$(4) \quad R_t^L + A_t \equiv r_{et}E_t + r_{mt}M_t + Z_t$$

where R_t^L is an estimate of the market rental which an owner could receive for his house.⁸ Alternatively, one might argue that the appropriate internal rate of return be defined by substituting R^T in equation (4). In either case, the resulting estimate of user cost, which we will call C_t , reduces to an implicit rent, and the following relationship holds:

$$(5) \quad R_t^L \leq C_t \leq R_t^T$$

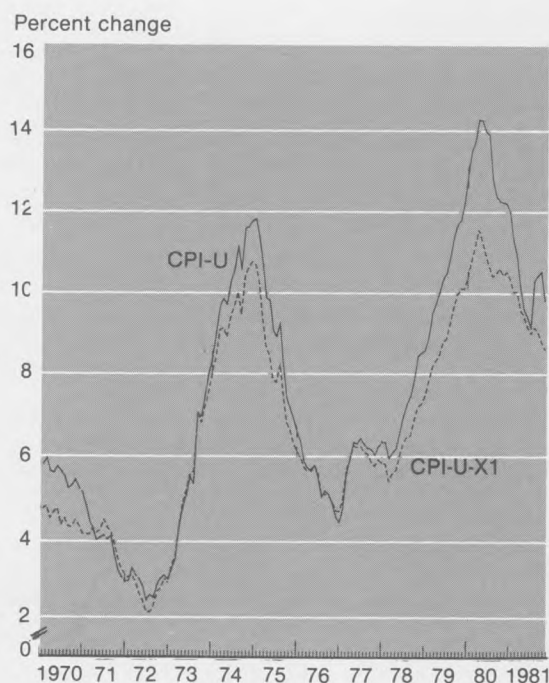
The suggestion to use an internal rate of return on housing to estimate user cost is based on the assumption that this rate best describes the alternative rate of return an owner/investor could receive on another investment with similar liquidity and risk characteristics.

That is, the household's user cost of owner-occupied housing or cost of *consuming* the flow of services from its housing unit must be at least as great as the income which the household could receive by renting the unit to someone else. This cost is independent of the capital gains achievable from holding housing assets, except insofar as such gains are reflected in rent levels. Each household determines its housing stock based on decisions regarding the expected rates of return on housing equity and other assets with varying characteristics. This determination is separate, however, from the decision as to the rate of consumption of housing services. Such factors as the rate of change in house prices determine the rate of return on equity, but *ex post* capital gains do not affect the user cost. In the same way, de-

fining r_c other than as the internal rate of return has the effect of incorrectly including in C some element of the investment return on housing investments. This result implies that rental equivalence measures are a necessary input into the development of acceptable user cost measures.

Empirical implementation. The foregoing discussion emphasizes the importance of explicit or implicit rental market information in developing conceptually sound user cost measures. It has been demonstrated that estimated user cost functions are subject to extreme volatility and that direct use of rental market information is a far more promising approach.⁹ The basic question then becomes the appropriate design of a rental equivalence estimation procedure.¹⁰ Over the past several years, the Bureau has produced an experimental rental equivalence index (CPI-U-X1) which simply uses the rent index to move a rental equivalence weight derived from the 1972–73 Consumer Expenditure Survey. Relative importances for this index are shown in table 1 and the rela-

Chart 1. Changes in the Consumer Price Index for All Urban Consumers, official (CPI-U) and experimental rental equivalence (CPI-U-X1) measures, 1970-81



NOTE: Percent changes are calculated using 12 months of unadjusted data.

tive movements of this index and the official index are displayed in chart 1. Although CPI-U-X1 gives a rough idea of how a rental equivalence index would move, the Bureau believes several procedural improvements are required before an official rental equivalence index is introduced. Following are the steps currently underway to improve the method of calculating the rental equivalence measure now used in the CPI-U-X1. This work will be completed in the latter part of 1982 and will be ready for introduction into the CPI-U with data for January 1983. (See exhibit 1.)

Specifically, three limitations of the current rental equivalence measure will be addressed. First, the sample of rental units now used will be reweighted so that it will represent owner-occupied housing units instead of renter-occupied units. The current sample of rental units was selected, with a probability-based technique, from the renter-occupied units in selected neighborhoods in each CPI pricing area. The rent survey neighborhoods were selected using, among other stratification variables, the percent of the neighborhood that was owner-occupied. By taking advantage of this element of the design of the rent survey, new weights can be assigned to the housing units in the sample so that they will represent the owner-occupied housing units in their neighborhoods, CPI areas, and, ultimately, all urban places in the United States. The reweighted rent sample can then be viewed as representing—under the rental equivalence concept—homeowner costs for all urban consumers in the United States.

Second, the expenditure weight for rental equivalence, which for the experimental index was calculated by means of a short-cut method, will be recalculated using the complex statistical estimating procedure used for weights in the official CPI. This enhancement will improve the quality of the national CPI's rental equivalence

weight, and will provide weights for computation of local area CPI using the rental equivalence approach.

Finally, the data processing system which produces the CPI each month will be expanded to accommodate the calculation of a CPI-U, with complete item and geographic detail, which employs the rental equivalence approach.

Subject to resource availability, longer range plans for improving the rental equivalence measure include an augmentation of the sample of rental units. This new sampling will be concentrated in areas where the housing is predominantly owner-occupied in order to increase the proportion of rental units that have characteristics similar to owner-occupied units. In addition, improvements in the statistical estimating techniques for rental equivalence will also be developed.

THE DECISION TO CHANGE to a flow-of-services approach in measuring shelter costs for homeowners implies a major conceptual change for this component of the CPI. We believe the current approach is severely lacking in conceptual rationale, and that the proposed changes will be a great improvement. Much of the controversy over the change, however, has centered around the empirical question of which index will increase more rapidly over the next several years. As shown in chart 1, the rental equivalence index increased less rapidly over the past decade. However, this period has been marked by substantial activity in housing markets and widely fluctuating mortgage interest rates. It would be extremely difficult to predict relative future movements and, thus, the decision to change the index should be based on conceptual and operational adequacy, a subject on which we do have information, rather than on predictions of future movements in the indexes, a subject on which our information is extremely uncertain. □

— FOOTNOTES —

¹ This section paraphrases Commissioner Norwood's statement of Oct. 27, 1981, announcing that the CPI would be changed.

² This section is based on Walter Lane's, "The Costs of Homeownership," *Seller/Service*, September–October 1979.

³ For a detailed discussion of these effects, see John Greenlees, "Sample Truncation in FHA Data: Implications for Home Purchase Indexes," Working Paper No. 113 and "Alternative Indexes of Home Purchase Prices, 1973–1978," Working Paper No. 114 (Bureau of Labor Statistics, 1981).

⁴ Additional procedures exist for dealing with cells with inadequate sample sizes.

⁵ For a detailed discussion, see Robert Gillingham, "Estimating the user cost of owner-occupied housing," *Monthly Labor Review*, February 1980, pp. 31–35.

⁶ Robert Gillingham, "A Conceptual Framework for the Revised Consumer Price Index," *Proceedings, Business and Economics Statistics Section, American Statistical Association*, 1974, pp. 246–52.

⁷ Gillingham, "Estimating the user cost."

⁸ Robert Gillingham, "Measurement in the Consumer Price Index of the Cost of Shelter for Homeowners," Bureau of Labor Statistics, June 1972.

⁹ Robert Gillingham, "Measuring the Cost of Shelter for Homeowners: Theoretical and Empirical Considerations," Working Paper No. 122 (Bureau of Labor Statistics, 1981).

¹⁰ *Ibid.* Gillingham produces experimental rental equivalence indexes using a very different set of procedures unsuited for use in the CPI. The results, however, give no evidence that a reasonable rental equivalence measure would be excessively difficult to produce.

Labor turnover in manufacturing: the survey in retrospect

Discontinued Federal-State series shows level of hires, quits, and other job changes has remained relatively stable except for cyclical variations; analytical limitations include coverage of industries that have become less representative of the economy

CAROL M. UTTER

With the compilation of data for December 1981, the Bureau of Labor Statistics has ended its survey of labor turnover, predominantly in manufacturing. The monthly survey, a key economic indicator, was discontinued because of severe budgetary cutbacks.

The labor turnover survey was initiated in 1926 by the Metropolitan Life Insurance Co. to provide personnel managers with a national benchmark of turnover rates in manufacturing plants. In 1929, the company turned the project over to BLS for further development, and BLS had been collecting data monthly since 1930. In the first 10 years, the Bureau expanded the original sample of 175 large establishments, which employed 25 percent of all manufacturing workers. In the meantime, a number of State employment security agencies affiliated with the U.S. Employment Service of the Department of Labor were collecting labor turnover information for use in local job market analysis and as a guide for the operations of the State employment services. Cooperative arrangements between these agencies and the Bureau of Labor Statistics for the joint collection of labor turnover data began with an agreement with Connecticut in 1954.

By 1964, the cooperative program had been extended to cover all 50 States and the District of Columbia, and the total sample comprised 40,000 reporting establish-

ments in manufacturing and mining. By the late 1960's, these agencies published about 8,000 labor turnover series of States and Standard Metropolitan Statistical Areas, while national rates were published for 221 industries. For many industries, separate rates were published for men and women between 1958 and 1968.

In 1969, the survey was expanded to include the collection of information on job openings. During the next 4 years, information on labor turnover and job openings was collected for all manufacturing and mining industries as well as for nonmanufacturing industries in about 20 selected standard metropolitan areas. The job openings portion of the survey was discontinued at the end of 1973 and with it the collection of turnover data for most nonmanufacturing industries.¹ Monthly turnover information continued to be collected for all mining and manufacturing industries, entailing 260 national series and nearly 11,000 State and area series.

Uses of the data

These statistics have been used primarily for economic and labor market analysis and for research. In the private sector, employers have used the data on quits as a yardstick against which to measure the performance of their plants, with low quit rates considered an indication of efficient operations and good labor management relations. In the public sector, labor turnover rates were also widely used by State employment services to plan and appraise their operations. For example, the State employment security agencies compared the number of

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employees placed through their services with the total number of new hires reported by employers within the labor market served by a particular local employment service office. Thus, the number of job placements by each local office could be measured relative to the potential for placement in the local job market.

Over the years, the major use of the labor turnover rates was as an economic indicator. The layoff rate signaled changes in the economy several months before business turning points, particularly the starts of downturns. The Bureau of Economic Analysis included the layoff rate as one of the 12 components of its composite Index of Economic Leading Indicators. (See table 1.)

Analysts have also found the quit rate to be a particularly useful representation of the decision of individual employees regarding their perceptions of the availability of other job opportunities.

From 1950 through 1979, accessions (new hires, recalls, and transfers) ranged decennially between 4.5 percent and 4.1 percent, while separations (mainly quits and layoffs) ran about 4.3 percent. The average rate of new hires for each decade stood at 2.9 percent per month, while the average rate of quits was about 2 percent. For 1980 and 1981, turnover slowed as business conditions worsened. (See table 2.)

In general, one notes little evidence of increased job hopping or any particular change in employers' use of layoffs to adjust their work force to slackening business conditions. Of course, the manufacturing sector has not grown in employment during the postwar period and its share of the Nation's nonfarm jobs dropped from 34 percent in 1950 to 22 percent in 1981. Therefore, accessions have not exceeded separations as would have been the situation if labor turnover data for the total economy or the fast growing service sectors were included.

The foregoing is intended merely as a brief descrip-

Table 2. Average monthly labor turnover rates in manufacturing, 1930-81

Period	Total accessions	New hires	Total separations	Quits	Layoffs
1930-39	4.8	—	4.7	1.2	3.4
1940-49	6.9	—	6.6	4.1	1.7
1950-59	4.5	2.9	4.4	2.0	1.8
1960-69	4.3	2.9	4.3	1.9	1.7
1970-79	4.1	2.9	4.3	2.0	1.3
1980-81	3.4	2.1	3.8	1.4	1.6

tion of the behavior of the series. Many detailed analyses of the series have been published, including the *Monthly Labor Review* article, "Quits in manufacturing: a study of their causes."²

Limitations of the series

One of the major shortcomings of the terminated program has been its limited scope. The industry coverage—limited to manufacturing, mining, and telephone communications—has become less representative of overall economic behavior. In the last 30 years, while the number of full- and part-time workers on non-agricultural payrolls has doubled from 45 million to more than 90 million, only 1 out of every 9 jobs added went to manufacturing industries. Thus, the usefulness of the statistics in measuring the job mobility of the entire work force has diminished. The lack of data by occupation has also been considered a problem by many users and limited the usefulness of the series to aid in guiding development of occupational training programs.

There has also been an increasing concern over the low level of labor turnover recorded in the series.

In the mid-1970's, the Employment and Training Administration (ETA) began to investigate alternate sources of labor turnover information relating to all industries. Funded by ETA, several State employment security agencies derived labor turnover from administrative records maintained for the unemployment insurance system.³

The significantly higher new-hire rates derived from this source than those produced by the BLS survey for manufacturing industries pointed to problems in the design of the labor turnover sample. It was essentially a "size cutoff" sample directed at establishments with 50 or more employees. The new-hire rates of the few small establishments in the BLS sample were 2 or 3 times higher than corresponding rates of larger establishments. In addition, many of the larger establishments in the sample had cooperated in the program for a long time, were well established, and appeared to have less turnover than large establishments not in the sample. There was also a regional bias in the sample, with some of the fast growing States, particularly California, being underrepresented. The Bureau had been aware of these problems for some time, but funds had not been available to make the necessary improvements in the sample

Table 1. Layoff rate in relation to the business cycle, November 1948 to July 1981

Cyclical phase	Layoff low	Months leading	Layoff rate ²
Contraction ¹			
Nov. 1948	Dec. 1947	11	1.0
July 1953	Nov. 1952	8	8
Aug. 1957	Nov. 1955	21	1.3
Apr. 1960	May 1959	11	1.7
Dec. 1969	Apr. 1969	8	1.1
Nov. 1973	Oct. 1973	1	8
Jan. 1980	Mar. 1979	10	9
July 1981	July 1981	0	1.0
Expansion ¹			
	Layoff peak	Months leading	Layoff rate ²
Oct. 1949	May 1949	5	3.4
May 1954	Jan. 1954	4	2.9
Apr. 1958	Mar. 1958	1	3.5
Feb. 1961	Feb. 1961	0	3.0
Nov. 1970	Oct. 1970	1	2.2
Mar. 1975	Feb. 1975	1	3.0
July 1980	May 1980	2	3.2

¹ Beginning date as designated by the National Bureau of Economic Research.

² Seasonally adjusted.

design and in the estimating methodology.

However, several studies have shown that the degree of bias in the survey results was considerably smaller for total separations. On this basis, the quit and layoff data retained validity as an economic indicator.

Alternate sources

Although the labor turnover survey was the only source for current statistics by detailed industry categories for the manufacturing sector, there are a number of other sources that provide information which users may substitute for the BLS survey. The labor turnover rates derived through the operations of State unemployment insurance systems have the potential of providing quarterly rates of total separations, total accessions, and new hires by industry for previous quarters. These turnover rates are computed by comparing the social security numbers of employees working for a given employer in a given quarter, as reported on the employer's quarterly unemployment insurance tax report, with the social security numbers reported by the same employer in prior quarters. Unfortunately, this methodology cannot distinguish between the types of separations, such as quits and layoffs.

At present, 12 States do not have unemployment insurance systems which require regular reporting of quarterly wages for each employee identified by social security numbers, a requisite for using this methodology. Only 21 States are currently producing labor turnover rates with this methodology, and seven more are in the developmental stage of producing the rates.

As a one-time project, the methodology was applied to a special tabulation of a 1-percent sample of quarterly social security records made available by the Social Security Administration. This study provided, for the first time, information about the volume of accessions, new hires, and separations in all industries and all States for the second quarter of 1974.⁴ Because of changes in the filing requirements for employer reports for social security taxes, this source is not available for years after 1976.

The best alternate source for current information on layoffs is the ETA's *Unemployment Insurance Weekly Claims Report*. Initial claims derived from that source will be used by the Bureau of Economic Analysis in

place of the layoff rate in manufacturing as one of the 12 components in calculating the Index of Leading Economic Indicators. The Current Population Survey is another source of statistics on labor turnover. Information on unemployed persons on layoff is collected each month, and data are published in *Employment and Earnings* by various characteristics, such as age, sex, race, and duration of unemployment. Unpublished data are available by other characteristics, including industry of last job, although the industry detail is limited. From time to time, the survey is also used to collect data on job tenure and mobility.

The Office of Personnel Management calculates labor turnover rates for Federal employees from its Central Personnel Data file. These data are published monthly for all Federal agencies. Separate rates are available for total accessions, total separations, new hires, transfers, quits, and all other separations.

There are several private organizations that collect and disseminate labor turnover information. The most important of these sources is the Bureau of National Affairs. Since 1974, this organization has been collecting labor turnover information from about 600 large companies in all industries. The data are collected quarterly and are published in a bulletin shortly thereafter.⁵ The definitions and estimating methodology used by this organization are comparable to those that have been used by BLS. The limited sample size does not allow the production of any industry detail. The Administrative Management Society has been collecting annual data on separations of office employees approximately every other year since 1969. The results of this survey, derived from about 2,000 reporting companies in a wide spectrum of industries, are published in the Society's *Management World* journal.⁶ The separations data are restricted to office employees only and do not include temporary layoffs and certain leaves of absence.

Historical data on the BLS national labor turnover series will be maintained in the BLS data base and will be provided to users who request all or part of the file. The data can be provided as listings or on tape. The Bureau does not maintain a data base for any of the State and area series, but some of the State agencies which had cooperated in the survey may be able to provide these data to interested users. □

FOOTNOTES

¹ Paul A. Armknecht, "Job vacancies in manufacturing, 1969-73," *Monthly Labor Review*, August 1974, pp. 27-33.

² Paul A. Armknecht and John F. Early, "Quits in manufacturing: a study of their causes," *Monthly Labor Review*, November 1972, pp. 31-37. For a partial listing of the major studies using the series, see James L. Price, *The Study of Turnover* (The Iowa State University Press, 1977), 160 pp.

³ Philip Hardiman and Marge Sugarman, "Employment Service Potential: The Dimensions of Labor Turnover", report prepared by the

Employment Development Department, State of California, Sept. 1, 1979.

⁴ Malcolm Cohen and Arthur Schwartz, "U.S. labor turnover: analysis of a new measure," *Monthly Labor Review*, November 1980, pp. 9-13.

⁵ Mary Green Miner, "Job absence and turnover: a new source of data," *Monthly Labor Review*, October 1977, pp. 24-31.

⁶ Edward G. Thomas, "1978 AMS Office Turnover Survey," *Management World*, September 1979, pp. 19-21.

Occupational winners and losers: who they were during 1972–80

Job gains occurred in most occupational groupings in which Americans were employed during the 1970's, but close to half of the overall employment increase took place in just 20 of the 235 occupations; and, several job groups lost thousands of workers

CAROL BOYD LEON

Most occupations gained workers in the 1970's. An employment increase of 15.6 million persons during 1972 to 1980 was dispersed among three-fourths of the 235 or so occupational categories in which most persons were employed. However, almost half of this job growth can be attributed to just 20 occupations—including secretaries, cashiers, registered nurses, and cooks. Among occupations declining in size were delivery workers, cleaners and servants in private households, and farmers. (See exhibit 1.)

This article looks at employment changes among the biggest occupational winners and losers of the 1970's. Two sets of criteria were used to choose the winners. An occupation must be one of the top 20 in terms of the number of workers added to the annual average employment level between 1972 and 1980—these increases ranged from more than 200,000 to nearly 1 million; alternately, the job group must have been one of the 20 which grew by 75 percent or more. The majority of occupations which met these tests were in either professional or clerical fields. Four job groups—computer specialists, computer operators, health technologists and technicians, and bank tellers—met both criteria. For all winners, job expansion by industry and by sex is examined.

The 10 biggest losers of 1972–80—that is, occupations which declined by 60,000 workers or more—were generally other than white-collar jobs. (Percentage decrease in employment was not used as a criterion for job losers because only occupations with extremely small numbers of workers in them declined by a large proportion and their absolute loss of workers was small.) Various technological and sociological changes help account for many of the employment decreases, as will be pointed out later.

The Current Population Survey, which is the article's major data source, provides employment information for about 435 detailed occupations. However, this discussion is limited to those which posted a 1980 annual average employment level of 50,000 workers or more. To determine growth during the 1970's, annual averages for 1972 and 1980 are used; the year 1972 was chosen as the base year because earlier data are not available for all occupations on a comparable definitional basis.¹

Where has the growth occurred?

About half of the 15.6 million increase in employment between 1972 and 1980 took place among two white-collar groups—professional and technical workers rose by 4.2 million and clerical workers registered a gain of 3.9 million. Next highest were managers and administrators with an increase of 2.9 million, service workers (excluding private household workers) with 2.4 million, and craft and kindred workers with 1.7 million.

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Exhibit 1. Occupations ranked by the size of their absolute employment changes, 1972–80

Largest increases	Largest decreases
Secretaries	Delivery and route workers
Cashiers	Cleaners and servants
Registered nurses	Farm owners and tenant farmers
Cooks	Unpaid family farmworkers
Truckdrivers	Garage workers and gas station attendants
Accountants	Sewers and stitchers
Engineers	Child-care workers
Computer and peripheral machine operators	Textile operatives
Bookkeepers	Telephone operators
Computer specialists	Stenographers

Only small increases were posted among salesworkers, operatives, and nonfarm laborers, while there were declines of about 400,000 each among private household and farmworkers.

Growth rates follow a similar pattern. These measure the increase in employment relative to the initial (1972) employment level of the occupation. As shown below, white-collar groups—in particular, professionals, managers and administrators, and clerical workers—experienced the fastest growth between 1972 and 1980, followed by service workers (excluding private household):

Occupation	Employment change, in percent
Total	19.1
White-collar workers	30.0
Professional and technical workers	36.3
Managers and administrators, except farm	35.9
Salesworkers	15.3
Clerical and kindred workers	27.1
Blue-collar workers	7.8
Craft and kindred workers	15.9
Operatives, except transport	0.1
Transport equipment operatives	8.1
Nonfarm laborers	6.9
Service workers	18.2
Private household workers	-27.6
Other service workers	25.1
Farmworkers	-11.9

The only blue-collar occupational group which even came near the average growth rate was craft and kindred jobs. Generally speaking, as the service-producing sector expanded, so did office and service jobs, while slow growth in manufacturing and other goods-producing industries limited the increase in the employment of production workers.

Women accounted for about 65 percent of the employment rise over the period, an amount disproportionate to their 38-percent share of total employment in 1972. Many of the specific occupational winners—including the top five mentioned earlier—were “female-dominated.” Women also made up a relatively large share of the job gains in all major occupational groups

which experienced growth. More specifically, women accounted for at least half of the increases in employment in each of the major groups except craft and kindred jobs, where 1 of 5 additional workers was female. And even among craftworkers, women composed much of the employment advance compared with their portion of all craft jobs, as they accounted for fewer than 1 of 25 craftworkers in 1972. In two occupational groups, women made up 100 percent of the (limited) job gains, as the number of men employed as nonfarm laborers remained about the same and the number working as operatives except transport declined. Women made up a small part of the drop in farmworkers but virtually all of the decrease among private household workers.

Surge among white-collar groups

The proportion of workers employed in white-collar occupations reached 50 percent for the first time in 1976 and exceeded 52 percent by 1980. The continual climb in the proportion of these jobs can be attributed to three of its four major occupational groups—professional and technical workers, managers and administrators, and clerical workers.

Professional workers. The most growth took place among professional workers; seven specific occupations with increases of 200,000 or more fall under this heading. (See table 1.) The biggest employment gain was among registered nurses, whose job count was boosted by the growing demand for health services throughout the 1970’s. (However, demand for services does not necessarily imply a simple one-to-one relationship to job growth in the health or any other industry. Other factors, such as relative wages received by persons in the occupation, the supply of workers with appropriate skills, changes in productivity and technology, and the degree to which other types of workers can satisfy the additional demand may all contribute to determining the magnitude of the employment change.) The health industry boom—caused by the greater availability of medical insurance, a larger and older population, and more public awareness of quality health care, among other factors—led to the job gains for nurses, as well as for dieticians, therapists, health technicians, administrators, and health aides.² The number of physicians increased too, but their rate of growth was slower than that of other health workers. The employment advance among registered nurses, which totaled 500,000 during 1972–80, occurred mainly among those in hospitals (350,000) and in medical offices (125,000). Although the number of male nurses more than doubled—they totaled 45,000 by 1980—95 percent of the job gains occurred among women.

The category of health technologists and technicians was among the biggest gainers—both in the size of the

job gain and the growth rate of the employed—although they posted an employment increase of only half that of registered nurses. (See tables 1 and 2.) As the demand for skilled persons to operate highly sophisticated diagnostic and therapeutic equipment grew, the employment level of health technologists and technicians advanced by approximately 255,000. More than half of this gain was among hospital workers, particularly those employed as clinical laboratory and radiologic technicians. As one might suspect, substantial increases also occurred among health technicians working in medical offices and other such facilities. A much smaller, but still noteworthy, gain took place in local government, which employed very few health technologists and technicians in the early 1970's compared with 13,000 by 1980. Women accounted for about two-thirds of the total increase among health technologists and technicians, in line with their representation in that occupation.

In another health-related occupation, therapists posted an 85-percent increase (almost 100,000), as the health industry as a whole grew rapidly. The exception-

ally fast growth rate among therapists can be partly traced to stronger interest in, and funding for, rehabilitation programs. The representation of women among therapists advanced from about 60 to 75 percent from 1972 to 1980, as the vast majority of new therapists were women.

While still a relatively small health occupation, the number of dieticians grew swiftly, as their employment total rose from less than 35,000 to 60,000. As about 9 of 10 dieticians are women, virtually all of the job gains were registered among women. Like the other health workers, both therapists and dieticians found most job opportunities in hospitals, nursing homes, and other medical facilities.

The professional group which posted the next largest increase after nurses—about 335,000—was accountants. As business and individuals became more aware of the need for financial management, demand for accountants and accounting firms expanded; in fact, the rate of growth of accountants—a group which includes income tax advisers and others with accounting skills—was about twice that of total employment. About 30 percent of the job gains took place among those in professional services industries, especially the accounting, auditing, and bookkeeping services industry (although accountants working for hospitals and educational services made up part of the increase). An additional 20 percent of the advance occurred among manufacturing industries, with most of that rise being registered in firms which produce durable goods. The remaining 50 percent of the increase was spread among numerous industries, including public administration at all three levels of government, banking and finance, wholesale trade, and insurance and real estate. Although most accountants are men, the female share of the industry rose by 15 percentage points, to about 36 percent, as two-thirds of the additional accountants were women.

Engineers had a substantial employment rise, as their job count moved ahead by 330,000. Close to half of the job growth for engineers was in manufacturing. Next came professional services, and noticeable growth also occurred in business services, public utilities, and public administration (State and local). Industrial, and electrical and electronic engineers experienced the largest job gains, followed by mechanical engineers. These were also the fields in which employment of female engineers expanded the most. Although women made up only 15 percent of the total employment advance of engineers, their 50,000 increase was exceptional, considering there were fewer than 10,000 female engineers in 1972.

Related to the job gains among engineers was a rise of 265,000 among engineering and science technicians. These gains were spread throughout the economy but, like that of engineers, much of their employment increase was in manufacturing. Especially rapid growth in

Table 1. Occupations with the largest absolute increases in employment between 1972 and 1980

[Numbers in thousands]

Occupation	Employed		Employment increases		Rank by size of increase
	1972	1980	Number	Percent	
Total employed	81,702	97,270	15,568	19.1	—
Professional and technical workers:					
Accountants	714	1,047	333	46.6	6
Computer specialists	273	584	311	113.9	10
Engineering and science technicians	828	1,095	267	32.2	12
Engineers	1,102	1,433	331	30.0	7
Health technologists and technicians	315	571	256	81.3	14
Lawyers	303	522	219	72.3	18
Registered nurses	801	1,302	501	62.5	3
Salesworkers:					
Real estate agents and brokers	349	582	233	66.8	17
Sales representatives, wholesale trade	696	915	219	31.5	18
Clerical workers:					
Bank tellers	288	531	243	84.4	16
Bookkeepers	1,584	1,904	320	20.2	9
Cashiers	988	1,554	566	55.7	2
Computer and peripheral machine operators	196	522	326	166.3	8
Secretaries	2,949	3,876	927	31.4	1
Craftworkers:					
Heavy equipment mechanics	714	963	249	34.9	15
Transportation equipment operatives:					
Truckdrivers	1,441	1,844	403	28.0	5
Nonfarm laborers:					
Stockhandlers	723	941	218	30.2	20
Service workers:					
Building interior cleaners excluding janitors and sextons	668	932	264	39.5	13
Cooks	866	1,331	465	53.7	4
Waiters	1,124	1,416	292	26.0	11

NOTE: Data are annual averages.

the production and use of electrical and electronic equipment and computer equipment accounted for a substantial number of new engineering jobs in those manufacturing industries and in the field of telecommunications. Although engineering and science technician jobs traditionally have been filled by men, women accounted for 45 percent of the 1972–80 growth, thereby doubling their representation in the occupational group from 9 to 18 percent.

Well known for its growth is the computer field, as advances in computer technology and usage have generated literally hundreds of thousands of jobs during both the 1960's and 1970's. Among just the professional job categories, computer specialists—mainly programmers and analysts—increased from about 12,000 in 1960³ to 275,000 in 1972 and to nearly 585,000 by 1980. The number of persons employed as computer programmers came close to doubling during the 1972–80 period, while computer systems analysts were not far from tripling their 1972 level. Both of these occupations were among the 20 fastest-growing, and systems analysts were at the top in terms of percentage growth. Interestingly, it is difficult to pinpoint those industry groups in which most of the employment increase among computer specialists took place, because computers influenced nearly every major industry. As technological advances have made better computer equipment available at more reasonable prices, industries with firms which could not previously afford computers—such as some business services—and industries which grew only slightly during the 1970's—such as several durable goods manufacturing industries—incorporated computers into their operations.⁴ Other large increases in the employment of computer specialists occurred in transportation and public utilities, especially telecommunications; finance, insurance, and real estate; nondurable goods manufacturing; public administration; and professional services, particularly educational services. (Employment advances in another computer-related occupation, computer operator, will be discussed later in this article.)

The female share of computer specialist jobs rose from 17 percent in 1972 to 26 percent in 1980, as 1 of 3 additional jobholders was a woman. Women continued to be more likely to be programmers than systems analysts—although female representation among both groups of workers increased substantially.

While lawyers make up one of the top 20 occupations only in terms of the size of their employment increase, both the absolute size of their gain—220,000—and their rate of growth—more than 70 percent—were notable. The demand for lawyers grew rapidly as businesses and individuals called upon them to untangle and interpret laws which are increasing in number and in complexity. About two-thirds of the rise in the employment of lawyers, which includes law clerks and

Table 2. Occupations with the largest percentage increase in employment between 1972 and 1980

[Numbers in thousands]

Occupation	Employed		Employment increases		Rank by size of increase
	1972	1980	Number	Percent	
Total employed	81,702	97,270	15,568	19.1	--
Professional and technical workers:					
Authors	30	70	40	133.3	4
Biological scientists	36	64	28	77.8	19
Computer programmers	186	341	155	83.3	14
Computer systems analysts	74	201	127	171.6	1
Designers	110	193	83	75.5	20
Dieticians	33	59	26	78.8	17
Economists	68	138	70	102.9	7
Health technologists and technicians	315	571	256	81.3	15
Psychologists	50	106	56	112.0	5
Research workers	86	175	89	103.5	6
Therapists	115	213	98	85.2	10
Managers and administrators, except farm:					
Health administrators	118	210	92	78.0	18
Clerical workers:					
Bank tellers	288	531	243	84.4	12
Computer and peripheral equipment operators	196	522	326	166.3	2
Teachers' aids except school monitors	206	383	177	85.9	9
Craftworkers:					
Data processing machine repairers	45	83	38	84.4	12
Operatives, except transport:					
Insulation workers	30	59	29	96.7	8
Nonfarm laborers:					
Warehouse laborers, not elsewhere classified	150	272	122	81.3	15
Service workers:					
Health aides, except nursing	157	290	133	84.7	11
Welfare service aides	34	87	53	155.9	3

Note: Data are annual averages.

many paralegal workers, took place among the group to which the majority belong—that is, those in private practice, either with law firms or alone. Proportionately speaking, a larger increase was registered among government lawyers, whose number more than doubled between 1972 and 1980 (from 40,000 to 90,000). Nearly a quarter of the job gains for lawyers were in public administration, with increases occurring at Federal, State, and, especially, local levels. Most of the remaining rise in employment—about one-tenth of the total increase of lawyers—was among those employed as house counsel by private firms, and a small increase was noted among law teachers.

Although the practice of law traditionally has been a “man’s job”—women accounted for only 4 percent of all lawyers in 1972—1 of 4 lawyers added to the job count during 1972–80 was a woman. By 1980, the fe-

male proportion of employed lawyers was 13 percent, and this share is expected to continue rising.

Two of the three professional occupations which more than doubled in size fall under the social sciences heading—psychologists and economists. Psychologists are heavily concentrated in just a few industries; accordingly, their 55,000 increase was accounted for almost exclusively by job gains in professional services. Hospitals and medical offices provided opportunities for slightly more than half of the additional psychologists, while other services industries, including educational ones, absorbed most of the remainder. More than half of the increases took place among women, bringing their share of the employment total for psychologists to just over 50 percent.

The industrial distribution of economists is much more diverse, and so their 70,000 rise was spread among many types of businesses. About 30 percent of the advance took place in manufacturing firms, while banks and particularly business services—such as securities and investment companies, economic research firms, and management consulting firms—made up another 30 percent. About 2 of 5 economists added between 1972 and 1980 were women, making their proportion 25 percent.

The third group of professionals which more than doubled in size was composed of authors, including magazine free-lancers, speech writers, and television writers. About three-fourths of all authors in 1980 were self-employed and, accordingly, most of the increase of 40,000 was among self-employed workers. Men and women shared equally in the group's employment gain, and the proportion of women in this occupation was about 43 percent in both 1972 and 1980.

Other fast-growing professional occupations include biological scientists, designers, and research workers. The occupational group referred to as life and physical scientists as a whole grew at about twice the national rate for all workers, but biological scientists, who make up about one-fifth of the overall scientist group, increased at the even faster rate of close to 80 percent. Nevertheless, biological scientists increased by fewer than 30,000, with most of the gain occurring among those working in hospitals and medical offices, government (particularly at the State level), and education. Women made up half of the employment increase, as their representation in this occupation rose about 13 percentage points, to 38 percent.

The majority of designers in 1972 worked for manufacturing firms, particularly in the development of durable goods. However, an increase of 80,000 in the number of designers was most strongly felt in professional and business services. Both sexes shared in the 75-percent increase in the employment of designers. Men continued to predominate in this occupation, al-

though women increased their proportion 10 percentage points, to 30 percent.

Employment of research workers who are not included in one of the other professional occupations rose substantially in every major industry group in which researchers can be found. A doubling in the number of research workers, to 175,000, was especially evident in professional service industries, such as educational institutions and law offices. Women accounted for almost half of the overall advance and, by 1980, made up about a third of all researchers.

Managers and administrators. In contrast to the 1960's, which had slow growth in managerial and administrative jobs, the 1970's saw rapid advances in the employment of these workers. Jobs for managers and administrators increased nearly as quickly as those for professional workers, the fastest-growing occupational group. However, the 2.9-million increase in the number of managers was substantially less than that posted for professionals or clerical workers. Moreover, no single managerial occupation qualified in the top 20 in terms of the size of the increase, although bank officials and financial managers—with an increase of about 215,000—was in 21st place. The duties performed by different persons working in managerial and administrative positions can be quite varied, and actually fewer than half of these workers are classified according to a specific occupation under the managerial heading. That is, most managers are grouped together under the indefinite title, "managers and administrators, not elsewhere classified." The number of such workers increased by more than a third, or 1.7 million.

One administrative group with a relatively fast rate of growth was health administrators; their number increased by close to 80 percent, as more than 90,000 such employees—about half men and half women—were added to the job count. In line with the faster growth of health industry workers in medical facilities other than hospitals, only one-third of the increase among health administrators was attributable to hospital hirings. In both 1972 and 1980, almost half of all health administrators were women.

Salesworkers. The growth among salesworkers was slower than the national average, as their number rose by only about 800,000, or 15 percent, during 1972-80. The recessions of 1974-75 and 1980 had a dampening effect on this group, but, as will be seen in the discussion of cashiers in the clerical occupations, much of the actual increase in retail trade employment is reflected at the cash register rather than on the sales floor. Also, there has been a substantial rise in the number of persons who are salesworkers in their secondary job. The number of these multiple jobholders grew by about

250,000, or 75 percent, from 1972 to 1980.

Real estate agents and brokers—with an increase of almost 235,000—were 1 of only 2 salesworker categories listed among the Nation's top gainers. The growth among real estate workers can be partly traced to the tremendous rise in the investment potential of homeownership during most of the 1970's and to a growing economy's need for additional residential and commercial buildings. Moreover, saleswork can provide an opportunity for part-time employment, as about one-fifth of all real estate agents work less than 35 hours per week.⁵ By 1980, half were women, as they accounted for 7 of 10 additional agents; hence, this occupation is becoming more female-dominated.

A large absolute increase also was posted among sales representatives in wholesale trade. However, their rate of growth was only about 12 percentage points higher than the national average, and their 220,000 increase occurred primarily as a result of sizable advances within a few industries—most notably the wholesale machinery equipment and supplies industry in which the employment of salesworkers grew by 70,000. The female proportion of this occupation, while still low at only about 10 percent, doubled during the period.

Clerical workers. Clericals—the largest occupational group of the 12 major job groups—took second place after professionals in terms of the 1972–80 employment advance. Like professional workers, clerical occupations included 4 of the 10 top gainers; among these were the two largest (absolute) gainers, secretaries and cashiers. Clerical workers, in particular, were affected by developments in computers and office machines, as employment decreased among stenographers and keypunch operators, for example, while increasing among computer operators.

Secretaries, who make up one-fifth of all clerical workers, registered an increase of more than 925,000, making them the leading gainer among all occupational groups. As secretaries are needed in every industry, their employment grew in all sectors of the economy, especially among fast-growing industries such as business services, welfare and religious organizations, and local government, where their employment advanced by more than 50 percent. Legal secretaries experienced exceptional growth, increasing by about 70 percent.

Only 1 of 100 secretaries is a man, and virtually all of the field's increase was among women. The traditionally female composition of the secretarial work force—as well as that of cashiers—showed no indication of changes in the 1970's.

Cashiers, whose numbers grew by more than 550,000, are strongly concentrated in the retail trade industry. Although the employment of salesworkers in retail trade was virtually unchanged, the shift to self-service

drugstores, clothing stores, discount operations, and catalog stores increased the demand for cashiers. The proliferation of fast-food eating places, which often require several cashiers, led to more than a doubling of the number of cashiers working in restaurants, as well as increases in part-time job opportunities. In 1976, 4 of 10 cashiers were working part time.⁶ Women made up 87 percent of all cashiers in both the early 1970's and the beginning of the 1980's.

Computer and peripheral machine operators increased by 325,000 and bookkeepers by 320,000. However, whereas the latter grew at about the same rate as that for the Nation as a whole, computer operators were the second fastest-growing occupation, following only computer systems analysts. As technological improvements have decreased the need for keypunch operators, computer operators became the largest computer occupation, accounting for nearly 40 percent of all computer personnel.⁷ As was the case for programmers and systems analysts, the demand for computer operators increased in every major industry.

The need for bookkeeping services has grown in line with the overall expansion of the economy, as all industries include firms which require the services of one bookkeeper or more. Although 1 of 3 works in wholesale or retail trade, their employment grew more rapidly in other industries. Professional services, most notably medical offices, experienced a particularly fast rate of growth for bookkeepers. More than 90 percent of all bookkeepers in 1980 were women; this proportion had been slightly lower in 1972.

Another clerical occupation with a sizable increase in jobholders was that of bank tellers—85 percent or 245,000. As the suburbs expanded and branch banking proliferated, the demand for tellers increased. Apparently, the appearance of automatic teller machines served to lengthen banking hours without eliminating job opportunities for bank tellers. As has been seen, the proportion of women in several traditionally female occupations has grown, as more women have joined the labor force; this occupation is no exception. The proportion of female bookkeepers rose by 5 percentage points, to nearly 93 percent, by the start of the 1980's.

Teachers' aides (excluding school monitors) were a very small group in 1960 but grew extremely fast during both the 1960's and 1970's; their number increased by about 85 percent, or 175,000, from 1972 to 1980. These workers—who serve as teachers' assistants and thereby assume some functions formerly performed by teachers, for example, grading papers and exams, supervising study halls, and helping out in kindergartens—are almost always women. The female proportion in this rapidly growing field was approximately 94 percent in 1980, up a few points from the early 1970's.

Service workers stride ahead

While service worker jobs can be found in all major industry groups, most—nearly 90 percent—are in the service-producing sector of the economy. And as employment in this sector bounded forward, so did the number of service workers (excluding private household). The fastest-growing nonwhite-collar occupational category, it included five job groups which registered relatively large employment increases, either numerically or percentage-wise.

The occupation which ranks fourth among those with the largest numerical increase in employment was that of cooks, whose job count rose by 465,000, or close to 55 percent. Related to this increase was an almost 300,000, or 25 percent, advance among waiters (including waitresses). As more women joined the labor force, turning single-earner families into multi-earner ones, the number of restaurants and fast-food places expanded and were frequented more often. The extremely large rise in the employment of cooks, including grill cooks, pizza makers, and fast-order cooks, can also be partially accounted for by the use of several cooks simultaneously in one eating establishment. In addition, part of the increase in their employment—about 55,000—was because of more job opportunities in hospitals and other medical facilities and in schools.

About one-third of all cooks work part time—about the same proportion as for all service workers—while closer to 45 percent of waiters are part-timers.⁸ Most waiters and cooks are women, but men made up an increasing proportion of the latter during the 1970's. The representation of women among cooks dropped about 9 percentage points, to 53 percent, while the female proportion of waiters remained around 90 percent.

Another group of service workers which posted a large increase was building interior cleaners (excluding janitors and sextons). Rising about 265,000 from 1972 to 1980, they experienced a growth rate about twice the national average. The number of such workers rose substantially in many industries, such as professional and business services—including building cleaning services—and in manufacturing and retail trade. The proportion of women in this occupation barely changed over the 9-year period, staying near 55 percent.

One of the fastest-growing occupations—which nevertheless totaled fewer than 90,000 in 1980—was that of welfare service aides. Their more than 150 percent increase made this the third largest gainer in the 1970's in terms of rate of growth. In 1960, prior to the widespread establishment of programs in social welfare, there were fewer than 1,000 welfare service aides. Community service workers, family service aides, and other welfare service aides work mainly in welfare and religious organizations but can also be found in medical fa-

cilities, such as nursing homes for the aged, and in schools. Current Population Survey data for 1980 show that 9 of 10 of these workers were women.

A larger service occupation, and one which also grew rapidly during the 1970's, was that of health aides (excluding nursing aides, orderlies, and attendants). Employment in this category—which includes medical assistants, pharmacists' helpers, and numerous others—was part of the overall growth of health-related occupations. Half of the nearly 135,000 rise in health aides was among those working in medical facilities other than hospitals, while a third was because of increased hospital employment. The number of women in this occupation doubled between 1972 and 1980, bringing their representation among health aides up 5 percentage points, to almost 85 percent.

Slow blue-collar growth

Blue-collar jobs, while still a major portion of the labor market with nearly a one-third share of total employment, accounted for only one-seventh of the overall increase in jobholders since 1972. The sluggish growth of blue-collar employment during the 1960's slowed even further in the 1970's as technological advances reduced the need for some types of blue-collar workers, while the job growth which took place in industries within the service-producing sector had little impact on the opportunities for workers in many blue-collar occupations. Even the rapid expansion of certain durable goods manufacturing industries—such as machinery and electric equipment—had only a slight overall effect on blue-collar employment.

Craft and kindred workers—those in skilled trades—grew at a slower pace than the overall economy but nevertheless made up more than three-fourths of the blue-collar advance, as laborers increased even more slowly and operatives employment was virtually unchanged. However, there were six specific blue-collar occupations which grew enough to qualify as big gainers, either in terms of absolute or percentage increases.

Craft and kindred workers. Much of the news concerning craftworkers in the 1970's focused on the entrance of women into the skilled trades; and, they did make important gains in this area. The number of female craftworkers doubled between 1972 and 1980, rising by about 365,000.⁹ This resulted in women's representation among total craftworkers rising to only 6 percent, compared with 3.6 percent in 1972. So while 1 of 5 additional craftworkers over the period were women, and men's employment in the skilled trades rose less than 10 percent, by 1980 this occupation was still predominantly male.

Heavy equipment mechanics were the only craft occupation which posted a large employment gain. Much

of it took place in manufacturing, although especially rapid growth was characteristic of mechanics in repair services, wholesale trade, and mining. The rate of growth for heavy equipment mechanics as a whole was 35 percent, about 15 points above the national average. Despite the increases already noted for women in this field, the occupation was 98 percent male in 1980.

Data processing machine repairers—also called computer service technicians—experienced essentially the same sharp growth trend as other workers in the computer field, with a percentage gain that placed it as the 10th fastest-growing occupation during the period. While still not a large occupational group, data processing machine repairers increased by nearly 85 percent, as the need for installation, service, and repair of computer equipment expanded as a result of more widespread computer use. These workers were employed mainly in durable goods manufacturing, wholesale trade, and business and repair services, and the growth rate for computer technicians was virtually the same in each of these industries. Like most other craft occupations, this one is more than 90 percent men, but women did hold more jobs as computer repairers in 1980 than they had in 1972.

Operatives except transport. Nontransport operatives made up a no-growth occupational group during the 1970's and only one specific occupation under this heading—insulation workers—experienced a fast rate of growth. Moreover, only a few other nontransport operative occupations grew at a rate even somewhat above the national average; these included mine operatives, welders and flame cutters, and laundry and dry cleaning operatives. The overall standstill among operatives, following only slow growth during the 1960's, was the result of several technological and societal changes. Among these were the shift of consumer demand away from the output of goods-producing industries, in which most operatives work, and towards service-producing industries; technological advances which made production more efficient and thereby reduced the need for as many operatives to produce the same amount of goods; changes in consumer demand for some types of work, such as dressmakers; and an increase in imports of certain goods that may have limited the jobs available, such as for textile workers. The proportion of female operatives (excluding transport) edged up to 40 percent in 1980. In more than a third of the specific operative occupations, the majority of workers were women.

The almost 100-percent growth among insulation workers, bringing their number in 1980 to slightly fewer than 60,000, was the result of the need for insulation in new homes and offices and the demand for more of it among energy-conscious owners of older homes. Almost all insulation workers are men, and the majority are

employed by insulation contractors.

Transport equipment operatives. Although this group as a whole experienced slow growth—about 8 percent, or 260,000, since the early 1970's—the jobs under this heading tell a mixed story: three occupations grew at rates equal to or exceeding the national average, two were unchanged, and the remaining one decreased. The fastest growing of the three gainers was busdrivers, whose employment rose about 40 percent, or 100,000.

However, in terms of the actual size of the increase, truckdrivers grew most. Their advance of 400,000 placed them fifth in the ranking of all occupations by size of their employment growth. About 40 percent of all truckdrivers work for transportation companies (including their own), and 20 percent work in wholesale and retail trade. These industries accounted for three-fourths of the job gains, with employment growing more among truckdrivers in the trade industries. Despite a number of articles and even movies about female truckdrivers, 98 percent were men in 1980. However, there were five times as many women holding these jobs in 1980 as in 1972, and their employment level rose to more than 40,000.

Nonfarm laborers. The number of nonfarm laborers, like transport equipment operatives, crept upward during 1972–80, following a decade of little or no growth. The substitution of machines for laborers, as well as the trend toward employing more highly skilled workers, depressed the hiring of laborers. Although 4 of the 9 specific laborer occupations posted employment declines, stockhandlers increased by more than 200,000 and warehouse laborers were among the fastest growing occupations.

The level of employment among stockhandlers rose by almost 220,000, with virtually all of the growth taking place in retail trade establishments (other than eating and drinking places), their biggest employer. Nearly a fourth of all stockhandlers in 1980 were women—up from 17 percent 8 years earlier—as an additional 100,000 women joined the field. More than 1 of 3 stockhandlers works part time,¹⁰ which helps account for the large number of young persons—both male and female—holding these jobs.

Warehouse laborers (excluding those already counted as stockhandlers) rose by more than 120,000, as several major industry groups increased their hiring of these laborers substantially. Half of all warehouse laborers work in wholesale or retail trade establishments, and many others work in factories or in the transportation industry. Only about 15,000 of the employment increase can be attributed to women. Yet this represents a notable change from the early 1970's when only a few thousand women were employed in this occupation.

Yes, there were losers, too

Despite the magnitude of the employment increase during the 1970s, about 1 of 4 specific occupational groups did not post an employment advance. The declines—spread among about 50 occupations—totaled more than 2 million, ranging from 1,000 workers to more than 300,000. More than half of the 30 occupations which dropped by at least 10,000 workers during 1972-80 were blue-collar jobs, especially those of operatives. There were only five white-collar losers, four of which were in the clerical grouping. And, the same pattern occurred among the 10 biggest losers—that is, occupations whose level of employment dropped by 50,000 or more. Again, the blue-collar category posted the most losers. (See table 3.)

Occupational employment can fall in much the same way it can be boosted by changes in consumer tastes, technology, labor supply, and other factors. For example, a preference for longer hair resulted in less consumer demand for barbers, while the use of dictation machines reduced the business community's need for stenographers.

Delivery and route workers posted the biggest occupational loss—almost 310,000, or a third of the 1972 employment total. These workers, who are employed in wholesale or retail trade, in manufacturing, and to some extent by transportation and service firms, may deliver to homes or stores. The largest percentage declines were posted among those working for factories which produce nondurable goods and those employed in both

wholesale and retail trade. A large drop—more than 200,000—occurred from 1973 to 1974, as many businesses were perhaps influenced by the gasoline shortage and resulting high gas prices to reduce delivery services. Employment in this occupation appears to have stabilized during the decade's second half. But despite the occupation's overall employment decline, the number of women who are delivery and route workers almost doubled during 1972-80, though the female proportion was still only 7 percent by 1980.

The number of private household workers has been dropping for four decades, as it fell from about 2.4 million in 1940 to 1.4 million by 1972 and 1.0 million by 1980. The two largest specific occupations within the private household workers category—cleaners and servants, and child-care workers—are among the biggest losers of the most recent decade.

Cleaners and servants totaled less than a half million in 1980, following a nearly one-third decline of 220,000 since 1972. This decrease was partially offset by a rise in employment within commercial cleaning businesses. Also, the supply of the private household workers—a group generally paid low wages—declined, perhaps more than the demand for them, as employment opportunities in other fields increased and as public assistance became more available.¹¹ Just over half of the cleaners and servants in 1980 were black and other minority women; however, nearly 90 percent of the employment decline among workers in this occupation took place among minority women, as older workers retired and younger, better-educated blacks entered other types of occupations. The representation of total women in this field—about 97 percent—was steady over the decade.

Child-care workers in private households, including both young part-time babysitters and full-time experienced adults, also posted a sizable employment decline. Their number dropped by about 110,000, or 20 percent of the 1972 total. During the same period, employment of child-care workers outside the child's own home—such as in day care centers or in the homes of women who care for several children—increased by 75,000, as many working parents turned to these alternatives. Moreover, much of the decrease in private household child-care workers occurred in the early 1970's, with employment in this occupation remaining relatively flat during the decade's latter half. The 1976 change in the income tax law permitting a tax credit to families with certain child-care expenses—in contrast to their early classification as an itemized deduction only—may have helped stem the downward trend of this occupation. About 9 of 10 child-care workers are white women, and most of the 1972-80 decline was among them.

Agricultural employment has dropped dramatically since the early 1900's, when the agricultural count totaled more than 12 million—or a third of all workers—

Table 3. Employment in occupations with declines of 60,000 or more between 1972 and 1980

[Numbers in thousands]

Occupation	Employed		Employment decreases		Rank by size of decrease
	1972	1980	Number	Percent	
Clerical workers:					
Telephone operators . . .	392	316	-76	-19.4	9
Stenographers	125	64	-61	-48.8	10
Craftworkers:					
Garage workers and gas station attendants . . .	502	337	-165	-32.9	5
Operatives except transport:					
Sewers and stitchers . . .	936	788	-148	-15.8	6
Textile operatives	424	323	-101	-23.8	8
Transport equipment operatives:					
Delivery and route workers	892	584	-308	-34.5	1
Private household workers:					
Child-care workers	543	431	-112	-20.6	7
Cleaners and servants . .	713	491	-222	-31.1	2
Farmworkers:					
Farm owners and tenant farmers	1,658	1,447	-211	-12.0	3
Farm laborers, unpaid family workers	455	284	-171	-37.6	4

NOTE: Data are annual averages.

to the 1980 employment level of 3.3 million, representing just over 3 percent of all employees. Accordingly, farmworkers, who account for 4 of 5 agricultural employees, posted sizable decreases, too. Between 1972 and 1980, the ranks of farmworkers were diminished by 365,000 as farms became more mechanized and the trend towards fewer farms continued. However, it should be noted that the rate of decline among farmworkers slowed considerably during the 1970's and practically all of the 1972-80 decline took place among farmers—that is, farmowners and tenant farmers—and unpaid family workers who are farm laborers; these two groups made up two-thirds of all farmworkers in 1972. Hence, over the same period, the number of wage- or salary-earning farm laborers changed little.

Both owners and renters of small farms and unpaid laborers posted their largest losses before 1978, as their employment level held fairly steady for the balance of the decade. Interestingly, as the number of farmowners and renters declined—by about 210,000—the number of women in this occupation rose by 50,000. Still, about 90 percent of all farmers in 1980 were men.

Approximately 2 of 3 unpaid farm laborers are women, generally the farmer's wife, but his daughter or other female relative also would be included. These unpaid family members must work 15 hours or more per week on the family farm to be counted as employed farm laborers. The 170,000 drop in the number of unpaid workers is partly a response to the reduced number of family farms; the number of farms fell by half a million during the 1970's.¹² Moreover, some of the decrease can be attributed to women moving into paid jobs in the nonagricultural sector, either replacing or supplementing their hours spent on farmwork. If these unpaid farmworkers spend more hours at their off-farm job—which often happens during slack farming seasons—they are classified accordingly. Hence, the decline among farm laborers is caused by more moonlighting among some farmers' relatives and a complete cessation of farmwork among others.

A one-third decline in the number of garage workers and gas station attendants took place between 1972 and 1980. A large factor in this drop was undoubtedly the gasoline shortage of 1973, with the resulting cutbacks in the number and hours of gas stations; but probably of even greater importance was the introduction of self-service pumps. In fact, half of the overall employment drop occurred between 1978 and 1980. Garage workers and gas station attendants, many of whom are relatively young, include a substantial proportion of part-timers—about 30 percent in 1976.¹³

Two of the occupations which posted large job losses—textile operatives and sewers and stitchers—were in many ways related, as some textile firms produce the materials which are then used by sewers. A 150,000 de-

cline among sewers and stitchers and a 100,000 drop among textile operatives—including, for example, spinners, knitters, and weavers—occurred as more efficient machinery, the use of synthetic fibers, and competition from imports have combined to reduce the demand for these workers. As about 95 percent of all sewers and stitchers are women, virtually all of the decrease took place among women. Although women represent about 3 of 5 textile operatives, about half of the reduction among these operatives was accounted for by men.

The employment of telephone operators declined by about 75,000 during 1972-80, as several factors combined to reverse their earlier upward trend. Most of the drop—about 60,000—occurred among telephone company operators, whose job total was affected by changing consumer habits, such as less use of directory assistance caused by the imposition of charges in some areas, and more direct dialing of long-distance calls. In addition, improved switching equipment reduced the need for so many operators. Private branch exchange switchboard operators, who work mainly for large companies, also experienced some decline in demand as firms adopted the operatorless Central Exchange (CENTREX) telephoning system. All of the job loss took place among women, as the number of men employed as telephone operators rose during the 1970's.

In terms of absolute size of the employment decline, those construction laborers who are employed as carpenters' helpers would qualify as the Nation's 10th largest occupational loser. Because much of their 65,000 drop undoubtedly is cyclical, rather than secular, and because the number of carpenters actually rose during the decade, a better choice of occupations for the list of those with big losses probably is stenographers.

The employment of stenographers fell rapidly during the 1970's, as their job count in 1980—at less than 65,000—was only half of its 1972 level. As mentioned earlier, the overall demand for stenographers was greatly diminished, both in the 1960's and 1970's, as a result of the increased use of dictation machines. Virtually every industry which employed stenographers in the early 1970's had drastically reduced the number of these jobs by 1980. For instance, the estimated number of stenographers working in telecommunications fell from 21,000 to 1,000; in manufacturing, their employment dropped from almost 20,000 to less than 5,000. The relative declines among public administration workers were not as large, as skilled shorthand reporters found job opportunities within the court systems. It is likely that many persons who had been classified as stenographers in the early 1970's were working as secretaries, dictaphone typists, or in other clerical fields by 1980. Employment of both male and female stenographers was reduced by about half, resulting in virtually no change in the 90 percent female share of these jobs.

Some of the specific occupational changes of the 1970's were similar to those of the previous decade—for example, strong growth was maintained among computer specialists and cashiers, and declines continued among unpaid farm laborers. However, the employment changes for some occupations in the 1970's were in contrast to changes in the 1960's. For instance, the big winners of the 1960's included billing clerks and library attendants, which were both slower than average gainers during the 1970's; but a substantial loss was posted by machinists in the 1960's, whose number had shown strong growth during the more recent decade. How much the occupational employment trends of the 1970's continue through the 1980's remains to be seen. □

NOTE: The data are based on 1970 Decennial Census population counts, adjusted for the aging of the popula-

tion, deaths, and net migration. The Bureau of Labor Statistics has subsequently converted current CPS estimates to reflect the 1980 census, which enumerated 4.7 million more people than had been estimated in updating the 1970 figure. Because this difference was so much larger than previous censuses, historical CPS data series also are being revised, including broad occupational employment categories. Unlike data for the major labor force series, the full range of revised data for detailed occupational categories was not available at this writing; indeed, revisions of some of the detailed series may not be undertaken. However, even if revised data were available, their validity might be questionable at the level of detail in this analysis. (The size and scope of the revisions of major labor force data as a result of the 1980 census will be discussed in an article in the *July Review*.)

—FOOTNOTES—

¹ The Current Population Survey is a monthly survey of about 60,000 households around the Nation conducted by the Bureau of the Census for the Bureau of Labor Statistics. For all persons ages 16 and over, the following questions are asked in order to classify workers by occupation: (1) "What kind of work was . . . doing?" and (2) "What were . . . 's most important activities or duties?" For a listing of the job titles which made up each detailed occupation during 1972-80 see *Classified Index of Industries and Occupations*, 1970 Census of Population, U.S. Department of Commerce, September 1971. Beginning in 1983, the Current Population Survey will use the Standard Occupational Classification on which the 1980 Census of Population was based. For information detailing occupational changes between 1960 and 1970 based on the censuses for those years, see Constance Bogh DiCesare, "Changes in the occupational structure of U.S. jobs," *Monthly Labor Review*, March 1975, pp. 24-34.

Data on occupational employment are also developed by the Bureau based on the Occupational Employment Statistics (OES) surveys. The OES surveys cover wage and salary workers on the payrolls of nonagricultural establishments, except private households. Data are collected from a sample of employers who report occupational employment totals in their establishments based on specific occupational definitions on the survey questionnaire. The OES surveys are conducted on a 3-year cycle, with about one-third of the economy covered each year. To develop occupational employment estimates for a specific year, occupational staffing patterns of industries are developed from the OES survey data. These patterns are then applied to annual averages of total employment by industry from the Bureau's Current Employment Statistics Survey. The resulting data are summed across industries and added to Current Population Survey (CPS) employment data for workers not covered by the OES surveys—agriculture, private household, self-employed, and unpaid family workers—to develop estimates of total employment by occupation.

This procedure was used for the first time in 1980 to develop occupational employment estimates for 1978. These estimates were also used as the base of occupational projections to 1990 (see Max Carey, "Occupational employment growth through 1990," *Monthly Labor Review*, August 1981, pp. 43-55).

For many comparable occupations, significant differences exist between occupational employment estimates in the CPS and those based on OES survey data. These differences not only reflect sampling and nonsampling errors of each survey, but also conceptual differences. For example, the CPS is a count of individuals and therefore workers with two jobs or more are counted once in their primary occupation. On the other hand, the OES surveys count jobs, and workers on the

payrolls of two employers or more (establishments) are counted in the occupation held in each establishment. More complete details on differences in occupational employment data derived from the CPS and the OES surveys are available in an unpublished paper *Comparison of Occupational Employment in the 1978 Census-based and OES Survey-based Matrices*, OES Technical Paper-1. Available from the BLS Division of Occupational Outlook.

² For more information on the growth of the health industry, see Edward S. Sekscenski, "The health services industry: a decade of expansion," *Monthly Labor Review*, May 1981, pp. 9-16.

³ The data source for the number of computer specialists in 1960 (12,142) is the 1960 Census of Population. See DiCesare, "Changes in the occupational structure."

⁴ For more information on the growth and outlook of the computer industry and its related occupations, see H. Phillip Howard and Debra Rothstein, "Up, Up, Up, and Away: Trends in Computer Occupations," *Occupational Outlook Quarterly*, Summer 1981, pp. 3-11. Also see "Small business computers: the need for them is increasing," *Office*, July 1979, pp. 77-79.

⁵ Data presented in this report on the part-time status of workers by detailed occupational group refer to 1976 and can be found in "Who's Working Part Time These Days?" *Occupational Outlook Quarterly*, Summer 1979, pp. 14-17.

⁶ *Ibid.*

⁷ For more on the changing distribution of computer jobs, see Howard and Rothstein, "Up, Up, Up, and Away."

⁸ "Who's Working Part Time?"

⁹ Some of the specific craft occupations in which the number of women at least tripled were: carpenters, among whom the number of female jobholders increased from 5,000 to 18,000; other construction craftworkers, with an increase from about 15,000 to almost 50,000; machinists, from 2,000 to 18,000; heavy equipment mechanics, from 5,000 to 15,000; and telephone installers and repairers, from 6,000 to 27,000.

¹⁰ "Who's Working Part Time?"

¹¹ See Allyson Sherman Grossman, "Women in domestic work: yesterday and today," *Monthly Labor Review*, August 1980, pp. 17-22.

¹² For more information on farmworkers, see Patricia A. Daly, "Agricultural employment: has the decline ended?" *Monthly Labor Review*, November 1981, pp. 11-17.

¹³ "Who's Working Part Time?"

Blacks in the 1970's: Did they scale the job ladder?

*More blacks obtained white-collar jobs
but fewer penetrated higher-salaried positions;
mobility in higher-paid blue-collar jobs
was somewhat more impressive*

DIANE NILSEN WESTCOTT

The proportion of workers holding white-collar jobs has increased steadily over the past few decades as employment grew quite rapidly in the professional and clerical fields. Accompanying this movement were substantial declines among private household workers and farmworkers. Each of these trends has had an impact on the employment patterns of black workers.¹ Blacks made some advances in the more highly skilled occupational groups. For example, in 1960, 11 percent of black workers were in professional and technical and craft worker positions; by 1980, their proportion had almost doubled to 21 percent.

Throughout the 1960's, blacks advanced both socially and economically, making notable strides in a number of areas including educational attainment, voting rights, equal housing opportunities, and earnings, as well as in employment.² These advancements came about during a period of favorable economic conditions; however, it was also a time of social change which saw the passage of the Civil Rights Act of 1964 and the establishment of the Equal Employment Opportunity Commission. During the 1970-80 period, however, job opportunities and occupational mobility slowed considerably as the Nation underwent three recessions. With each contraction came periods of sustained and progressively higher levels of unemployment, accompanied by

severe inflationary pressures which failed to subside over the course of the decade. Movement up the occupational scale for blacks progressed more slowly during the 1970's, as the number of black professional and craft workers increased only about half as fast as during the 1960's. Clearly, economic disruptions affected the occupational advancement not only of blacks, but of all workers as well.

Between 1972³ and 1980, the number of employed blacks increased by 1.3 million, or 17 percent. Their proportion of the Nation's employed work force—9.4 percent—did not change, as the white employment level rose by 18 percent. The largest employment gains for blacks occurred in the white-collar occupations, where the four major subcategories—professional and technical, managerial and administrative, sales, and clerical—increased very sharply. (See table 1.) While their advancement in these occupational categories was proportionately greater than for whites, it was not sufficient to alter materially the overall black-white proportions of the previous decade, and blacks continued to represent a disproportionately small number of white-collar workers.

This article examines the occupational shifts of black workers between 1972 and 1980, using Current Population Survey data on employment by detailed occupation, race, and sex. To further assess the extent of occupational mobility among blacks during this period, occupational data by area of residence and usual weekly earnings are also analyzed.

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Table 1. Employment change by occupation and race, 1972 and 1980, annual averages

[Numbers in thousands]

Occupation	Black employment change, 1972-1980		White employment change, 1972-1980	
	Number	Percent	Number	Percent
Total employment	1,344	17.3	13,306	18.2
White-collar workers	1,185	55.3	10,022	27.4
Professional and technical	354	55.4	3,592	33.8
Managers and administrators	168	69.1	2,639	34.2
Sales	88	51.9	698	13.5
Clerical	580	52.7	3,094	23.8
Blue-collar workers	215	6.8	1,760	7.0
Craft and kindred workers	217	32.3	1,427	14.2
Operatives, except transport	73	5.8	-209	-2.3
Transport equipment opera-	41	9.0	204	7.5
Nonfarm laborers	-116	-14.7	337	10.0
Service workers	21	1.0	1,826	21.2
Private household workers	-238	-41.8	-159	-18.6
Other service workers	259	15.9	1,985	25.6
Farmworkers	-74	-31.9	-302	-10.8
Farm managers	-23	-51.1	-187	-11.4
Farm laborers	-51	-27.3	-116	-9.9

women increased their representation, while white participation declined.

Blue-collar jobs grew at a relatively slow pace during the 1970's. Overall, the proportion of black men who were blue-collar workers was down somewhat from 1972. This stemmed from reduced participation in the relatively undesirable operative and nonfarm laborer jobs, as their representation in the skilled craft and kindred trades actually rose. By 1980, the largest proportion of black men in any single occupational group was in skilled craftwork; this has long been true for white men. Despite this improvement, there were still relatively high concentrations of black men in the less skilled job categories. For example, they were still twice as likely to be in laborer jobs as their white counterparts.

After the craft trades, service work employed more black men than any other occupation. One-sixth of all employed black men were engaged in service work (excluding private household) in 1980—not much different than in 1972. Blacks continued to be more than twice as likely to have service jobs as white men.

The most substantial movement among black women during the 1970's occurred in private household work, as their proportion fell from 16 to 7 percent. One-fourth of employed black women had jobs in other service occupations in 1980—a small decline from 1972. Only clerical work was more prevalent among black women, accounting for 29 percent of those employed. Like private household workers, farmworkers registered an employment drop between 1972 and 1980; black men left this occupation more quickly than white men.

Clearly, the movement out of the lower paying nonfarm-labor, service, and farm jobs and into mid- and

Black-white employment changes

Between 1972 and 1980, employment in the professional and technical occupations expanded rapidly, and both blacks and whites increased their participation in these fields accordingly. The number of black men in professional positions grew at a slightly faster pace than that of white males during the decade. Still, in 1980, 16 percent of all white men were employed as professional workers, twice the black male proportion. This 2-to-1 ratio is only slightly lower than that which prevailed in 1972. (See table 2.)

Relative to their white counterparts, black women strengthened their foothold as professional workers.⁴ Black women professionals, who had accounted for nearly 11 percent of all employed black women in 1972, made up 14 percent of the total in 1980, a proportion approaching that for white women.

Jobs for managers and administrators also increased during the decade. Black men and women shared more than proportionately in the gains but were still much less likely to be employed in these fields than their white counterparts. For example, in 1980, 15 percent of all white men were engaged as managers or administrators, compared with fewer than 6 percent of black men.

Employment in clerical occupations rose rapidly between 1972 and 1980. Among women—who make up four-fifths of all clerical workers—the increase was proportionately much greater for blacks than for whites. Black men also increased their participation in this field, while white men experienced a decline. There was a similar occurrence in sales, where both black men and

Table 2. Percent distribution of employed persons by occupation, race, and sex, 1972 and 1980

Occupation	Black men		White men		Black Women		White Women	
	1972	1980	1972	1980	1972	1980	1972	1980
Total employed	4,347	4,704	45,769	5,033	3,406	4,394	27,305	36,043
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Professional and technical	6.4	8.2	14.3	16.1	10.6	13.8	14.9	17.0
Managers and administrators	4.0	5.6	14.0	15.3	2.1	3.4	4.8	7.4
Sales	1.7	2.5	6.6	6.4	2.5	2.8	7.8	7.3
Clerical	7.6	8.4	6.8	6.2	22.7	29.3	36.2	36.0
Craft and kindred workers	14.8	17.6	21.2	21.5	.9	1.4	1.3	1.9
Operatives, except transport	17.4	15.5	12.1	10.7	14.8	13.8	12.5	9.4
Transport equipment operatives	10.3	9.9	5.7	5.4	.4	.7	.4	.7
Nonfarm laborers	17.4	13.0	6.8	6.5	.9	1.4	.9	1.2
Farm and farm managers	1.0	.4	3.4	2.6	—	—	.4	.4
Farm laborers and foremen	3.5	2.4	1.7	1.5	1.1	.5	1.5	1.3
Private household workers . . . . .	.3	.1	—	—	16.4	7.4	3.0	1.9
Other service workers	15.8	16.4	7.3	7.9	27.6	25.4	16.2	16.0

upper-level jobs in the white-collar occupations and craft trades was sustained during the 1970's, although the changes were not as dramatic as those which occurred in the previous decade. But while blacks moved into higher skilled (and more highly paying) occupations in greater numbers and, correspondingly, diminished their proportions in the less desirable job groups, they still accounted for a disproportionately large share of private household workers, nonfarm laborers, and transport equipment operatives, while constituting a disproportionately small share among most white-collar jobs—clerical workers being the exception.

Specific job changes

It is important to know the specific job markets in which blacks have actually made headway relative to their white counterparts. Are blacks increasingly more likely to become physicians or accountants or are they still, as in the past, finding teaching and technicians jobs their primary source of entry into the professional occupations? If the jobs blacks hold are found in the lesser skilled and lower paying professional positions, then the conclusion that there has been significant occupational upgrading may not be justified. Detailed occupational data permit a finer analysis of the areas of the job market in which blacks are overrepresented and those in which their entry seems to have been restricted. An examination of occupational participation rates⁵ during the 1970's is a useful yardstick of progress in this area.

Overall, black occupational advancement in the 1970's is not particularly impressive when the detailed occupational data are examined. In most cases, black workers were concentrated in the same jobs in which they were employed in 1972. In other words, although a higher proportion of blacks could be found among the professional and technical occupations in 1980 than in 1972, they were concentrated in jobs at the lower end of the professional pay scale, such as nursing, technical trades, and vocational and educational counseling. And even though their numbers have expanded in some of the more desirable and better paid jobs, there are few examples where black men and women have been able to significantly increase their representation in a particular job.

Black men. Despite a substantial increase in the proportion of black men in the professional and technical occupations, their proportion of all employed men in this category rose only slightly over the 1972-80 period, from 4.0 to 4.4 percent. By way of comparison, black men accounted for 8.4 percent of employed men in 1980, a small drop from the 8.6 percent in 1972. The 1980 recession undoubtedly had an impact on the em-

ployment of black men. In the previous year, 1979, black men had accounted for 8.6 percent of employment, the same as in 1972. (See table 3.)

In 1980, black males in the professional and technical occupations accounted for 8 percent or more of all men employed as health technicians, nurses, social and recreational workers, vocational and educational counselors, and personnel and labor relations workers. In every case, these were the same professions in which they were concentrated in 1972.

The proportions of black men in certain higher-status professional occupations—such as accountants, computer specialists, engineers, and lawyers—showed some increases over the period, but were still disproportionately low. The proportion employed as physicians, at 2.1 percent, did not increase at all between 1972 and 1980.

The overall black occupational participation rates for managers and administrators rose slightly—but to only 3.2 percent—with bank officials and financial managers showing a healthy increase. Nevertheless, blacks in 1980, as well as 1972, were most likely to be employed as managers of restaurants, cafeterias, and bars, and as school administrators. Black employment in school administration actually declined during the 1972-80 period, while those working as food establishment managers showed a rise.

Overall, employment growth in sales was rather sluggish during the 1970's, yet black men were able to increase their proportion of those employed from 2.4 to 3.5 percent. However, gains occurred in occupations in which blacks have traditionally been concentrated—retail salesclerks and insurance agents.

Some of the largest occupational gains among black men during the decade occurred in the clerical occupations, in particular as banktellers, bookkeepers, estimators and investigators, office machine operators, statistical clerks, and secretaries—jobs that had shown substantial growth during the 1970's. For example, the participation rate of black men who were estimators and investigators rose from 3 to 6 percent and the rate for office machine operators increased from 10 to 14 percent. Areas in which black men had been highly concentrated in 1972 (15 percent or more)—file clerks, mailhandlers, messengers and office boys, and postal clerks—showed little growth or declined by 1980, although they still accounted for a significant proportion of black male employment.

To capsulize, black men were able to realize greater participation in a substantial number of white-collar occupations over the decade. One significant exception was the better paying professional and technical jobs, in which they advanced, but not significantly. Despite some progress in the professional ranks, they were con-

centrated in the same occupations as they were almost a decade earlier.

Blue-collar occupations expanded much less rapidly than white-collar jobs over the decade. The occupational participation rate of black men held steady for both transport equipment and other operatives, declined among laborers, but rose in the craft trades. However, even with the rise from 6 to 7 percent, the craft trades remained the only major blue-collar category in which black men accounted for less than their proportion of overall employment.

Black men increased their share in a number of the more highly skilled job categories including electricians,

painters, plumbers, metal and printing craftsmen, and excavating and grading road machine operators. However, the two largest job concentrations of black men continued to be as cement and concrete finishers and crane operators.

The overall participation of black men in operative and transport equipment operative positions held steady between 1972 and 1980, with blacks continuing to represent a disproportionately large number of employed persons in these occupations. They made up about 20 percent or more of all men employed as clothing ironers and pressers, furnacemen, laundry and drycleaning operatives, sawyers, textile operatives, busdrivers, forklift

Table 3. Employed blacks as a percent of all employed men and women in selected detailed occupations, 1972 and 1980, annual averages

Occupation	Black men		Black women		Occupation	Black men		Black women	
	1972	1980	1972	1980		1972	1980	1972	1980
Total	8.6	8.4	11.0	10.6	Plumbers and pipe fitters	5.1	8.5	(¹)	(¹)
Professional and technical	4.0	4.4	8.0	8.8	Machinists and jobsetters	5.6	6.3	(¹)	(¹)
Accountants	2.1	3.6	5.2	7.4	Metal craftsmen, except mechanical, machinery, and jobsetters	4.9	6.2	(¹)	(¹)
Computer specialists	3.5	4.1	6.5	9.3	Mechanics, automotive	7.4	7.7	(¹)	(¹)
Engineers	1.4	2.2	(¹)	(¹)	Mechanics, except automotive	4.5	6.1	(¹)	8.9
Personnel and labor relations	6.1	7.9	12.5	10.8	Printing craftsmen	4.5	7.3	8.5	8.6
Physicians, dentists, and related practitioners	2.1	2.1	(¹)	5.0	Cranesmen, derrickmen, hoistmen	15.5	16.3	(¹)	(¹)
Nurses, dietitians, therapists	8.6	13.2	6.1	8.2	Operatives, except transport	11.9	11.7	12.7	14.6
Health technologists and technicians	12.4	8.4	7.8	9.2	Assemblers	13.3	11.2	11.8	11.9
Lawyers and judges	1.3	3.1	(¹)	7.1	Checkers, examiners, and inspectors (manufacturing)	7.6	9.6	9.3	10.8
Religious workers	10.0	5.7	(¹)	(¹)	Clothing ironers and pressers	28.9	(¹)	38.4	40.4
Social and recreation workers	13.8	16.4	17.4	17.4	Furnacemen, smeltermen, and pourers	23.9	25.4	(¹)	(¹)
Teachers, college and university	3.6	3.3	5.4	5.3	Garage workers and gas station attendants	7.3	7.9	(¹)	(¹)
Teachers, except college and university	7.0	5.5	9.0	10.2	Laundry and drycleaning operators	24.0	21.9	28.7	23.3
Engineering and science technicians	3.5	5.6	(¹)	6.7	Meatcutters and butchers	9.4	8.5	19.4	18.6
Vocational and educational counselors	9.0	15.2	13.4	17.8	Packers and wrappers	12.6	20.4	13.4	15.4
Writers, artists, and entertainers	4.2	4.1	2.8	3.6	Painters, manufacturing articles	14.5	10.7	(¹)	(¹)
Managers and administrators	2.6	3.2	5.0	5.2	Precision machine operators	6.9	6.7	10.3	18.2
Bank officials and financial managers	(¹)	2.6	(¹)	4.6	Punch and stamping press	10.5	11.0	11.6	9.1
Restaurant, cafeteria, and bar managers	4.8	5.7	10.6	7.9	Sawyers	19.1	17.4	(¹)	(¹)
School administrators, elementary and secondary	6.7	6.0	6.9	12.2	Sewers and stitchers	(¹)	14.3	11.3	13.8
Sales	2.4	3.5	3.8	4.4	Textile operatives	18.9	22.1	12.4	20.7
Insurance agents, brokers, and underwriters	2.3	4.3	7.8	8.2	Welders and flamecutters	9.4	9.8	(¹)	(¹)
Sales clerks, retail trade	4.2	7.0	4.1	5.0	Transport equipment operatives	14.5	14.7	9.0	11.2
Clerical	9.5	10.9	7.2	8.9	Busdrivers	21.7	24.0	7.0	13.1
Bank tellers	(¹)	10.3	4.0	5.9	Deliverypersons and routepersons	10.0	9.2	(¹)	5.1
Bookkeepers	3.7	6.7	2.4	3.4	Forklift and tow motor operators	21.7	18.8	(¹)	(¹)
Cashiers	7.5	8.7	6.5	8.6	Taxicab drivers and chauffeurs	22.5	24.0	(¹)	(¹)
Counter clerks, except food	4.7	5.4	6.2	8.6	Truck drivers	13.9	13.5	(¹)	7.3
Estimators and investigators	2.5	6.0	7.3	11.7	Laborers, except farm	19.2	15.5	12.0	12.2
File clerks	22.0	25.6	16.0	18.2	Construction laborers	24.7	15.4	(¹)	(¹)
Library attendants and assistants	(¹)	(¹)	8.7	8.5	Freight and material handlers	21.7	17.5	17.8	19.7
Mail carriers, post office	13.1	11.6	(¹)	(¹)	Garbage collectors	33.3	32.8	(¹)	(¹)
Mail handlers, except post office	25.0	22.1	12.5	17.9	Gardeners and groundskeepers	16.5	14.1	(¹)	(¹)
Messengers and office helpers	16.4	16.9	(¹)	(¹)	Stockhandlers	8.8	10.4	10.7	10.0
Office machine operators	9.8	14.0	11.9	15.1	Vehicle washers and equipment cleaners	21.9	18.4	(¹)	(¹)
Postal clerks	16.0	14.8	26.7	32.7	Farm and farm managers	2.6	1.6	3.0	(¹)
Receptionists	(¹)	(¹)	6.4	6.4	Farmers (owners and tenants)	2.6	1.6	3.0	(¹)
Secretaries	(¹)	12.1	4.4	5.5	Farm laborers and foremen	16.1	12.7	8.1	7.0
Shipping and receiving clerks	13.0	13.1	13.4	8.3	Farm laborers, wage workers	19.3	14.3	23.5	15.7
Statistical clerks	8.0	11.8	7.1	11.3	Service workers, except private household	16.8	15.7	17.3	15.9
Stock clerks and storekeepers	12.2	10.5	10.3	11.0	Cleaning service workers	25.4	22.8	35.3	30.2
Teachers aides	(¹)	(¹)	21.2	17.3	Food service workers	12.8	11.5	11.2	10.1
Telephone operators	(¹)	(¹)	(¹)	14.8	Health service workers	24.5	32.1	23.7	21.0
Typists	(¹)	(¹)	10.9	13.2	Personal service workers	13.9	15.0	11.2	12.6
Craft and kindred workers	6.2	7.0	8.0	8.1	Protective service workers	9.2	9.8	16.9	17.4
Carpenters	5.1	4.4	(¹)	(¹)	Private household workers	(¹)	(¹)	39.8	31.9
Brickmasons and stonemasons	13.6	14.6	(¹)	(¹)	Child care	(¹)	(¹)	8.0	7.0
Bulldozer operators	13.6	11.7	(¹)	(¹)	Maids and servants	(¹)	(¹)	71.1	52.5
Cement and concrete finishers	33.3	31.0	(¹)	(¹)					
Electricians	2.8	4.1	(¹)	(¹)					
Excavating, grading, and road machinery operators	6.6	8.2	(¹)	(¹)					
Painters, construction and maintenance	9.3	10.5	(¹)	(¹)					

¹ Data not shown where numerator is less than 4,000 or denominator is less than 35,000

operatives, and taxicab drivers. For the most part, participation of black men in these occupations increased or was about the same between 1972 and 1980, because white men were moving out of these jobs.

In the nonfarm laborer and service worker occupations—which also have relatively large numbers of black men—there were declines in the proportion engaged in these jobs. The number of laborers dropped substantially during the 1970's, but the employment of black men in these occupations fell even more rapidly.

Black women. Despite the fact that they made up a smaller percentage of employed women in 1980 than in 1972—because of the huge influx of white women into the labor force—black women were able to increase their proportions in most of the professional and technical job categories. (See table 3.) And a definite occupational shift occurred over the period. In 1972, black women had participation rates of 12 percent or more in three occupations—social and recreation work, vocational and educational counseling, and personnel and labor relations work. By 1980, although they were still highly visible in these three areas, their concentration in other professional occupations had broadened considerably. The most notable change occurred in the fast-growing computer field, where black women increased their participation by 2.8 percentage points to 9.3 percent. Other noteworthy gains were among accountants, nurses, dieticians and therapists, engineering and science technicians, and vocational and educational counselors. Still, in contrast to developments in the 1960's, growth in the professional and technical occupations among black women continued to be relatively slow.

Limited gains among black women were realized in most managerial and administrative positions and sales occupations. The rate of employment participation among school administrators, insurance agents, and bank officials increased, while there was a declining rate among restaurant managers.

Black women made some progress moving out of salesclerk positions, although their participation rate actually increased during the 1970's as white women left this occupation in even greater numbers. In 1972, 75 percent of all black women in sales were retail clerks, but by 1980, this proportion had fallen to 68 percent. Black women accounted for about 5 percent of employed women in this field.

Employment gains of black women in the fast growing clerical field were widespread as their overall participation rate moved from 7 to 9 percent over the 8-year period—still somewhat below the percentage of all employed women who were black. Gains were strong for black women as estimators and investigators, mailhandlers, postal clerks, statistical clerks, and telephone operators. The largest numbers of black women

were employed as cashiers, typists, and secretaries.

Although blue-collar occupations are generally male dominated, black women made a number of inroads into some job fields. It should be noted that the occupational participation rates of black women in the better paying craft trades are difficult to measure, as the actual numbers engaged in these jobs were very low. While some increases in specific crafts were registered, the overall proportion of black women in the craft trades remained about the same over the period, at 8.1 percent.

The largest concentration of black women in blue-collar jobs was in the operative category, a group in which black women have been traditionally overrepresented relative to their employment total. In 1980, black women had participation rates of 18 percent or more in six occupational categories; this compares with three such categories in 1972. Among transport equipment operatives, black women advanced rather strongly as busdrivers, reaching 13 percent in 1980. They also registered strong growth in two occupations in which they had shown little representation in the past—delivery persons and truckdrivers.

The participation rate of black women in occupations at the lower end of the earnings ladder was unchanged for laborers and declined among household workers during the 1970's. Furthermore, the drop in the rate among black women engaged in private household services, from 40 to 32 percent, is particularly important, given the large concentration of women in this occupation and the fact that black women are moving out at a faster rate than white women.

Residential location

To better understand the growth of blacks in certain occupations and their decline in others, it is helpful to examine their residential location. In 1980, approximately 55 percent of all blacks lived in central cities, with the other 45 percent divided almost equally between suburban and nonmetropolitan areas. In contrast, only 24 percent of all whites lived in central cities, with the bulk residing in suburban rings (42 percent). This concentration of blacks in the central city becomes particularly important when one realizes that it is the suburban rather than city blacks who were the recipients of most of the occupational upgrading during the 1970's.

Overall, the occupational distribution of black men and women residing in the suburbs was similar to that of their counterparts living in central cities in 1973.⁶ However, by 1980, this was no longer the case. (See table 4.) While virtually all occupational changes among residents of both cities and suburbs were in the same direction, blacks in the suburbs fared better than those in the central cities or nonmetropolitan areas during the 1970's. This is evident from the rather impressive in-

Table 4. Occupational distribution of employed blacks, by sex and area of residence, 1973 and 1980

[In percent]

Occupation	Central cities				Suburbs				Nonmetropolitan areas			
	Men		Women		Men		Women		Men		Women	
	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980	1973	1980
Total employed (in thousands)	2,899	2,915	2,373	2,835	1,061	1,499	801	1,366	1,176	1,236	831	1,037
White-collar workers	26.2	30.2	46.2	54.5	27.9	36.2	46.6	58.1	10.5	14.7	23.0	31.4
Professional and technical	8.5	9.8	12.2	15.0	12.0	16.2	14.7	17.6	4.2	6.3	8.8	10.8
Managers and administrators	5.6	6.7	2.7	3.6	6.8	8.7	3.0	4.5	2.8	4.1	2.7	2.7
Sales	2.5	3.1	2.5	3.0	2.2	3.1	2.7	4.0	1.1	1.2	2.1	2.1
Clerical	9.6	10.7	28.8	32.8	7.2	8.1	26.1	32.1	2.5	3.1	9.4	15.9
Blue-collar workers	56.6	51.3	16.6	15.1	53.4	47.3	17.0	15.0	64.0	62.5	28.1	28.7
Craft and kindred	15.5	16.9	1.1	1.5	15.1	17.2	1.2	1.2	13.5	17.5	1.1	1.5
Operatives, except transport	17.3	14.3	13.9	11.6	15.8	12.6	14.2	11.7	19.4	18.5	25.3	24.9
Transport equipment operatives	9.7	9.3	.4	.6	8.5	7.7	.7	.7	8.5	9.1	.4	.7
Nonfarm laborers	14.1	10.8	1.1	1.3	14.0	9.9	1.0	1.4	17.6	17.4	1.3	1.6
Service workers	17.0	18.5	37.2	30.4	16.3	13.7	24.2	26.3	10.9	12.9	44.0	37.9
Private household . . . . .	.2	—	11.0	5.1	—	.1	11.2	5.2	.1	.2	20.1	11.6
Farm workers	—	—	—	—	2.5	2.8	1.1	.7	14.4	10.0	4.9	2.1
Farmers and managers	—	—	—	—	.8	.3	.2	—	4.2	2.5	.4	.3
Farm laborers	—	—	—	—	1.7	2.5	.9	.7	10.2	7.6	4.5	1.7

NOTE: Data include persons of black and other minority races.

creases in the proportion holding white-collar jobs, particularly professional and technical and managerial positions. For example, black suburban men had a 91-percent rise in employment in the professional fields, compared with a 16-percent increase among city residents. Likewise, black suburban women had a 158-percent increase in the managerial ranks, compared with 63 percent among their city counterparts. (These increases may be partially explained by the migration of successful white-collar blacks from the cities to the suburbs.)

In 1973, black workers in blue-collar occupations were predominant in central cities and suburban areas. However, by 1980, while both areas had made the shift to a predominance of white-collar jobs, the changes were more pervasive in the suburbs. Cities and suburbs alike experienced a drop in the percentage of men holding semi-skilled and unskilled blue-collar jobs. Metropolitan women also contributed to this growth in white-collar jobs, as they left the service occupations in great numbers.

Nonmetropolitan area blacks also moved into white-collar jobs during this period, though not to as great an extent as blacks living in the cities and suburbs. The proportion of blacks in blue-collar jobs remained unchanged between 1973 and 1980, while blacks moved out of service and farm jobs. In general, the occupational distribution of nonmetropolitan workers is very much different from that of their metropolitan counterparts in that a much larger proportion are engaged in blue-collar work and comparatively few are in white-collar occupations.

That blacks are moving into the professional, clerical and craft occupations is readily apparent, but nowhere more so than for those who live in the suburbs.⁷ And

that blacks are still disproportionately concentrated in the less skilled and service jobs is also evident, particularly for those residing in the city and nonmetropolitan areas. In part, central city, suburban, and nonmetropolitan employment differences reflect the strong growth of white-collar occupations in the metropolitan areas and the predominance of blue-collar jobs available in the nonmetropolitan areas. Black occupational advancement is somewhat related to residential location, in that most workers have jobs in the geographic area in which they live.⁸ However, individual levels of educational attainment, skill, and ability are the predominant factors in determining one's occupational classification.

Earnings

Because the white-collar professions are considered among the most powerful and prestigious occupations in American society, it is easy to assume that the growing proportions of workers in these jobs are a sign of achievement. While white-collar jobs are often associated with higher pay status and most blue-collar and service jobs are equated with lower paying positions, movement of workers from blue-collar to white-collar jobs should not be construed as an improvement in one's relative economic position. Earnings differentials by occupation are more complex than the relationship noted above. There is a broad range of earnings within each major occupational category. (See chart 1.) In a number of instances, blue-collar trades have higher earnings than white-collar jobs, particularly those in the skilled craft occupations.

Median weekly earnings for all workers were \$265 in 1980. Managers and administrators had the highest weekly earnings, \$380, followed by professional

and technical workers, \$341; craft and kindred workers, \$328; transport equipment operatives, \$286; and sales workers, \$279. Those occupations with earnings below the overall median were farmers and farm managers, \$243; operatives, \$225; nonfarm laborers, \$220; clerical and kindred workers, \$215; service workers, except private household, \$184; farm laborers and foremen, \$167; and private household workers, \$94. Exhibit 1 shows specific occupations which are above or below the median level for four key occupational groups. The highest-paid professional and technical jobs—engineers, lawyers, physicians, and scientists—are all categories in which blacks were underrepresented in both 1972 and 1980. By contrast, health technologists, social and recreational workers, nurses, and teachers were among the lowest-paid professional positions and the ones in which blacks continued to be concentrated.

Black workers in management and sales professions were concentrated in jobs that paid below the median for the overall occupation. Only in the clerical field were black workers well dispersed and advancing in some of the better paying positions, such as postal clerks, stock clerks, and shipping and receiving clerks.

Blacks in the craft trades were able to advance in a number of the higher paid positions, including plumbers and electricians, though they were still underrepresented in the latter. In contrast to the professional and mana-

gerial fields, blacks in craft jobs were more widely dispersed and not relegated to the lower paid positions.

Between 1973⁹ and 1980, black full-time workers increased their earnings by 68 percent, compared with 65 percent for whites. Blacks posted larger gains than whites in the blue-collar occupations, while white workers outpaced blacks in white-collar jobs. Even though blacks were entering the white-collar professions in increasing numbers, they were generally concentrated in the lower paying jobs of those particular occupations. In addition, their pay increases were smaller relative to those of whites in the white-collar occupations. Consequently, the earnings of black workers relative to whites in white-collar jobs, which had averaged 91 percent in 1973, dropped to 86 percent in 1980. However, blacks were able to advance in occupational standing in the blue-collar professions, as they increased their earnings relative to whites in a number of the higher paying jobs. (See table 5.) For example, in 1973, black transport equipment operatives made 73 percent of the earnings of their white counterparts; by 1980, this percentage had risen to 85 percent—evidence of their penetration into some of the better paid positions.

Differences in earnings by race were more discernable among men than among women. In 1980, black males made about 80 percent of the earnings of white men in both the white-collar and blue-collar occupations. How-

Chart 1. Percent distribution of full-time weekly earnings by occupation, 1980, annual average

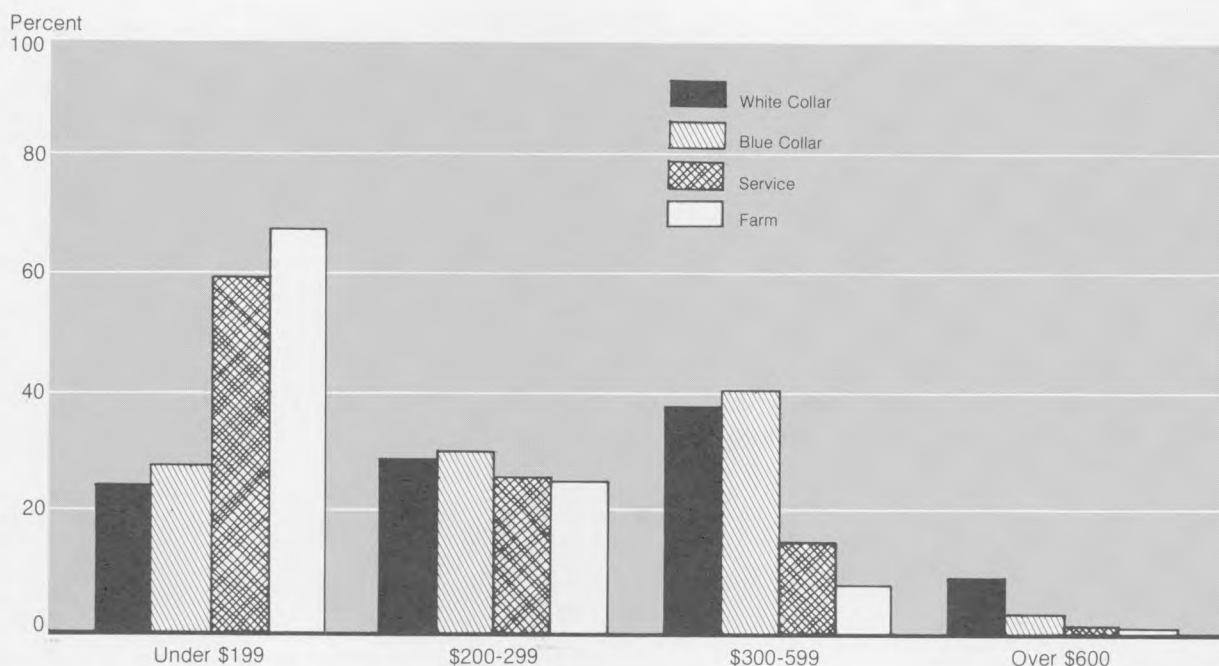


Exhibit 1. Occupations above and below the median weekly earnings of full-time wage and salary workers in selected occupational groups, 1980

Professional and technical workers

Above median

- Accountants
- Computer specialists
- Engineers
- Lawyers and judges
- Life and physical scientists
- Personnel and labor relations workers
- Physicians, dentists, and related practitioners
- Vocational and educational counselors

Below median

- Engineering and science technicians
- Health technologists and technicians
- Nurses, dietitians, and therapists
- Social and recreation workers
- Teachers, except college and university

Craft and kindred workers

Above median

- Brickmasons and stonemasons
- Cement and concrete finishers
- Cranemen, hoistmen, and derrickmen
- Electricians
- Machinists and jobsetters
- Plumbers and pipefitters

Below median

- Bulldozer operators
- Carpenters
- Excavating, grading, and road machine operators
- Mechanics and repairers
- Painters, construction and maintenance
- Printing craftsmen

Operatives

Above median

- Checkers, examiners, and inspectors

- Furnacemen, smeltermen, and pourers
- Meatcutters and butchers
- Painters, manufactured articles
- Precision machine operators
- Punch and stamping press operators
- Welders and flamecutters

Below median

- Assemblers
- Clothing ironers and pressers
- Garage workers and gas station attendants
- Laundry and dry cleaning operators
- Packers and wrappers
- Sawyers
- Sewers and stitchers
- Textile operatives

Clerical and kindred workers

Above median

- Mail carriers, post office
- Office machine operators
- Postal clerks
- Shipping and receiving clerks
- Statistical clerks
- Stock clerks and storekeepers
- Telephone operators

Below median

- Bank tellers
- Bookkeepers
- Cashiers
- Counter clerks
- Estimators and investigators
- File clerks
- Library attendants
- Mail handlers, except post office
- Receptionists
- Secretaries
- Teachers' aids
- Typists

ever, black women made almost the same as their counterparts in white-collar jobs and over 90 percent of white women's earnings in the blue-collar trades. The following tabulation shows the 1980 black-to-white earnings differential by sex and occupation:

	Male	Female
Total	75.1	92.2
White-collar	79.2	98.7
Professional and technical	85.5	97.6
Managerial	76.7	105.9
Sales	69.2	99.4
Clerical	80.7	98.5

Blue-collar	81.4	93.9
Craft	86.9	99.5
Operatives, except transport	86.8	94.3
Transport equipment operatives	82.6	97.2
Laborers	86.2	100.6
Service	86.6	102.7
Private household workers	73.5	140.7
Other	86.6	103.9
Farm	78.3	81.4

Black women, while still at the bottom of the earnings hierarchy, have narrowed the earnings gap between themselves and white women in most occupational cate-

Table 5. Earnings data by race and occupation for May 1973 and second quarter 1980

Occupation	Percent increase in earnings, 1973-1980		Black/white earnings ratio	
	Black	White	1973	1980
Total	68.2	65.4	79.6	81.0
White-collar workers	53.2	63.6	91.3	85.5
Professional and technical	58.3	57.5	89.7	90.2
Managers and administrators	42.4	58.2	87.9	79.1
Sales	76.9	64.0	71.3	77.0
Clerical	47.5	63.6	107.8	97.2
Blue-collar workers	77.2	69.9	77.9	81.2
Craft and kindred workers	61.7	66.5	84.8	82.3
Operatives, except transport	77.4	70.4	85.2	88.7
Transport equipment operatives	89.9	63.6	73.3	85.1
Nonfarm laborers	58.0	56.6	83.2	83.9
Service workers	74.0	65.1	88.1	92.8
Private household workers	123.5	157.6	154.5	133.1
Other service workers	67.0	64.3	92.0	93.3
Farmworkers	73.7	67.3	75.2	78.1

NOTE: May 1973 data are for black and other races; second quarter 1980 data are for blacks only.

gories, much more so than black men have succeeded in doing with respect to white men. This is because women are more concentrated in lesser skilled, lower paying jobs which traditionally have been easier for blacks to enter.¹⁰

Overview

Black occupational status improved somewhat during the 1970's, as proportionately more blacks moved into white-collar jobs, although few penetrated the higher-salaried professional and managerial positions. In fact, the black-to-white earnings differential was unchanged for professional and technical workers between 1973 and 1980, and, even more importantly, black earnings relative to those of whites fell in the fast growing clerical field. Black mobility in the blue-collar, service, and farm occupations was more impressive, as blacks moved out of unskilled work—especially private household and laborer positions—and into the craft trades. The growth of black employment in the expanding skilled craft area was particularly important, in that blacks were able to move into some of the better-paid posi-

tions, and, for the most part, were able to increase their earnings relative to their white counterparts in the blue-collar occupations.

Overall, shifts by blacks into the higher-salaried occupations were rather limited; this was most apparent for those who resided in the central city areas. The majority of blacks lived in central cities, which have high concentrations of office and other business district-type activities. Yet, by 1980, central city blacks had made little progress in increasing their proportion in white-collar occupations. Most of the occupational upgrading occurred among the smaller number of blacks who resided in suburban areas. Furthermore, the progress that did occur among blacks living in the city was mostly accounted for by women, whereas, in the suburbs, black men and women shared equally in the gains. This indicates that black women in both areas competed successfully for jobs in those occupations in which women are heavily recruited. Clearly, black workers, especially black men and city dwellers, need to gain more access to the higher-skilled, better-paying jobs in the rapidly growing white-collar fields, if their earnings are to increase. □

NOTE: The statistics are based on the 1970 Decennial Census population counts, adjusted for the aging of the population, deaths, and net migration. The Bureau of Labor Statistics has subsequently converted Current Population Survey estimates to reflect the 1980 census, which enumerated 4.7 million more people than had been estimated in updating the 1970 figure. Because this difference was so much larger than previous censuses, historical CPS data series are also being revised, including broad occupational employment categories. However, the full range of revised data for detailed occupational categories was not available at this writing; indeed, revisions of some of the detailed series may not be undertaken. Even if revised data were available, their validity might be questionable at the level of detail in this analysis. (The size and scope of the revisions of major labor force data as a result of the 1980 census will be discussed in an article in the July *Review*.)

FOOTNOTES

¹ Unless otherwise stated, the term "black" in this article refers exclusively to the "black only" population and not to the "black and other" category which is made up of blacks, American Indians, Alaskan Natives, and Asian and Pacific Islanders.

² See Sylvia Small, *Black Americans, A Decade of Occupational Change*, Bulletin 1760 (Bureau of Labor Statistics, revised 1972). For a short history of occupational change among blacks, see "The Social and Economic Status of the Black Population in the U.S.: An Historical View, 1790-1978," *Current Population Reports*, Series P-23, No. 80 (Bureau of the Census), pp. 61-63.

³ The year 1972 was chosen for comparison with 1980, rather than 1970, because occupational data before that time are not strictly comparable with data for later years due to classification changes.

⁴ For a recent analysis of the employment situation of black women, see Phyllis A. Wallace, *Black Women in the Labor Force* (Cambridge, Mass., MIT Press, 1980).

⁵ For the purposes of this analysis, an occupational participation rate is defined as the ratio of black men employed in a given occupational group to all men in that occupation and black women to all women. It is appropriate to examine data for men and women separately, as occupational differences between the sexes are so pronounced. Though this statistic is not unique, the term "occupational participation rate" was made popular by Stuart Garfinckle back in 1974 in his article, "Occupations of women and black workers, 1962-1974," *Monthly Labor Review*, Nov. 1975, pp. 25-35.

⁶ Data by area of residence are not available for 1972. Also, the

term "blacks" in this section refers to persons classified as blacks and other minorities, as area of residence data by occupation are not presently available for the "black only" category.

⁷ For a detailed account on the growth of white-collar jobs by area and how it relates to black employment, see Brian J. O'Connell, *Blacks in White-Collar Jobs* (New Jersey, Allanheld, Osmum and Co., pub., 1979). Also see Thomas M. Stanback, Jr. and Richard Knight, *Suburbanization and the City* (Cambridge, Mass., Ballinger Publishing Co., 1974).

⁸ See Diane N. Westcott, "Employment and commuting patterns: a residential analysis," *Monthly Labor Review*, July 1979, pp. 3-9.

⁹ Earnings data used in this article are collected through the Current Population Survey. For purposes of comparability, it was neces-

sary to compare May 1973 data with that for the second quarter 1980, as earnings data were not available on an annual average basis prior to 1979. Also, data for black and other races were the only race data available in 1973; by 1980, however, earnings data were tabulated for blacks only, excluding other minorities. Hence, the data are not strictly comparable but do provide very close estimations of earnings changes during this period for blacks.

¹⁰ The earnings gains of black women have been attributed to a reduction in racial discrimination among the female sex. For an explanation of these and other findings on black male/female earnings, see Ronald N. Oaxaca, "The Persistence of Male-Female Earnings Differentials," and others in F. Thomas Juster, ed., *The Distribution of Economic Well-Being* (Cambridge, Mass., Ballinger Publishing Co., 1977).

Dividends for two

Under the social security system of Old-Age, Survivors, and Disability Insurance the two-worker family "receives more insurance protection for its 'investment' than does the one-worker family with an equal income. If one worker in such a family retires before the other, then benefits will be paid to that worker. On the other hand, in the one-worker family, no benefits are payable to the nonworker unless the worker retires. Also, child survivor benefits are payable in the event of the death of either spouse in a two-worker family, but only on the death of one spouse (the worker) in the one-worker family. Further, prior to retirement, both spouses in the two-worker family have disability insurance, whereas in the one-worker family only the working spouse does."

—ROBERT J. MYERS

"Incremental Change in Social Security Needed to Result in Equal and Fair Treatment of Men and Women," in Richard Burkhauser and Karen Holden, eds., *The Changing Roles of Women and Men in American Society* (Proceedings of a conference sponsored by the Institute for Research on Poverty and the Women's Studies Research Center, University of Wisconsin, held April 11-12, 1980) (New York, Academic Press, 1982), p. 239.

Labor Department's first program to assist black workers

The philosophy of equal employment opportunity began with the Department's Division of Negro Economics, created to mobilize black workers for the war effort; however, the project was ahead of its time, and efforts to make it permanent were not successful

HENRY P. GUZDA

Sixty years ago, the Division of Negro Economics, one of the great, yet virtually ignored experiments in the history of the Department of Labor, ceased operation. Long before equal employment opportunity became a priority, this division promoted the concepts of that philosophy. The largest demographic shift of blacks in this Nation occurred between 1915 and 1920, and the division assisted many of these migrants in obtaining employment and in finding suitable housing, advised them on business and financial matters, encouraged racial harmony in the workplace, and even devoted attention to the issues of female workers.

Born amidst the feverish demand for workers during the first world war, the Division of Negro Economics was dismantled as part of an alleged return to prewar "normalcy." But, prejudice played a significant role in the division's demise. Despite its generally conservative approach to racial issues, the division made enemies during a period which historians agree was not conducive for promoting black aspirations. Subsequently, officials of the Labor Department did not accomplish all they set out to do. They did, however, plant the seed, and although slow in developing, the dreams of the 1920's finally started to bloom in the 1960's and 1970's. A pioneer in the civil rights movement succinctly evaluated this noble experiment stating: "This division, though handicapped by the turmoil of transition general in the federal government and by the past Congress,

has made an excellent beginning [in fostering economic and social justice]."¹

The Department of Labor's novel and progressive program to assist black Americans, juxtaposed against that of most other cabinet-level agencies in the administration of Woodrow Wilson, was the result of the enlightened leadership of Secretary of Labor William B. Wilson and his Assistant Secretary, Louis Post. Post, in particular, had a great interest in the civil rights movement as a cofounder of the National Negro Conference of 1909 (the forerunner of the National Association for the Advancement of Colored People—NAACP). An admirer commented on Post's devotion to justice stating, "He dared in a trying time, to defy the forces of madness, hatred and greed."²

South to North exodus

Beginning in 1915, blacks began moving from the South to the industrialized North. When the First World War erupted, in 1914, in Europe, cutting off the flow of immigration to the United States, industrialists looked for a cheap, preferably nonunion, source of labor to replace the Hungarians, Poles, Italians, Czechs, and other foreign nationals who, heretofore, had represented the bulk of the unskilled work force. Blacks, seeking to escape the economic poverty and repression of the South, answered the call.

The extent and composition of the migration fostered concern among varied interests. Southern employers, especially farmers, feared that the depletion of their tradi-

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tional labor supply would imperil their economy. Northern trade unionists felt that the additional number of workers in the labor market would play into the hands of those employers who wanted to destroy organized labor. J. H. Walker, president of the Chicago Federation of Labor, for example, claimed that certain employers in Illinois financed agents to recruit black workers, transporting them free of charge to the North to work for submarginal wages and to act as a reserve corps of strikebreakers.³

To assess the migration problem, the Labor Department contracted with Dr. James Dillard, a leading civil rights leader of the period, to conduct a study. Dillard found that blacks did not saturate the northern labor force. He also reported that as the southern economy changed from labor-intensive cotton crops to mixed farming with fewer demands, blacks left the South to take advantage of economic opportunities in the North as well as to escape repression.

A few weeks after the report's release, Lathrop Brown, special assistant to Interior Secretary Franklin Lane, addressed the migration issue. He brashly claimed that the stringent prohibition laws prevalent in the South, and the lack thereof in the North, was the reason behind black migration. Assistant Secretary Louis Post complained to Interior Secretary Lane that Brown's specious remarks would only serve to embarrass the Administration, that Labor Department studies proved that the inducement of higher wages, not prohibition, was the cause for the migration.⁴

Calls for black adviser answered

Incidents such as these demonstrated to advocates of social justice that they had friends in the Department of Labor. As a result, many concerns inquired about the possibility of a black labor adviser in the Department to deal with the problems of black wage earners. Even private citizens saw the Labor Department, or its function, as an appropriate guide rail to assist black economic advancement. As early as 1913, Thomas Swann, a private citizen, suggested to President Wilson that he establish an advisory body of blacks to help the wage earning members of their race. In 1917, a New York City minister, Richard Bolden, requested that the President appoint a black man or woman to represent the labor interests of black Americans.⁵

Not until America's entry into the world war, in 1917, however, did either Secretary Wilson or Assistant Secretary Post think it opportunistic to appoint a black adviser. Racial issues were "delicate and difficult," and neither official wanted to embroil the young Department—created in 1913—in a major controversy. But, because the Department was responsible for allocation of the Nation's labor force for the war effort, the two officials thought it more than just to attend to the labor

concerns of approximately 12 percent of America's working population. As a result, Wilson, Post, and the representatives of seven major civil rights organizations, including the NAACP and National Urban League, worked out a basic agreement to establish a "Division of Negro Economics" in the Department of Labor. The purpose of this division was to mobilize the black work force in the United States, and also to work for the general advancement of black wage earners.⁶

While the chief of the Division of Negro Economics and a small staff would be part of the secretary's office, the majority of personnel, including 15 state representatives and 134 examiners, stenographers, and secretaries, would be incorporated within the existing framework of the U.S. Employment Service. Assistant Secretary Post and his superior feared that the creation of an independent black division would cause criticism from some blacks who would view it as a "jim crow bureau," and from segregationists who would oppose any black-oriented program encouraging interracial harmony. The arrangement worked to the division's advantage, because it could make use of the already established employment procurement functions and facilities of the Employment Service.⁷

The infrastructure of the division included integrated local advisory committees. These committees, composed of volunteer white and black community members, monitored social, cultural, and employment conditions at the job sites. The committees worked under the guidance of State representatives from the Division of Negro Economics to ameliorate racial problems. These advisory committees completed a linkage of Federal-State-local cooperation, and the flexibility of this network achieved some remarkable results.

Before the program could be implemented, Secretary Wilson and Assistant Secretary Post faced the task of picking a division chief. Many candidates offered their services or had someone promote them, but Giles Jackson ran the most aggressive campaign for the job. A black politician from Richmond, Va., he sought and gained endorsements from both of Virginia's U.S. Senators, the American Federation of Labor, and the White House. Wilson almost offered him the job when Louis Post interceded.⁸

Jackson was *persona non grata* with most of the black community, and they let Assistant Secretary Post know their displeasure. *The Washington Bee*, a black newspaper, sent an editorial to Post saying that Jackson was not fit to be a dog catcher, let alone the representative for the black working class. W.E.B. Dubois begged Post to reconsider, calling Jackson "one of the most disreputable characters the Negro race has produced." Even Post himself had doubts about Jackson's character and competency.⁹

On May 1, 1918, Secretary Wilson chose another

candidate, George E. Haynes, professor of Sociology and Economics at Fisk University in Tennessee, to head the Division of Negro Economics. A recognized scholar and authority on the black migration phenomenon, a cofounder of the National Urban League, and the first black American to receive a Ph.D. from Columbia University, Haynes was most qualified.¹⁰ He announced that although his primary responsibility was to mobilize the black work force for the war effort, achieving cooperation of the races and opening the doors of opportunity to blacks was equally important.

State programs established

Although planned and programmed at the Federal level, the Division of Negro Economics was basically State and local oriented. It was on that level that interaction between the races was most intimate. Haynes wanted to make sure that the transmission of the Labor Department's program to the people it intended to help was clear and direct. Therefore, he personally assisted in founding the State branches.

Haynes bearded the lion in its own den, establishing the first State division in the South, where opposition to race-related programs was the strongest. To stir up an aura of good feelings, a massive public relations rally was held to "kick-off" each State's program. At the first rally in Raleigh, N.C., Haynes told the large audience, speckled with white and black faces, that blacks wanted to help win the war and share the bounties of the Nation.

With flourishes of rhetoric that paled some of the propaganda statements of George Creel's Division of Information (an agency designed to sell America's involvement in World War I), Haynes' related acts of patriotism performed by blacks, stating they were among the first American soldiers to sacrifice their lives in the trenches of France. He added that on the homefront blacks had accomplished different feats of patriotism, citing as an example the black riveter in a Baltimore, Md., shipyard who drove a record 4,875 studs in 1 day into a vessel under construction. Many black Americans, claimed Haynes, demonstrated their patriotism every day and in doing so destroyed many of the prevalent myths about racial inferiorities.

The rally was a success. Immediately afterwards, the first local advisory committee was formed. It consisted of 30 influential residents, white and black, including the Governor of North Carolina. In 6 months, the spirit of good will generated at the rally helped in the establishment of more than 25 advisory committees throughout the State. The best indication of the rally's influence was in a letter to Assistant Secretary Post from North Carolina's Governor Bickett who called it, "the most helpful and patriotic conference I attended."¹¹

Following close on the heels of the North Carolina

experiment, Haynes proceeded to establish offices in other States. In Virginia, the second State targeted by Haynes, a different approach to stimulation of good working conditions took place. Virginia's Division of Negro Economics representative, T.C. Erwin, assisted the U.S. Housing Bureau in planning and building 254 modern residential units for blacks near Richmond. Erwin, like Haynes, believed that better living conditions would make healthy, contented, and stable workers. Erwin also assisted in organizing a cooperative savings and loan institution to pay off the mortgages on the units, and a governing council to impose rules and regulations on the community.

Racial issues were not always so pleasantly natured. In Norfolk, the division ameliorated a potentially riotous situation. This busy port city suffered from a shortage of stevedores to load and unload cargo from merchant ships. The local Chamber of Commerce wanted the city council to pass "work or fight laws," mandating that able bodied men work at war-related jobs or face conscription into the Armed Forces. Blacks viewed the laws as alternative forms of slavery, directed at them disproportionately when compared to whites. Erwin persuaded the city council to delay action; he held a job fair and in 2 days recruited more workers than there were jobs to fill. These newly hired blacks received wages equal to their white counterparts, which would not have been the case under work or fight laws, and the praise of the local press for demonstrating their patriotism.¹²

As the division moved deeper into the South, the problems facing it became more difficult and serious. For example, in Mobile, Ala., some employers were exploiting black workers to the degree of slavery, and neither the local advisory committee nor the State's Division of Negro Economics representative could get them to stop. Haynes tried to meet with the local Chamber of Commerce, hoping to persuade the business group to pressure their colleagues to act humanely, but they refused to see him. This brought a visit from Assistant Secretary Post who told the chamber that many of the employers in question held government contracts and could forfeit them if the problems were not remedied. A high ranking official of Tuskegee University in Alabama wrote Haynes: "Mr. Post's visit here did a lot of good in the matter of putting a stop to some of the injustices practiced against colored labor. I do not mean to state that these [employers]. . . have come over to the Lord's side . . . , but they have desisted from some of the more flagrant abuses practiced."¹³

In the North, the Division also demonstrated a versatility. The basic format of organizational activities, a rally, the founding of a State branch, and the founding of local advisory committees, was the same, but with a few twists. Residential restrictions against blacks creat-

ed a severe housing shortage, and some employers, not with altruism in mind, operated boardinghouses to keep black workers near the job sites. Local advisory committees monitored the conditions of these houses and reported violations to the State's Division of Negro Economics representative. At times, employers cooperated and corrected the situation; too often it took threats of debarment from government contracts.¹⁴

Throughout the North, the division made great strides towards benefiting black wage earners, while stimulating stability for the production of war materiel. In Chicago, the division, often working out of the offices of the National Urban League or the Young Men's and Women's Christian Associations, provided employment offices that informed blacks of job opportunities or residential openings. The local representative encouraged strong community roots by helping blacks invest in cooperative stores and savings institutions. In New York, State representative Jesse Thomas helped break the color barriers in the city retail trade by convincing Gimbel's department store to hire blacks. And, in Detroit, Mich., the division successfully encouraged the promotion of some workers into supervisory positions. Also in Detroit, the American Car Foundry praised the division telling representative William Jennifer, "your labors . . . will be crowned with the success it deserves."¹⁵

Problems of black women exposed

According to a Division of Negro Economics special report on black women, the great labor shortage during the war, especially in northern industries, gave black women the opportunity to enter industrial pursuits never opened to them before. The study of working conditions of black women exposed many problems that would not become topics of scrutiny for another 25 years. In addition to the conditions of employment, wages, hours, and standards, the report also touched on discrimination against black women and how such practices could be prevented. It even recommended that black women be promoted into supervisory positions as rewards for competent performances, an almost unheard of proposal 1 year before women had the right to vote.

The special study was as revealing as it was clairvoyant. It disclosed that black women suffered occupational discrimination *vis a vis* white women, the same as black men did in relation to their white counterparts. The report claimed this reached ludicrous proportions in perpetuating racial discrimination and stereotyping. Blacks were precluded from skilled jobs because employers thought them inferior to whites. This, said Helen B. Irvin, coauthor of the report, was totally false. She found, among many cases, a cigar maker who employed fair-complexioned black women in skilled po-

sitions "in order that they may be regarded by patrons as Cuban, South American or Spanish."¹⁶

The unabashed forms of discrimination were not confined to the private sector. Irvin found black women in the Federal Government working at the least desirable jobs, with the specter of unemployment hanging over their heads when the soldiers returned from the war. She labeled this a guise for blatant discrimination, stating, "Others were frankly told that such position as remained available were intended for white workers, and that they had been used merely because no others could be obtained"¹⁷

Concluding on a more positive note, the report predicted that the Federal Government would be the primary means of breaking the bonds of segregation and discrimination. Irvin predicted that black female workers would be rewarded in the future with promotions and job security in the Federal Government, and that it was not too far in the future that this would come to pass. Unfortunately, the time span was considerably longer than even she expected.

Fight for survival

As the war began to wane, it affected industrial production in tandem, and the Division of Negro Economics again demonstrated flexibility in handling new situations. The transition from a war to a peacetime economy, if precedents held true, meant the laying off of most black workers. The projections of unemployed blacks, packed into ever growing slums and facing daily diets of poverty and despair, appeared imminent.

The division wanted to deter this grim prophecy. The local advisory committee in Pittsburgh, Pa., negotiated an agreement with the Carnegie Steel Co., for the retention of one-third of the black workers it employed during the peak of wartime production. This agreement set a precedent, as several other steel companies in the valleys washed by the Allegheny and Monongehela rivers instituted similar plans. Unfortunately, some steel companies, as well as other industries, retained black workers only to thwart the growing trend towards industrial unionism—some employers used the black workers as strikebreakers and union busters, particularly during the brutal and violent steel and meatpacking strikes of 1919. But despite this, Haynes still thought that the worker retention plans "show to a small degree some of the practical work accomplished by this division within a short period of time."¹⁸

The welcomed winds of peace bore ill tidings for the Division of Negro Economics. Promises of social and economic justice, if not social acceptance, looked bright and meaningful before the armistice. But, once the peace was consummated, submerged racial antagonisms crept towards the surface. Indicative of the changing atmosphere was a series of race riots which swept across

the Nation, crippling Detroit, Washington, Chicago, and other cities.

The first signs of trouble for the division came from Florida. In April 1919, Governor Sidney Catts requested that the Department of Labor abolish the Florida Division of Negro Economics, and at the same time replace the head of the U.S. Employment Service (who was white) with a personal friend he described as "a real Florida cracker." Catts accused the Division's "carpet-bag negro federal officers" of inciting riots by promulgating the amalgamation of the races. "I am looking upon this question as a white man," he said, ". . . I could look upon it from no other viewpoint . . ." ¹⁹

Assistant Secretary Post found Catts' remarks specious at best. The State representative had been a mechanic, teacher, and businessman in Florida for a number of years and was respected by many influential white persons of the State. Secretary Wilson, temporarily suspended the division's program until he could investigate Catts' charges, but later reinstated it.

The Florida dispute was only a harbinger of future problems. A few weeks later, the *New York Tribune*, quoted an unnamed U.S. Senator who complained that irritation over the use of black labor conciliators in the South had reached a high point from the Atlantic Coast to Texas. "If Secretary Wilson, and more particularly Assistant Secretary Post," said the unnamed source, "do not pull in their horns very promptly, it will topple the cornerstone of the Democratic South." ²⁰

Tensions increased and criticism became uglier. At the convention of the southern-based National Lumber Manufacturers Association, in 1919, the association's president, John Kirby, expressed displeasure over the division. Referring to the Labor Department's request for a conference to iron out difficulties, Kirby told the audience, "I shall be glad to confer with Mr. Wilson or Mr. Post, but when it comes to sitting in counsel with Dr. Haynes, a negro, you will have to excuse me. In the South we tell negroes what to do; we do not take counsel with them." A reporter covering the convention wrote, "his audience broke into a storm of cheers when the speaker dramatically told of refusing to sit with a negro." ²¹

Battle lost

Criticism and condemnation only convinced officials of the Labor Department that the division should become permanent. "I desire for the Division of Negro Economics to be continued," Secretary Wilson wrote to Louis Post. Apparently, Wilson also informed Haynes of this, for Haynes, in a confidential letter to his New York representative, wrote, "the Secretary wants to make it [the division] permanent." In fact, Secretary Wilson, as early as 1918, submitted a bill to the Congress to accomplish this task, but it died in committee.

As an alternative, the Secretary proposed funds for the division in the appropriations request before the Congress. ²²

In the Congress, the division's friends and foes met to decide its fate. An optimistic Haynes said, "on every side, everyone who has looked into it commends the work as valuable and necessary, but no one can tell what Congress will do." ²³ When the bill came before the labor committee, an unnamed legislator raised a parliamentary point of order over funding, claiming that the Secretary of Labor, by creating a public agency, usurped powers mandated to the Congress, and that the issue of appropriations was moot. The conferees upheld this point.

The issue of usurpation of powers was a ploy. Section 4 of the organic act creating a Department of Labor allowed the Secretary to appoint special advisers and utilize them in a cooperative effort with other branches of government. Solicitor of Labor John Abercrombie cited similar cooperative efforts, including those in the U.S. Public Health Service and the War Risk Insurance Bureau of the Treasury Department. Apparently none of this impressed the committee, and the division faced extinction with the beginning of fiscal year 1920. ²⁴

Civil rights leaders fulminated with anger. Mary White Ovington of the NAACP accused the Congress of unabashed racism; Eugene K. Jones of the Urban League expressed shock and sorrow over the Congress' shallow excuses; and T. J. Woofter of the Phelps Stokes Foundation called the action "sheer political chicanery." ²⁵

But the division was not yet dead, only critically wounded. Haynes and Assistant Secretary Post drafted new legislation for the next session of the Congress (in 1921), and Secretary Wilson transferred funds from other appropriations to maintain a skeleton Division of Negro Economics. Haynes' services were shared with the Inter-Church World Movement which, in turn, paid part of his salary. The U.S. Conciliation Service absorbed some of the division's personnel, but programs and activities were drastically suppressed. Local advisory committees, without central direction, began to disperse, decay, and finally disappear.

One last gasp of hope remained. The Congress could legislate the division into existence, and some heavy lobby pressure by civil rights groups resulted in hearings on a bill. Haynes testified as the official Labor Department representative, arguing that such a Federal agency would help improve race relations in the Nation and coordinate local efforts to achieve racial harmony and equal opportunity. Such a program, said Haynes, could only be administered at the Federal level.

Haynes' appeals fell on deaf ears. Senator Francis Warren of Wyoming expressed the general feeling about the bill's chances, stating: "You are exactly equal under

the law. You are exactly equal, of course, under those appropriations. But as far as we are concerned, there should not be division between different classes of workmen, one against the other . . . we have to look at it with the idea of preserving equality. The same rule applies to both."²⁶ Haynes retorted, "the fact is Senator, that heretofore the inequality has rested the other way when it has come to matters of industrial opportunity and employment."

No clever repartee, however, could change the outcome. In 1921, a new Administration took over, and

with it came a new chief of the Labor Department, James J. Davis, who showed little interest in fighting for the Division of Negro Economics' continuance. The division limped along for another year before succumbing to neglect and disuse. Even though its death was neither a cause nor an effect for the growth of slums and poverty or the escalation of unemployment rates among blacks, it is conceivable that its continued operations might have at least improved conditions. Unfortunately, the program was too advanced for the time in which it existed. □

—FOOTNOTES—

¹ T.J. Woolfer, "The Negro and Industrial Peace," *The Survey*, Dec. 18, 1920, p. 421.

² Clark Wilhelm, "William B. Wilson: The First Secretary of Labor," (Ph.D. diss., Johns Hopkins University, 1967) p. 180; Henry Mussey, "Louis Post, American," *Nation*, June 12, 1920, p. 793.

³ Samuel Gompers to William B. Wilson, Jan. 19, 1917 and J. H. Walker, Illinois Federation of Labor, to Wilson, Mar. 16, 1917, file 13/65; Southern States Phosphate Co. to Louis Post, May 25, 1917 and Theodore Bilbo to William B. Wilson, June 6, 1917, file 16/433, National Archives Record Group (NARG) 174; Ray Stannard Baker, "The Negro goes North," *Worlds Work*, July 1917, p. 315.

⁴ Louis Post to Presidential Assistant J.P. Tumulty, Dec. 12, 1916, Woodrow Wilson Papers, Series #4, 1913-17, Library of Congress Manuscript Division (LCMD).

⁵ Thomas Swann to President Woodrow Wilson, Mar. 31, 1913, file 16/38, NARG 174; Richard Bolden to Wilson, July 9, 1917, NAACP Papers, Box 319, LCMD.

⁶ Minutes of the NAACP Board of Directors, May 13, 1918, NAACP Papers, Box A-1, LCMD; Louis Post to W.B. Wilson, Feb. 15, 1918, file 8/102 and Louis Post to George Haynes, Apr. 24, 1918, file 8/102-B, NARG 174.

⁷ Criticisms that the Division of Negro Economics was a segregated branch of the U.S. Employment Service were based on ironic twists of fate. The immediate personnel of the division were black because its chief believed that they could better relate to black problems. The offices which housed the division branches did not have segregated facilities. In fact, the first recorded case of what now is called "reverse discrimination" may have occurred when Jesse Thomas, the division's representative in New York, told the USES director he did not want the loan of a white secretary, saying, "although I have no objections professionally, I prefer a 'colored' girl." See Jesse Thomas to Annette Erdman, U.S. Employment Service, Mar. 25, 1919, National Urban League Papers, SRO Box B-4, LCMD; Department of Labor Press Release, Information and Education Service, Nov. 25, 1918, file 8/102-C, NARG 174.

⁸ W.E.B. DuBois to Louis Post, Apr. 16, 1918 and Post to DuBois, Apr. 18, 1918, file 8/102-B; *Washington Bee*, Apr. 1918, file 8/102-B; Emmett Scott, War Department to Dr. James Dillard, Mar. 23, 1918, file 8/102-A, NARG 174.

⁹ Giles B. Jackson to J.P. Tumulty, July 13, 1917, Woodrow Wilson Papers, Series #4, 1914-1918; Giles B. Jackson to Samuel Gompers, July 31, 1917, Mar. 2, 1918, file 8/102-A; Gompers to Jackson, Jan.

14, 1918, file 8/102-A, NARG 174.

¹⁰ John Shillady of the NAACP to Secretary Wilson, Mar. 25, 1918, Grahm Taylor to Louis Post, Mar. 30, 1918, Emmett Scott to Secretary of War, Newton Baker, Apr. 26, 1918, file 8/102-A, NARG 174.

¹¹ U.S. Department of Labor, Division of Negro Economics, *Negro At Work During the World War and Reconstruction* (Washington, Government Printing Office, 1921), Post to Wilson (quotes Bickett) July 2, 1918, file 8/102-A; Department of Labor Press Release, *Statement of George E. Haynes*, file 20/40-A, NARG 174.

¹² U.S. Department of Labor, *Negro at Work*, pp. 119-23.

¹³ Melvin Chisum of the Tuskegee Institute to George Haynes, Oct. 5, 1918, file 8/102-A (taken from Robert Rusa Moton papers, General Correspondence File, Tuskegee Archives).

¹⁴ Charles Hall to George Haynes, (undated), file 8/102-C, NARG 174; U.S. Department of Labor, *Negro at Work*, pp. 112-15.

¹⁵ Officials of the American Car Foundry to E.B. Williams, Michigan representative of Negro Economics, 1919, Carter Woodson Papers, file 170, Box 14, LCMD.

¹⁶ U.S. Department of Labor, *Negro at Work*, pp. 127-28.

¹⁷ U.S. Department of Labor, *Negro at Work*, pp. 127-28.

¹⁸ U.S. Department of Labor, *Negro at Work*, p. 118.

¹⁹ Sidney Catts to Secretary Wilson, Apr. 7, 1919, Apr. 22, 1919, and Wilson to Catts, Apr. 15, 1919, file 8/102-E, NARG 174.

²⁰ *New York Tribune*, Apr. 21, 1919.

²¹ *Washington Post*, Apr. 3, 1919; *Pittsburgh Courier*, Apr. 12, 1919, *New Orleans Vindicator*, Apr. 12, 1919.

²² *Report of the Division of Negro Economics to the Secretary of Labor: 1919*, file 8/102-E; *Report of the Conference on Inter-Racial Affairs*, Feb. 19, 1919, file 16/726; Haynes to Post, May 10, 1919, file 8/102, NARG 174.

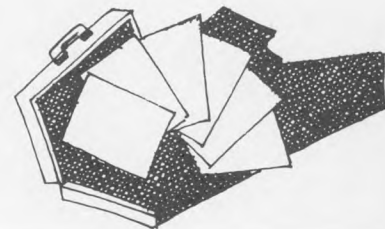
²³ Haynes to Jesse Thomas, Feb. 28, 1919, May 12, 1919, National Urban League Papers, SRO Box B-4, LCMD.

²⁴ U.S. Department of Labor, *Negro at Work*, pp. 135-36; U.S. Congress, Senate Subcommittee on Appropriations, *Hearings on H.R. 15543, Appropriations—Civil Sundry Bill*, Jan. 28th to Feb. 2nd, 1921 (65th Cong., 2nd Sess., 1921), pp. 98-100.

²⁵ T.J. Woolfer to George Foster Peabody, (undated), NAACP Papers, Box C-319, Mary White Ovington, Aug. 19, 1919, NAACP Papers, Box C-319, LCMD.

²⁶ U.S. Congress, *Hearings on H.R. 15543*, pp. 98-100.

Conference Papers



The following excerpts are adapted from papers presented at the Thirty-Fourth Annual Meeting of the Industrial Relations Research Association, December 1981, in Washington, D.C.

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Human capital and multinationals: evidence from Brazil and Mexico

RICHARD U. MILLER AND MAHMOOD A. ZAIDI

Although the theoretical and empirical literature dealing with economic growth is by now quite extensive, one cannot say the same for the issue of human capital and development. In the first place, much of the research has been carried out in the industrialized countries.¹ Moreover, those studies that deal with less developed countries have focused almost solely on returns to general training or education without touching those questions associated with on-the-job specific training.²

This void in the human capital literature is particularly important from the standpoint of less developed nations, given their reliance on economic development via industrialization and the preeminent role in this process assigned to foreign capital. For example, it is not clear to what extent investment in general education actually pays off in higher earnings for those workers either aspiring to or gaining access to the modern sectors of a developing country. Related questions also involve the emergence of credentialism as a consequence of general education investments; the incidence of specific

training in modern-sector firms and its payoffs, the way in which training investments are funded and who bears the costs in such firms; and so on. Without adequate evaluation, educational policy may not only be ineffectual but may, in fact, produce negative consequences.³

Broadly speaking, two competing hypotheses may be considered. The first is that the presence of multinational corporations in a host country stimulates investment in human capital. This could result either from on-the-job and other training (and other human services) provided by the multinational corporation to its employees, or from an increased incentive for the domestic population to engage in schooling and "off-the-job" training. Such incentive is presumably the result of the presence of modern-sector jobs provided by the multinational corporation. Alternatively, it may be argued that multinationals contribute only marginally to the development of human capital in less developed countries because they tend to import capital intensive technologies which imply the need for relatively few skilled employees who may themselves be foreign nationals.

To evaluate these hypotheses, we expanded the standard human capital model proposed by Jacob Mincer,⁴ and tested its applicability to particular multinational corporations in developing countries. (For a discussion of the model, see the full paper.)

An alternative to the education-productivity-earnings relationship of the human capital model is the screening hypothesis, or theory of credentialism, which asserts that employers prefer better educated workers for reasons other than increased productivity. Therefore, they will treat educational qualifications merely as a screening device when hiring new workers.⁵ It is argued that the employer's main concerns are with trainability and with administrative expedience. Hence, as educational levels rise in a society, so too will the educational hiring standards. If this hypothesis is confirmed, the implications are enormous, particularly for a developing country. First, cohorts of older workers may become increasingly disadvantaged vis-à-vis younger workers and society may thus become more stratified. Second, returns to education may be more highly correlated with starting wage than with long-term earnings. Third, the incidence of credentialism may be highest among those firms with the strongest internal labor markets, that is, modern-sector multinational firms, thereby con-

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tributing further to occupational and economic stratifications. And, finally, from a general social standpoint, educational expansion in general is unlikely to have much impact on earnings differentials. The results of our model do not provide hard evidence for or against the screening hypothesis, but we were able to draw certain conclusions from ancillary data on our sample of workers.

The incidence and costs of on-the-job training are generally considered to be more difficult areas of human capital theory to deal with conceptually and empirically. As one observer points out, "From the earliest formulations of the human-capital model by Schultz, Becker and Mincer, it was on-the-job training and not formal schooling that was taken to be the paradigm case of self-investment."⁶ Yet the difficulties in measuring returns to such investment grew as it became clear that it was possible to identify a number of forms of on-the-job training, for example, general versus specific training, or training which occurred under supervision versus that acquired simply by doing. Training might, in fact, be acquired off the job but while still employed by the firm and this, too, might be general or specific. Thus, simply to speak of general versus specific training or even off-the-job versus on-the-job training is methodologically inadequate. However, our model has obvious shortcomings concerning the identification and measurement of who bears the training investment costs and who reaps the returns. Therefore, alternative information was analyzed to answer these questions.

The data for this analysis were collected in Mexico City in 1975-76 and in Sao Paulo, Brazil in 1977, and consist of a 10-percent random sample of employees at one plant or location for two American multinational firms in each country. In order to standardize the data as much as possible, the main sample is composed of workers from the same auto manufacturing and retail trade firms in Mexico and in Brazil. In addition, supplementary data were also gathered in Brazil from two other U.S. multinational corporations and from a large Brazilian utility company. The total sample consists of 1,137 workers.

The findings

According to ordinary least squares results from our regression model, the current wage was, almost without exception, not significantly associated with such variables as previous training, current training, and years of work experience prior to current employment in the firms in Brazil, but prior work experience was significant in the Mexican branches. However, education and tenure were significantly related in both countries.

The above findings lend themselves to several conclusions. For example, prior experience and training do not seem to pay off directly in higher earnings in the Brazil-

ian firms as one might expect if they were a form of specific investment in human capital that workers have paid for. Rather, they enhance the credentials of the job applicant, helping him or her to gain access to the modern sector, or they represent investments that workers did not pay for. Education, however, clearly both enhances credentials, and provides a direct payoff. In the Mexican firms, prior work experience, education, and tenure all are beneficial to the employee.

The fact that our tenure and experience variables were significant raises questions for which the answers can be only speculative. However, if one assumes that as work experience increases, so too will skills, knowledge, and productivity, our findings may indicate returns to learning by doing. Because this assumption seems plausible, the tenure and experience results, along with the significant coefficients on education, appear to support the hypothesis that multinational corporations do reward individuals for investments in human capital.

Regarding the credentialism hypothesis, our interviews and data suggest that such screening occurs in both Mexico and Brazil. In the auto assembly plants, managers freely admitted that 80 percent of the work required no previous experience or skill, and another 16 percent could be classified at best as semi-skilled. Yet these same firms hired no one without at least the completion of primary education. For example, the mean years of education at the date of hiring at the Mexican auto plant had increased from 4.8 years during the 1940-50 period to 6.9 years during 1970-80 with no corresponding increase in job requirements. In both Mexico and Brazil, this educational criterion would effectively shut out 65 to 70 percent of the urban job seekers and nearly all the urban migrants.

To analyze the incidence and costs of on-the-job training in our main sample of firms, we differentiated between the auto companies and the retail trade organizations. In the former case, formal on-the-job training is almost nonexistent. The basic approach is learning while doing. Perhaps 4 percent of the workers get formal training and another 16 percent are permitted, *on their own time*, to practice other jobs and prepare themselves for promotion.⁷ The retail trade firms were much more inclined to engage in formal on-the-job training, averaging better than 3 months of such training among the workers surveyed.

Those modern-sector firms that employ primarily blue-collar workers show a marked reluctance to bear the costs of formal training.⁸ One must conclude that such employers place a high value on the forgone production that would occur with such "training." For their part, the retail trade firms do not seem to share this reluctance, for they train employees even in the face of much higher rates of voluntary turnover. This observation implies a much greater rate of return to such

training investments for retail employers. Assuming that workers leave before their earnings equal their marginal productivity, these employers can pay off the investment in training and still retain a significant surplus in the classical sense. □

—FOOTNOTES—

¹ The standard references are, of course, Gary S. Becker, *Human Capital*, 2d ed. (Chicago, The University of Chicago Press, 1980); and Jacob Mincer, *Schooling, Experience and Earnings* (New York, Columbia University Press, 1974). See also Mark Blaug, "The Empirical Status of Human Capital Theory: A Slightly Jaundiced Survey," *Journal of Economic Literature*, September 1976, pp. 817–55.

² See, for example, Carmel U. Chiswick, "On Estimating Earnings Functions for LDCs," *Journal of Development Economics*, December 1977, pp. 67–78; Pak-wai Liu and Yue-chim Wong, "Human Capital and Inequality in Singapore," *Economic Development and Cultural Change*, January 1981, pp. 275–93; and George Psacharopoulos, "Schooling Experience and Earnings: The Case of an LDC," *Journal of Development Economics*, December 1977, pp. 39–48.

³ For an example, see Claudio de Moura Castro, "Vocational Education and the Training of Industrial Labour in Brazil," *International Labour Review*, September-October 1979, pp. 617–29.

⁴ See Mincer, *Schooling*.

⁵ See Blaug, "The Empirical Status," pp. 845–49.

⁶ *Ibid.*, p. 836.

⁷ This finding is supported by Samuel Morley and others in their study of 82 Brazilian firms. See Samuel A. Morley, Milton Barbosa, and Christina C. de Souza, "Evidence on the Internal Labor Market During a Process of Rapid Economic Growth," *Journal of Development Economics*, June 1978, p. 267.

⁸ Morley and others, "Evidence on the Internal Labor Market," pp. 266–69. See also issues of *Business Latin America*, May 2, 1979, pp. 139–41, and June 6, 1979, pp. 182–83 for a description of relevant laws.

The effects of the minimum wage on farm employment: a new model

CURTIS L. GILROY

The effect of the minimum wage on employment and unemployment has received considerable attention in the empirical labor economics literature. Most analysts have tried to measure the minimum wage effects on demographic subgroups of the population, and some have investigated the effects on particular industry groups.¹ But relatively few have specifically focused on the employment effects of the minimum wage on agriculture, and their findings are generally in accord with the received neoclassical theory which hypothesizes reductions in employment as the minimum wage rises.

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The following discussion reviews the empirical studies of the employment effects of the minimum wage in agriculture, and presents the results of an effort to extend and refine that research by employing a new model to test the robustness of the minimum wage effect. Results of this model, using 1967–79 data, indicate that a 10-percent increase in the agricultural minimum wage causes an employment decline of about 3 percent—the equivalent of some 45,000 farm jobs in 1979.

A review of the literature

Following the standard competitive labor market model, an increase in (or introduction of) a statutory minimum wage would cause optimizing employers to reduce the quantity of labor demanded. On the supply side, workers would offer more of their services at the higher wage. The result would be an excess supply of labor as fewer jobs are rationed among more workers.

One basic extension of this familiar comparative-statistic model in the recent theoretical work on the employment effects of the minimum wage is the consideration of both the covered and uncovered sectors. Recognizing that two types of jobs exist—those which are covered by the provisions of the Fair Labor Standards Act and those which are not—an increase in the Federally mandated wage would be expected to reduce employment in the covered sector. Those workers unable to find jobs there would (1) withdraw from the labor force, (2) remain unemployed in hopes of becoming reemployed in the covered sector, or (3) search for work in the uncovered sector. In the case of farmworkers, they may choose to leave agriculture altogether, and search for work in nonagricultural industries.

To the extent that agricultural workers search for work either in the uncovered sector or in nonfarm industry, the wage in the uncovered agricultural sector would fall, and the resulting employment increase would, to some extent, offset the employment loss in the covered sector. The net result depends on the rate of withdrawal of workers from the labor force, the extent to which displaced workers in the covered sector hold out in search of work there, the elasticities of demand for labor in the covered and uncovered sectors, and perceived and real employment opportunities in the nonagricultural sector. Although the relative importance of these factors is an empirical issue, the findings of the previous major studies unequivocally support the competitive hypothesis that increases in the mandated minimum have adverse employment effects. Among the findings:

- Edward Schuh found that a 10-percent increase in the minimum wage would reduce agricultural employment by 2.6 and 4.9 percent in the short and long run, respectively.²

- Vernon Grise concluded that if the minimum wage were set between 9 and 50 percent above the prevailing average farm wage, the decline in the hired farm work force would vary between 2 and 10 percent in the short run, and 8 and 33 percent in the long run.³
- Bruce Gardner estimated that the 1966 FLSA extended minimum wage coverage reduced hired farm employment by about 18 percent from what it would otherwise have been in the 1967–70 period.⁴
- Theodore Lianos found the reduction in farm employment to be between 24 and 51 percent over the years 1967–69.⁵
- Using pooled cross-section data, H.F. Gallasch, Jr. estimated that a 10-percent increase in the agricultural minimum wage would result in a decrease of 6 percent in hired farmworker employment in 1971.⁶
- Using census data, Gallasch and Gardner found that minimum wage legislation reduced hired agricultural employment about 42 percent from what it would otherwise have been in 1970.⁷
- Gardner estimated that the minimum wage reduced the number of hired farmworkers by about 115,000 or 9 percent of its 1979 level.⁸
- And, in a specialized study of seasonal cotton workers, John Trapani and J.R. Moroney found that 1966 extended FLSA coverage accounted for 65 percent of the 93,000 cotton-worker jobs eliminated between 1967 and 1969.⁹

Unfortunately, it is difficult to compare the results of these studies in terms of relative size of the measured employment effects, because each differs considerably in the period analysed, variables included, and functional form. Furthermore, it is difficult to assess how differences in the models affect the results, since most authors do not report how their findings changed as a result of changes in variables or equation specification. In addition, most studies estimate minimum wage impacts on the basis of only a few years during which the minimum wage was in effect. And in some cases, a dummy variable is used for the minimum wage.

Nonetheless, for most studies, a point employment elasticity can be derived.¹⁰ The estimated employment elasticities are the effects of a 10-percent increase in the minimum wage, (that is, 10 times the elasticity), and range widely from -0.7 to -6.6 percent.

Extending the standard model

The time-series studies which estimate the effect of the minimum wage on agricultural employment have most often used a single equation model of the form:

$$Y = f(MW, NW, T, X_1, \dots, X_n)$$

where the dependent variable Y is the measure of agricultural employment—in all cases, the level of hired

farm labor employment. Independent variables include MW as the agricultural minimum wage, usually the deflated value of the Federal statutory minimum; NW as the average wage in nonagricultural industries, a measure of the opportunity wage; T as a time trend; and X_1, \dots, X_n as other exogenous variables, such as the cost of non-labor inputs, amount of land in use, and farm product prices. Although a business cycle variable is not explicitly included, its effect is accounted for in NW , in that NW is multiplied by 1 minus the unemployment rate to adjust for the likelihood that a farmworker may not find work at the opportunity wage.

For purposes of this analysis, a number of refinements were made to the standard model, which it was hoped would provide additional time-series evidence of the effects of the minimum wage on agricultural employment:

—A dummy variable was included in the specification to account for the sharp discontinuity of the agricultural employment series used in most studies of this type. As a result of significant changes in the sample design and collection procedure of the U.S. Department of Agriculture (USDA) Agricultural Labor Survey, there is a break in the series between 1973 and 1974.¹¹

—A family labor variable was constructed to test for the substitutability of family labor for hired labor. Although earlier studies of the agricultural labor market found that various components of the farm work force were interchangeable,¹² no studies of the minimum wage have tested directly for this substitutability.

—The nonfarm wage variable was separated into its alternative nonfarm (opportunity) wage component and the unemployment (cyclical) component. Previous research has unnecessarily constrained these factors to ratio form.

—The period was limited to that during which the minimum wage was applicable to agricultural workers—1967 to the present (1979). During this 13-year period, the agricultural minimum wage increased in eight steps from \$1 to \$2.90 an hour. Previous authors' use of longer time series, covering many years during which there was no minimum wage in agriculture, may mask the unemployment effect of the mandated wage and make the interpretation of employment elasticities less precise.

—Quarterly data were used instead of annual observations, because employment data are collected on a quarterly basis in the Agricultural Labor Survey. As a result, three dummy variables were included in the specification to account for seasonal influences (Q_2 , Q_3 , and Q_4 for the second, third, and fourth quarters). Quarterly data permit us to more precisely capture changes in the minimum wage, because the change is often mandated to take effect at a time other than at the beginning of a

calendar year. In addition, cyclical fluctuations are more easily discernible using quarterly, rather than annual, observations. Finally, quarterly data provide us with more degrees of freedom. For those variables for which only annual observations exist, one value is carried throughout each of the relevant quarters.

—A measure of technical change was introduced to account for innovation in agriculture.¹³ This variable is the sum of expenditures on experiment station research and extension work, the former from the USDA *Inventory of Agricultural Research* and the latter from unpublished USDA data. Having experimented with lags of from one to six quarters, a two-quarter lag was chosen as performing best.

—An attempt was made to account for changes in coverage of agricultural workers under the Fair Labor Standards Act. Although coverage data are not rich, no other study has attempted to control for any changes in coverage, nor is there any mention in other studies of its potential impact. Unpublished coverage data are from the Employment Standards Administration of the U.S. Department of Labor.

—Finally, the analysis was extended to include the estimated employment effects by sex and age. Although Agricultural Labor Survey data are not disaggregated by demographic characteristics, data from the Current Population Survey permit such a breakdown.

Results of the new model

Table 1 summarizes the estimates of the effects of minimum wages on agricultural employment using various specifications of the new estimating equation. The four columns reflect differences in the functional form of the equation (linear or double-log) and the form of the important nonfarm wage variable (constrained to ratio form or unconstrained).

The rows of table 1 differ in the control variables included in addition to the minimum wage variable in explaining farm employment. For example, line 1 reports estimates of the basic equation—one which controls for season of the year, employment opportunities in the nonfarm sector, farm product prices, farm input prices, and changes in the Agricultural Labor Survey, in addition to the minimum wage (adjusted for inflation). The coefficients from these regressions have been converted to reflect the percentage change in agricultural employment as a result of a 10-percent increase in the minimum wage, that is, 10 times the employment elasticity of the minimum wage.¹⁴

The versions of the basic equation imply a 1.6- to 3.2-percent reduction in hired agricultural employment in response to a 10-percent increase in the minimum wage over the 1967–79 period. Unlike “basic” linear-equation estimates using annual data (not shown), the coefficients of the minimum wage variable in these simi-

Table 1. Estimated effect of a 10-percent increase in the minimum wage on hired agricultural employment, 1967–79¹

Specification	Constrained ²		Unconstrained ²	
	Linear	Logarithmic	Linear	Logarithmic
Basic ³	-2.56 (2.16)	-1.57 (1.05)	-3.23 (2.42)	-2.03 (1.23)
Basic + LAND ⁴ + TECH ⁵	-4.36 (2.49)	-4.61 (1.91)	-5.80 (3.08)	-5.34 (2.05)
Basic + LAND + TECH + FAM ⁶	-4.65 (2.57)	-3.20 (2.16)	-6.27 (3.22)	-3.63 (2.29)
Basic ⁷	-1.47 (2.38)	-1.69 (0.93)	-1.86 (2.70)	-2.27 (1.14)
Basic + LAND + TECH ⁷	-2.68 (2.76)	-5.25 (1.83)	-2.98 (3.05)	-5.39 (1.83)
Basic + LAND + TECH + FAM ⁷	-2.76 (2.79)	-3.11 (1.75)	-3.12 (3.14)	-3.22 (1.79)

¹ To control for the appreciable serial correlation evidenced by ordinary least squares equations, these estimates were calculated using generalized least squares, according to the Cochrane-Orcutt method.

² “Constrained” or “unconstrained” refers to the form of the important nonfarm wage variable.

³ The basic specification includes:

- Dummy variables (Q_1 , Q_2 , and Q_3) to indicate the reference quarter for the data.
- A dummy variable which assumes a value of 1 for the years 1974–79 and 0 for years before 1974, to account for the methodological break in the Agricultural Labor Survey.
- *MW*—The Federally mandated agricultural minimum wage, deflated by the CPI.
- *PROD*—The index of prices received by farmers for products sold, deflated by the CPI.
- *INPUT*—The index of prices paid by farmers for nonlabor inputs, deflated by the CPI.

⁴ *PLAND* is a variable representing the index of the price of agricultural land, deflated by the CPI.

⁵ *TECH* is the measure of technical change, as indicated in the text.

⁶ *FAM* is the ratio of the number of family workers to all agricultural workers.

⁷ In addition to the variables listed in footnote 3, *COV* (the proportion of farm workers subject to the minimum wage) is also included in the specification.

NOTE: t-statistics indicated in parentheses.

larly specified equations, which are based on quarterly data over a more relevant period, are statistically significant.

Lines 2 and 3 report the results of adding various combinations of control variables to the basic equation. The size and significance of the employment elasticities appear to be largest in these more complete versions of the model. This holds true regardless of functional form. Only when a trend variable is added to the equation (not shown) are both size and statistical significance of the employment effects adversely affected. This result can be explained by the presence of trended variables—particularly technological change—already in the equation.¹⁵

The preferred model is that which includes all variables with sound theoretical basis (line 3). Among the four estimates, the model which includes the unconstrained version of the nonfarm wage variable makes more intuitive sense. Combining average hourly earnings and employment into one variable (common to all previous studies which measure this effect) assumes that a given change in each affects agricultural employment the same. There is no reason to assume this would be true.

The choice between functional forms is more compli-

cated. The tendency is to prefer the logarithmic specification because variance is compressed; standards are then more stringent for levels of significance. Even so, the employment elasticities remain statistically significant at conventional levels in the more complete model (line 3). Although the elasticities are somewhat smaller in the logarithmic equations, they do provide a more conservative estimate of the minimum wage's impact. In summary, the estimates imply a reduction in employment of between 3.2 and 3.6 percent in response to a 10-percent increase in the minimum wage. This is equivalent to 41,000 to 46,000 farm jobs forgone in 1979.

Just as an increase in the minimum wage of a given number of workers raises the total wage bill, so does an increase in the number of those subject to the minimum wage provisions of the Fair Labor Standards Act. Therefore, in an attempt to account for changes in the level of FLSA coverage of agricultural workers, a variable *COV* (the proportion of farmworkers subject to minimum wage provisions of the Act) was added to the model (lines 4-6). This is preferable to combining the *level* and *coverage* into a single index, as has been done in most of the nonagricultural studies; such a multiplicative constrained relationship does not permit the estimation of the relative importance of changes in level and coverage alone.¹⁶

The coverage variable itself is everywhere positive, but very small and statistically insignificant (not shown). Like most studies of the nonagricultural sector, coverage effects are found to be weak. This is not altogether unexpected as the proportion of farmworkers covered is relatively low; with little variation, it has hovered about the 45-percent level throughout the 1970's. The new estimates of the minimum wage variable from this preferred model (line 6) imply an employment reduction of slightly over 3 percent, or about 41,000 jobs. These employment effects are somewhat lower than those reported in line 3, but the difference between elasticities from the linear and logarithmic equations is generally less.

Unpublished CPS employment data from the Bureau of Labor Statistics permit the estimation of minimum wage effects in agriculture by sex and age. The resulting employment elasticities for all workers and for men age 16 and over remain fairly stable (between -2.5 and -3.0 percent) and statistically significant depending upon variables included (not shown). This implies reductions in employment of between 85,000 and 100,000 for all agricultural workers, and between 65,000 and 80,000 for men.

Although less significance is exhibited in the estimates for women, striking results appear for young workers age 16 to 24. Significant disemployment effects of between 4.5 and 5.5 percent are reported. In the pre-

ferred model, a 10-percent increase in the minimum wage is estimated to result in a 5.7-percent decrease in youth employment in agriculture. Although somewhat larger, these results are consistent with those found in the literature estimating employment effects for *all* youth.¹⁷

Despite the consistently negative employment effects found using both the CPS and Agricultural Labor Survey data, significant conceptual and methodological differences in the surveys exist which make the elasticities derived from equations based on both data sets not strictly comparable. For example, the Agricultural Labor Survey separates hired from family agricultural workers; in the CPS there is no way to distinguish between the two. Also, the CPS is limited to persons 16 years and over, while the Agricultural Labor Survey has no age cutoff. In addition, the Agricultural Labor Survey counts all persons who do any agricultural work, including those with other jobs, but the CPS includes only those whose major activity is in agriculture. Finally, Agricultural Labor Survey data are collected four times a year on a quarterly-month basis, whereas the CPS is a monthly survey of about 65,000 households from which quarterly *averages* can be calculated. □

— FOOTNOTES —

¹ For a survey of the literature, see Charles Brown, Curtis Gilroy, and Andrew Kohen, "The Effect of the Minimum Wage on Employment and Unemployment," *Journal of Economic Literature*, forthcoming.

² G. Edward Schuh, "An Econometric Investigation of the Market for Hired Labor in Agriculture," *Journal of Farm Economics*, May 1962, pp. 307-21.

³ Vernon N. Grise, *Hired Farm Labor: 1966 Patterns, Future Demand Prospects, Proposed Farm Wage Legislation*, Bulletin 462 (U.S. Department of Agriculture, 1971).

⁴ Bruce Gardner, "Minimum Wages and the Farm Labor Market," *American Journal of Agricultural Economics*, August 1972, pp. 473-76.

⁵ Theodore Lianos, "Impact of Minimum Wages Upon the Level and Composition of Agricultural Employment," *American Journal of Agricultural Economics*, August 1972, pp. 477-84.

⁶ H. F. Gallasch, Jr., "Minimum Wages and the Farm Labor Market," *Southern Economic Journal*, January 1975, pp. 480-91.

⁷ H. F. Gallasch, Jr., and Bruce L. Gardner, "Schooling and the Agricultural Minimum Wage," *American Journal of Agricultural Economics*, May 1978, pp. 264-68.

⁸ Bruce Gardner, "What Have Minimum Wages Done in Agriculture?" in Simon Rottenberg, ed., *The Economics of Legal Minimum Wages* (Washington, American Enterprise Institute, 1981), pp. 210-32.

⁹ John Trapani and J. R. Moroney, "The Impact of Federal Minimum Wage Laws on Employment of Seasonal Cotton Farm Workers," in Simon Rottenberg, ed., *The Economics of Legal Minimum Wages* (Washington, American Enterprise Institute, 1981), pp. 233-46.

¹⁰ In a linear equation, the employment elasticity equals the regression coefficient of the minimum wage times the value of the ratio of the minimum wage to agricultural employment at some point in time. This is generally the last period (year) of the data time series.

¹¹ For an extensive discussion of the Agricultural Labor Survey design and sampling procedure, see James S. Holt and J. G. Elterich,

"Coverage and Exemptions of Agricultural Employment Under the Fair Labor Standards Act," in *Report of the Minimum Wage Study Commission, Vol. IV* (Washington, U.S. Government Printing Office, 1981), pp. 377-473.

¹² Edward W. Tyrczniewicz and G. Edward Schuh, "Econometric Analysis of the Agricultural Labor Market," *American Journal of Agricultural Economics*, November 1969, p. 782.

¹³ This variable was first used by Schuh, in "An Econometric Investigation." The form of the variable in the present study is that suggested by Zvi Griliches in "Research Expenditures, Education, and the Aggregate Agricultural Production Function," *American Economic Review*, December 1964, pp. 961-74, and later employed by T. D. Wallace and D. M. Hoover in "Income Effects of Innovation: The Case of Labor in Agriculture," *Journal of Farm Economics*, May 1966, pp. 325-36; Gallasch in "Minimum Wages in the Farm Labor Market"; and Gallasch and Gardner in "Schooling."

¹⁴ In double-logarithmic equations, the coefficient of the minimum wage variable is simply the employment elasticity. In a linear equation, the elasticity equals the regression coefficient times the mean value of the ratio of the minimum wage to hired employment over the sample period.

¹⁵ For discussions of the relationship between the time trend and technology variables, see Schuh, "An Econometric Investigation"; G. Edward Schuh, "Interrelations Between the Farm Labor Force and Changes in the Total Economy," in *Rural Poverty in the United States* (Washington, The President's National Advisory Commission on Rural Poverty, 1968), pp. 170-84; and Tyrczniewicz and Schuh, "Econometric Analysis."

¹⁶ See Hyman Kaitz, "Experience of the Past: The National Minimum," in *Youth Unemployment and Minimum Wages*, Bulletin 1657 (Bureau of Labor Statistics, 1970), pp. 30-54, for a discussion of the coverage-weighted minimum wage variable; and Charles Brown, Curtis Gilroy, and Andrew Kohen, *Time-Series Evidence of the Effect of the Minimum Wage on Youth Employment and Unemployment* (Cambridge, Mass., National Bureau of Economic Research, 1981), for the estimation of separate level and coverage effects.

¹⁷ See Brown, Gilroy, and Kohen, *Time-Series Evidence*.

Public-sector union wage effects: a time series analysis

WILLIAM J. MOORE AND JOHN RAISIAN

Researchers have been attempting to measure the relative wage impact of unionism in the public sector for more than a decade. After surveying these research efforts, David Lewin expressed the feelings of many others when he concluded that "the 'average' wage effect of unionism in government . . . is roughly on the order of 5 percent, a much smaller impact than is popularly supposed and smaller than the average union wage impact in private industry."¹ But while this result should be comforting to those who have doubts about the propriety of transferring the process of collective bargaining to the public sector,² we have new time series evidence

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which could alter existing views on the issue.

Using longitudinal microdata from the Income Dynamics survey,³ we developed some standardized results for a group of public employees for an extended period of time. That is, we calculated the union wage premium using the same model specification for each year for the period 1967 through 1977. (A description of our human-capital earnings model may be found in the full paper.) With these estimates, we can examine the year-to-year fluctuations in the premium to see whether there is danger in treating single-year cross-section estimates as stable indicators. Next, we pooled the annual cross-section data to estimate the overall effects of public unions for the entire period. This approach should provide us with more reliable estimates of the effects of public unions on various groups of public employees during this period. Finally, we estimated regressions for separate samples of union and nonunion public employees in order to analyze the growth rate of real wages for these types of employees. Throughout the following discussion, we present similar estimates for the economy as a whole from the same data base for comparative purposes.⁴

Annual estimates. The annual union wage premiums for public employees were calculated from ordinary least squares regressions for each year from 1967 to 1977, and were compared with union premiums for the whole economy, which we estimated earlier using an almost identical model specification.

Our results suggest that the public sector wage premium may have increased during the period 1967 to 1977, both in absolute terms, and relative to the union premium in the private sector. The average public sector union wage premium for the period 1967 to 1972 was only 8.64 percent compared to 15.87 percent for the last 5-year period observed. However, the interpretation that the public sector union wage premium has increased in recent years should be treated cautiously. Conventional F-tests revealed that the parameter estimates on the union variables are not statistically significantly different for each year. Also, the sample size virtually doubled in the latter period, perhaps accounting for the increased statistical significance of the later individual-year estimates. Finally, the public sector union premium ranged from -.12 percent to 18.32 percent over the years studied, and was substantially smaller than the wage premium for the private sector, which varied from 19.81 to 25.51 percent.

One other important point is worth noting in these cross-section results. That is, substantial variation exists in the year-to-year estimates of the union wage premium in both the public and private sectors in the United States. This finding suggests that one should be extremely cautious in drawing conclusions concerning

union wage effects from cross-section studies of a point in time.⁵ To lessen this problem, we pooled the cross-section data to obtain an overall union wage premium for 1967-77, using a modification of the human capital-earnings model which included a Consumer Price Index deflator and a simple time trend.

The premium over time. Table 1 presents the estimated 1967-77 overall public sector union wage premium for all public employees and for some important subgroups. For comparative purposes, we also show the corresponding union wage premiums for the economy as a whole.

Our estimates of the overall wage effect of unions led to the following conclusions with respect to the influence of public unions in recent years. First, public unions have had a very substantial positive influence on the wages of their members relative to the wages of nonunion public employees, other things equal. The average public sector union wage premium for all public employees over the 1967-77 period was 12.82 percent. While this figure is substantially below the figure for private unions, 23.83 percent, it is considerably higher than the level reported in most other studies of the public sector, as noted above.⁶ This is probably because our data extend to more recent years than those underlying most of the other studies, and the public sector union wage premium has been rising over time.

Second, we found that the public sector union wage premium differs significantly among various types of workers, but that the pattern of deviation is almost identical to that for the economy as a whole. In general, the premium is significantly larger for nonwhite workers (16.63 percent), southern workers (20.97 percent), and blue-collar employees (22.96 percent). Because column 3 indicates that this same pattern is present among union wage premiums for the total economy, it would appear that some basic force is in operation in union wage determination in both the public and private sectors. In an earlier paper, we attributed the relatively large union premiums for nonwhite, southern, blue-collar, and less educated workers to the attempt by unions to pursue a more-or-less standard wage for their members for reasons of equity and administrative convenience.

The pace of wage growth. In order to ascertain the extent of differential wage growth between union and nonunion public employees over the period, we re-estimated the modified human capital-earnings equation with a simple trend variable added for separate samples of union and nonunion employees. According to these estimates, the real hourly wage of union employees in the public sector rose by 2.044 percent annually during 1967-77, compared to only 1.543 percent for nonunion employees. However, the difference in the two growth rates was not statistically significant at the .05 level. For the economy as a whole, wages in the union sector did rise at a statistically significant higher rate (1.884 percent) than in the nonunion sector (1.118 percent).

The annual growth rate for union workers was higher in the public sector (2.044 percent) than for the total economy (1.884 percent) but the difference was not statistically significant by conventional standards. The growth rate in wages for nonunion employees was also higher in the public sector (1.543 percent) than for the economy as a whole (1.118 percent), suggesting that forces other than growth in union membership have been partially responsible for the relative gain in public sector wage rates over the period.

OUR RESULTS INDICATE that the relative wage effects of unions in the public sector may have risen in recent years. For the period 1973-77, we calculated the public sector average union wage premium to be 15.87 percent, a threefold increase over earlier cross-section estimates. For the entire 1967-77 period, the premium was 12.82 percent. While these figures are still substantially below private sector union wage premiums, it appears that the differential is narrowing. In this last regard, we found that union and nonunion employees in the public sector experienced faster rates of growth in wages than their private sector counterparts over the period. Finally, because fringe benefits are generally greater in the public sector than in the private sector, and because the threat effects of public unions may exceed those of unions in the private sector, growth in the economic influence of unions in the public sector is a phenomenon which should be watched closely in the future. □

— FOOTNOTES —

¹ David Lewin, "Public Sector Labor Relations," *Labor History*, Winter 1977, p. 138.

² H. Wellington and R. Winter, *The Unions and the Cities* (Washington, The Brookings Institution, 1971); and Daniel Orr, "Public Employee Compensation Levels," in A. Lawrence Chickering, ed., *Public Employee Unions* (San Francisco, Institute for Contemporary Studies, 1977), pp. 131-44.

³ The Income Dynamics Panel was collected and processed by the Survey Research Center of the University of Michigan. Because part of the sample was purposefully taken from low-income households, some caution should be used in generalizing our empirical results to the entire economy.

Table 1. Pooled estimates of union-nonunion relative wage effects in the public sector, 1967-77

Union group (1)	Percentage union wage premium	
	Public sector (2)	Total economy (3)
All union members	12.82	23.83
White	10.15	20.09
Nonwhite	16.63	30.93
South	20.97	30.94
Nonsouth	8.70	20.44
Blue-collar	22.96	30.92
White-collar	5.79	4.17

⁴ For an extended discussion of these results, see William J. Moore and John Raisian, *A Time Series Analysis of the Growth and Determinants of Union/Nonunion Relative Wage Effects, 1967-1977*, Working Paper No. 115 (Bureau of Labor Statistics, 1981).

⁵ William J. Moore and John Raisian, "Cyclical Sensitivity of Union/Nonunion Relative Wage Effects," *Journal of Labor Research*, Spring 1980, pp. 115-32.

⁶ Part of the explanation for this is that we omitted educational and medical employees from our sample of public employees. Because it is well established that union wage premiums for public schoolteachers are relatively small (0 to 5 percent), their omission from our sample is reflected in larger union premiums.

Organizations of working women can pave the way for unions

KAREN S. KOZIARA AND PATRICE J. INSLEY

Almost two-thirds of all women who work full-time are in white-collar occupations. Relatively few of them (about 13 percent) belong to unions.¹ During the last few years, however, a number of organizations have formed outside the traditional labor movement to address working women's problems.

Between 15 and 20 major organizations of working women formed in urban areas during the last decade. About 12 of them are linked nationally. The others are local and autonomous. All are still relatively small, given the size of their potential constituencies. Few have more than a thousand members. Those members work for a number of employers in a given area, and any one firm may employ only a few members.² The general overarching goal of these organizations is improving employment conditions faced by working women, particularly women in low income white-collar jobs. This goal has two related dimensions. The first involves economic or "bread and butter" issues, including low wages, employment discrimination, and lack of promotional opportunities. The second dimension involves the right to be treated with dignity and to have one's work be seen as meaningful and serious and includes problems such as sexual harassment and arbitrary and demeaning treatment by supervisors. A related goal is building a firm organizational base. This involves continued organizing efforts designed to introduce working women to the idea of working together to solve shared problems.

Organizations of working women generally focus on resolving immediate problems as a way of achieving

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goals. The tactics used vary enormously and are tailored to the specific problem being addressed. These tactics can be classified into four general categories: information gathering, conciliation, direct action, and education.

Information gathering is both an important first step in becoming established and also an important ongoing activity for these organizations. Initially, surveys conducted among selected populations of working women help identify particular employment problems and problem employers. This information serves as a basis for program planning and as a way of letting people know of the organization's existence. Employment problems are handled on a case-by-case basis. Examples of the issues handled are failure of a firm to live up to an affirmative action plan, specific incidents of sexual harassment, low wages, and employer failure to post promotional opportunities.

Conciliation involves approaching the employer or governmental agency in an effort to resolve an identified problem. In some instances, the problem can be resolved through discussion sessions; in other instances, the employer or concerned agency is unwilling to meet with representatives of the organization or is unwilling to make any concessions. If efforts at conciliation through discussion are unsuccessful, then direct action can be used.

Direct action can take many forms. Not enough members work for any one employer to make effective use of strikes and strike threats; therefore, most forms of direct action are designed to bring the involved employer unfavorable publicity. Examples of such activities include public awards, such as a Christmas "Scrooge of the Year" award and a "Pettiest Office Procedure" award. These have the combined impact of making the organization visible, while at the same time putting pressure on the involved employer. Other forms of direct action include presentation of signed petitions, picketing, and even sit-ins.

Also government agencies can be used to pressure employers to live up to their legal obligations. This is most frequently used when the issue is affirmative action, equal employment opportunity, or age discrimination. Banks have been a major focus of this type of action because of the large numbers of low income women employed in banking. Efforts have been made by organizations of working women to have the U.S. Department of Labor's Office of Federal Contract Compliance Programs monitor affirmative action programs in the banking industry, and a number of administrative complaints have resulted. These tactics have had some success: a number of banks have made backpay settle-

ments, four banks in Baltimore raised wages of low level bank employees, several banks and insurance companies have agreed to job posting programs, and at least one bank has instituted a major training program for clerical employees.³

Education and outreach are extremely important activities for working women's organizations. They are accomplished through programs, seminars, and publications and serve two major functions. First, they are a way to get visibility and to reach potential members. Getting people involved in educational programs is also an important way of increasing member commitment. It is also a service that encourages people to maintain their membership, perhaps even after a specific employer-based problem has been resolved.

The second major function performed by educational activities is to help women understand and develop ways of handling problems at work. Examples of typical subjects include skills assessment, conflict management in an office setting, equal employment opportunity law, retirement planning, assertiveness training, and career planning. Additionally, some educational programs are more general and aim at developing an understanding of common problems and solutions.

Currently, organizations of working women do not perform the functions performed by unions. They do not press for certified bargaining rights, they negotiate with employers only over limited issues, and they do not sign collective bargaining contracts. Additionally, they have relatively little contact with the labor movement.

A major reason for their independence from the labor movement is the belief that the organizing model used by unions is ineffective in organizing women in clerical occupations. There are several explanations for the labor movement's inability to effectively organize these workers. One explanation is that the labor movement has not been willing to expend the resources or develop the tactics necessary to organize successfully in these areas. A second explanation is that female clerical and service workers have not been ready to join unions.⁴

Both explanations are consistent with the emergence of working women's organizations which provide a new model for organizing female clerical workers. Some observers have described this model as "preorganizing," or creating the conditions that make union organizing viable.

In theory, the potential exists for innovative and cooperative arrangements between working women's organizations and the labor movement. There are mutual interests. Many unions are interested in organizing in new areas, and organizations of working women do not provide as broad employment protections as do collective bargaining contracts. In fact, members of one affiliate, Nine to Five in Boston, formed a local union, which joined the Service Employees International Union as Local 925.⁵

This indicates that innovative arrangements can be developed. However, the essence of innovation is doing things differently than before, and that type of organizational change is often difficult to achieve because of institutional barriers facing it. □

— FOOTNOTES —

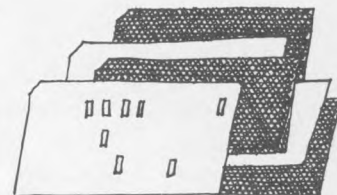
¹ Linda H. LeGrande, "Women in labor organizations: their ranks are increasing," *Monthly Labor Review*, August 1978, p. 9.

² Information in this report comes primarily from interviews with officers and directors of Working Women, Women Employed, and Interfaith Women's Alliance for Working Women conducted by the authors during 1980 and 1981.

³ Working Women, *Report from Working Women*, April 1980.

⁴ Roberta Lynch, "Women in the Workforce," *The Progressive*, October 1979, p. 29.

⁵ Nancy Seifer and Barbara Wertheimer, "New Approaches to Collective Power," in Bernice Cummings and Victoria Schuck, eds., *Women Organizing: An Anthology*.



Employment problems and poverty: examining the linkages

PAUL M. RYSCAVAGE

The sharp upturns in the unemployment rate in 1980 and 1981 have again focused attention on the economic consequences of unemployment and other employment problems. There is, for example, much information about the unemployed—who they are, where they live, how long they have been unemployed—but little information on the impact of unemployment on family or household income.

The generally accepted notion is that unemployment still disrupts the economic well-being of many households, although not as seriously as during the Great Depression. This is because of the increase in the number of families with two or more wage earners, and the protection now afforded workers by unemployment insurance, food stamps, public assistance, and other maintenance programs. Also a greater proportion of unemployed workers today are not the traditional primary breadwinners. In sum, there has been increasing evidence that the relationship between unemployment and economic hardship has weakened in recent decades, but this has not been quantified in any systematic way.¹

The National Commission on Employment and Unemployment Statistics recommended in 1979 that data on unemployment, as well as other employment problems, be linked with data on income to determine the extent that job market problems cause economic hardship. The Bureau of Labor Statistics developed a data base to shed light on this question; in 1982, it issued a study which linked statistics on the labor force with statistics on family income and on the poverty status of the family.²

From this newly created data base for 1979—a relatively good employment year—two conclusions emerged:

- The relationship between unemployment (or other employment problems) and economic hardship was

evident, but was not close. Unemployment occurred among all income levels and not all who experienced unemployment were in families with income below the poverty level.

- The linkage between unemployment (or other employment problems) and economic hardship was much tighter for some marital groups than others. For example, among women who maintained families and experienced some unemployment in 1979, the chance of living in poverty was almost 50 percent. On the other hand, for husbands who experienced some unemployment in 1979, the chance of living in poverty was only a little more than 1-in-10.

This report summarizes some of the statistics for 1979 presented in the full report. In addition, it discusses some conceptual and technical issues involved with linking labor force and income statistics, and illustrates how this new data base can be refined to produce new insights into the relationship between various employment problems and economic hardship.

Conceptual and technical issues

Labor force statistics and information on family income and poverty status were obtained from the March 1980 Current Population Survey (CPS). In March of each year, a supplemental questionnaire is used to gather information on the extent to which members of a sampled household engage in employment or job-search activities during the previous calendar year, and on the income derived from employment and other sources. This information differs from that which is collected in the monthly CPS. The monthly statistics may be regarded as a snapshot of the labor force of persons for the reference week of the survey. In this snapshot, persons are classified as employed, unemployed, or not in the labor force. The statistics from the March supplement measure the *extent* to which persons engaged in employment and unemployment activities during the previous calendar year. In this body of information, commonly referred to as the “work experience data,” persons may be classified in more than one labor force category over the 12-month period.

Annual family income statistics are also collected in March and are for the previous calendar year. These statistics include wages and salaries, self-employment income, dividends, interest, rental income, public assis-

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tance, social security, and any other money income regularly received.³ Not included are the value of "non-cash" benefits, such as food stamps, medicaid, public housing, fringe benefits, and other items which some families receive as part of their income.⁴ The poverty status of families is determined on the basis of money income. A matrix of poverty lines reflects the different consumption requirements of families based on family size, composition, age of the householder, and farm-nonfarm residence. Families with money income below a threshold amount are considered by the Federal Government to be living in poverty. In 1979, the poverty threshold for a nonfarm family of four was \$7,412; for a nonfarm family of seven persons or more, it was \$12,280; and for an unrelated individual age 65 or over in a farm area, \$2,963.⁵

Because the annual data on work experience and family income statistics are collected at the same time and have the same reference period, it is possible to link, or cross-classify them at the micro-level. The full study linked family income and poverty status with earnings of (1) the fully employed (those who usually work 35 hours or more a week for 50 or 52 weeks); (2) the partially employed (those who usually work less than 35 hours or more a week for 50 or 52 weeks); (3) those with some part-time employment; (4) those with some unemployment; (5) those employed less than 40 weeks; and (6) nonworkers unable to find work. These linkages

are discussed by the various marital and family status categories: husbands, wives, others in married-couple families; women who maintain families; others in families maintained by women; men who maintain families; others in families maintained by men; and unrelated individuals. This breakdown is useful in interpreting the linkages. However, this summary discusses only three of the linkages—those involving the relationship between family income and (1) unemployment, (2) part-time employment, and (3) low earnings among the fully employed.

The linked labor force and income statistics are, of course, subject to different interpretations regarding economic hardship because of differences in opinion over the definition of economic hardship. In both the full report and this summary, economic hardship is discussed in terms of the Federal Government's poverty guidelines, although the BLS recognizes that other definitions could have been used. The problem of interpretation becomes particularly difficult among workers who experience an employment problem, but whose family income does not fall below the poverty level. Personal inconveniences and economic disruptions obviously result, but without a universally agreed-upon definition of hardship for such workers it is difficult to evaluate the data. As a guide for data users, however, workers' family incomes have been categorized according to their proximity to the Federal Government's poverty lines.

Table 1. Relationship between duration of unemployment and family income and poverty status, 1979

[Numbers in thousands]

Family income and poverty status	With labor force experience	Without unemployment	With unemployment					
			Total	1 to 4 weeks	5 to 14 weeks	15 to 26 weeks	27 to 51 weeks	52 weeks or more
All persons age 16 and over	114,648	96,676	17,971	5,676	6,298	3,534	2,141	322
Family income: ¹								
Under \$5,000	6,079	3,870	2,209	606	607	456	448	93
\$5,000 to \$9,999	12,229	8,975	3,253	913	1,122	731	431	56
\$10,000 to \$14,999	16,262	13,266	2,996	804	1,105	657	367	63
\$15,000 to \$19,999	17,058	14,492	2,566	822	965	509	249	21
\$20,000 to \$24,999	16,579	14,405	2,173	747	789	378	225	33
\$25,000 and over	46,441	41,668	4,773	1,784	1,710	802	422	55
Below poverty level:								
Total	7,024	4,467	2,557	653	744	540	501	120
Percent	6.1	4.6	14.2	11.5	11.8	15.3	23.4	37.1
Below 1.25 poverty level:								
Total	10,369	6,785	3,583	925	1,033	803	688	134
Percent	9.0	7.0	19.9	16.3	16.4	22.7	32.1	41.6
Below 1.50 poverty level:								
Total	14,064	9,501	4,563	1,195	1,391	1,002	821	154
Percent	12.3	9.8	25.4	21.1	22.1	28.3	38.4	47.7
Below 2.00 poverty level:								
Total	23,530	16,752	6,778	1,819	2,215	1,461	1,100	184
Percent	20.5	17.3	37.7	32.0	35.2	41.3	51.4	57.1
Median family income	\$21,627	\$22,600	\$16,046	\$18,007	\$16,685	\$14,299	\$12,366	\$10,758

¹ Personal income for unrelated individuals.

Linked data

One of the most striking findings from the linkage of labor force and income data is that unemployment, involuntary part-time employment, low earnings, and other forms of inadequate employment are found among families at all income levels. These problems, however, were clearly most frequent among families with low incomes or little financial protection.

To put these findings in perspective, it should be noted that in 1979, the unemployment rate averaged only 5.8 percent. The linking of labor force and income data for 1980 and 1981—years in which the unemployment rate averaged more than 7 percent—would undoubtedly reveal a greater amount of labor market related economic hardship than was evident using 1979 data.

Unemployment. About 18 million persons experienced some unemployment in 1979; 30 percent of them were in families with incomes below \$10,000, and 39 percent were in families with income above \$20,000. (See table 1.) Slightly more than 14 percent of those with unemployment were in poor families. The prevalence of multi-earner families and the availability of unemployment insurance and welfare programs obviously cushioned the economic burden of unemployment.

Although no income class was immune to unemployment, the workers with the longest duration of unemployment were more likely to be found among lower income families. Among members of families with incomes of \$20,000 or more, 10 percent of those who encountered unemployment during 1979 were jobless for 26 weeks or more; among those from families with incomes below \$10,000, nearly 20 percent were unemployed for 26 weeks or more. The relationship between the duration of unemployment and income class can also be examined in terms of marital and family status. For all workers encountering unemployment, median family incomes declined as the duration of unemployment became longer—from about \$18,000 for those

Table 2. Relationship between duration of unemployment of selected marital and family groups and their median family incomes, 1979

Marital and family group	Weeks of unemployment				
	1 to 4	5 to 14	15 to 26	27 to 51	52 and over
Median family income of all employed persons ¹ . . .	\$18,007	\$16,685	\$14,299	\$12,366	\$10,758
Husbands	19,738	17,457	14,342	10,769	(²)
Wives	19,990	19,402	18,749	18,556	(²)
Others in married-couple families	31,208	29,435	28,193	24,241	23,847
Women who maintain families	6,595	6,914	6,689	5,143	(²)

¹ Personal income for unrelated individuals.

² Not shown because of base smaller than 75,000.

Table 3. Relationship between part-time employment and family income and poverty status, 1979

[Numbers in thousands]

Family income and poverty status	Total	Involuntary		Voluntary	Other
		Slack work or material shortage	Could only find part-time work		
All persons age 16 and over	42,400	7,496	3,711	19,515	11,678
Family income: ¹					
Under \$5,000	3,669	649	636	1,511	872
\$5,000 to \$9,999	6,029	1,310	688	2,334	1,698
\$10,000 to \$14,999	6,401	1,450	567	2,523	1,860
\$15,000 to \$19,999	6,044	1,236	464	2,490	1,854
\$20,000 to \$24,999	5,502	1,006	413	2,600	1,483
\$25,000 and over	14,756	1,846	943	8,057	3,910
Below poverty level:					
Total	3,967	770	722	1,493	982
Percent	9.4	10.3	19.5	7.6	8.4
Below 1.25 poverty level:					
Total	5,807	1,177	992	2,194	1,444
Percent	13.7	15.7	26.7	11.2	12.4
Below 1.50 poverty level:					
Total	7,724	1,603	1,217	2,903	2,002
Percent	18.2	21.4	32.8	14.9	17.1
Below 2.00 poverty level:					
Total	12,194	2,543	1,665	4,741	3,245
Percent	28.8	33.9	44.9	24.3	27.8
Median family income	\$19,225	\$16,329	\$14,618	\$21,669	\$18,810

¹ Personal income for unrelated individuals.

with the shortest spells to \$11,000 for those with 52 weeks or more of joblessness. (See table 2.) The extent of the downward impact on family income, however, varied depending on which member of the family was the victim of unemployment. When only the husband encountered unemployment, the duration of the spell had a sharp impact on family income. When only the wife had been unemployed, family incomes changed very little as unemployment duration lengthened. In families where only "other" members (mostly youths) experienced unemployment, income declined slightly but remained well above \$20,000 regardless of the duration of unemployment. Family income was low for women who maintained families (no spouse present) and experienced unemployment, and it was even lower if their unemployment duration was more than 15 weeks.

Involuntary part-time employment. Involuntary part-time employment can also cause a reduction in personal earnings and family income. Two specific causes of involuntary part-time employment are slack work and the inability to find full-time work. Of the 42.4 million persons who worked part time some weeks in 1979, about 11.2 million, or one-quarter of the total, did so involuntarily. (See table 3.) About 7.5 million were on part-time schedules because of slack work, and 3.7 million worked part time because they could not find full-time

jobs. Workers who experienced some involuntary part-time employment had lower family incomes than those who worked part time voluntarily or because of strikes, bad weather, plant retooling, and other "hard-to-classify" reasons. Furthermore, a greater proportion of involuntary part-time workers were poor; their poverty rate was about 13 percent. Nevertheless, involuntary part-time employment occurs among workers from all income classes. The incidence of poverty among those with some involuntary part-time employment varies greatly by the worker's marital and family status. The incidence of poverty was 36 percent among women who maintained families, and was more than 20 percent among unrelated individuals. On the other hand, among wives and other members of married-couple families (except husbands) the proportion averaged only about 5 percent.

The following tabulation shows the incidence of poverty among persons who had some involuntary part-time work in 1979, by the worker's marital and family status:

	Percent
Total, 16 and over	13.3
Husbands	11.2
Wives	6.2
Others in married-couple families	4.7
Women who maintain families	36.5
Others in families maintained by women	22.8
Men who maintain families	17.2

Others in families maintained by men	5.9
Unrelated individuals, men	21.9
Unrelated individuals, women	26.4

Low earnings. The vast majority of the 63.4 million full-time, year-round (fully employed) workers had annual earnings above \$6,000. (See table 4.) The Federal minimum wage in 1979 was \$2.90 an hour, and annual earnings of \$6,000 implies that hourly wages were slightly above that minimum. There were 4.8 million workers with year-round full-time jobs who earned less than \$6,000 in 1979. Not surprisingly, the median income of their families was relatively low. About 1.1 million, or nearly one-fourth, were members of poor families. However, not all of the low earners were members of poor families: almost 1.2 million lived in families with incomes of \$20,000 a year or more.

Husbands are seldom found among the low-earning fully employed workers whose family income is still relatively high. Wives and other members of married-couple families make up the majority of such workers. On the other hand, the majority of low-earning, fully employed workers who lived in poverty families are either husbands, women who maintain families, or unrelated individuals of both sexes.

Multiple employment problems

Although not included in the full report, experimental tabulations were created from the March 1980 CPS

Table 4 Relationship between earnings of full-time year-round workers and family income and poverty status, 1979

[Numbers in thousands]

Family income and poverty status	Total	Personal earnings							Median personal earnings
		Under \$3,000	\$3,000 to \$5,999	\$6,000 to \$7,999	\$8,000 to \$9,999	\$10,000 to \$11,999	\$12,000 to \$14,999	\$15,000 and over	
All persons age 16 and over	63,415	1,543	3,273	5,953	6,800	7,354	9,359	29,133	\$14,077
Family income: ¹									
Under \$5,000	985	604	369	6	3	4	(²)	(²)	2,188
\$5,000 to \$9,999	4,576	296	944	1,738	1,582	10	4	2	7,230
\$10,000 to \$14,999	8,552	198	589	931	1,104	2,802	2,913	15	10,839
\$15,000 to \$19,999	10,130	146	438	997	1,135	1,131	1,648	4,634	14,221
\$20,000 to \$24,999	10,181	89	305	752	955	1,102	1,567	5,411	15,619
\$25,000 and over	28,992	210	628	1,527	2,023	2,305	3,227	19,072	19,487
Below poverty level:									
Total	1,340	661	408	181	64	22	4	(²)	3,029
Percent	2.1	42.8	12.5	3.0	.9	.3	(²)	(²)	21.5
Below 1.25 poverty level:									
Total	2,321	761	732	438	248	103	39	(²)	\$4,588
Percent	3.7	49.3	22.4	7.4	3.6	1.4	.4	(²)	32.6
Below 1.50 poverty level:									
Total	3,632	841	1,118	728	481	294	145	25	\$5,492
Percent	5.7	54.5	34.2	12.2	7.1	4.0	1.6	.1	39.0
Below 2.00 poverty level:									
Total	7,597	995	1,627	1,909	1,119	838	714	396	\$7,166
Percent	12.0	64.5	49.7	32.1	16.4	11.4	7.6	1.4	50.9
Median family income	\$23,611	\$7,603	\$12,617	\$16,419	\$18,093	\$18,932	\$20,362	\$29,357	(³)

¹ Personal income for unrelated individuals.

² Zero or rounds to zero.

³ Not applicable.

Table 5. Persons with unemployment and other labor market problems, by poverty status, 1979

[Numbers in thousands]

Characteristic	Total	Number living in families below poverty level	Percent living in families below poverty level
Total	17,971	2,557	14.2
Year-round, full-time workers ¹	793	20	2.5
Nonworkers	1,927	608	31.6
All other workers	15,243	1,929	12.7
Unemployed 4 weeks or less	1,196	15	1.3
Unemployed 5 weeks or more	1,380	18	1.3
Unemployment and low hourly earnings ²	525	92	17.5
Unemployment and involuntary part-time employment	828	21	2.5
Unemployment and employment of fewer than 40 weeks	5,835	539	9.2
Unemployment, low hourly earnings, and involuntary part-time employment	227	54	23.8
Unemployment, low hourly earnings, and employment of fewer than 40 weeks ³	2,294	588	25.6
Unemployment, involuntary part-time employment, and employment of fewer than 40 weeks	1,886	255	13.5
Unemployment, low hourly earnings, involuntary part-time employment, and employment of fewer than 40 weeks	1,072	347	32.4

¹ Year-round full-time workers are persons who worked 50 or more weeks of the year for usually 35 hours a week or more. By definition, therefore, these persons could experience a maximum of only 2 weeks of unemployment.

² Low hourly earnings were defined to be \$2.90 an hour or less (the minimum wage in 1979 was \$2.90).

³ Employment of fewer than 40 weeks may not represent a problem for workers who limited their workweeks because of voluntary reasons, for example, students, youths, and homemakers.

NOTE: Data may not add to total because of rounding.

showing workers with multiple employment problems. For example, workers with low earnings and unemploy-

ment were cross-classified by the poverty status of their families. Previous hardship analyses have examined various employment problems but only one problem at a time. Yet in a year's time, many workers are likely to encounter more than one employment difficulty. To single out unemployment as the primary problem responsible for a family's economic hardship may, for example, overlook a problem of low earnings caused by jobs paying minimum or sub-minimum wages.

Table 5 shows individuals who experienced some unemployment in 1979 and other possible employment problem or problems they had, and their poverty status. The majority of persons encountering unemployment in 1979 also experienced other possible employment difficulties, such as employment for less than 40 weeks, low hourly earnings, and involuntary part-time employment.⁶ In fact, only a small proportion of the partially employed persons encountering unemployment during 1979 were observed as having unemployment as their sole employment problem. The incidence of poverty for these workers was negligible. Workers with the highest incidences of poverty were those who experienced such combinations of employment problems as (1) unemployment, low hourly earnings, and involuntary part-time employment; (2) unemployment, part-year employment of less than 40 weeks, and low hourly earnings; and (3) unemployment, low hourly earnings, part-year employment, and involuntary part-time employment. For workers with this last combination of problems, the incidence of poverty was more than 30 percent. Clearly then, this experimental tabulation indicates that, for many workers, unemployment is frequently associated with other employment problems. □

— FOOTNOTES —

¹ Labor force statistics have been published by the Bureau of Labor Statistics, while income statistics have been reported by the Bureau of the Census.

² *Linking Employment Problems to Economic Status*, BLS Bulletin 2123 (Bureau of Labor Statistics, 1982), is available from the Superintendent of Documents, Government Printing Office, Washington D.C. 20402, and from the BLS regional offices listed on the inside front cover.

³ *Money Income of Families and Persons in the United States: 1979*, Current Population Reports, Series P-60, No. 129, November 1981, pp. 282-93.

⁴ *Money Income, 1979*, p. 283.

⁵ For more information, see *Characteristics of the Population Below the Poverty Level: 1979*, Current Population Reports, Series P-60, No. 130, December 1981, pp. 201-14.

⁶ For the purposes of this special tabulation, hourly earnings were derived for workers by dividing the product of weeks worked and usual weekly hours into annual earnings. Persons with hourly earnings of \$2.90 (the minimum wage in 1979) or less were considered to have low hourly earnings. Many persons who worked fewer than 40 weeks in 1979 may not have had an employment problem if they limited their number of workweeks voluntarily. This is particularly true of students, youths, housewives, and others who have only a marginal attachment to the work force.

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in July is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union ¹	Number of workers
Allen-Bradley Co. (Milwaukee, Wis.)	Electrical products	Electrical Workers (UE-Ind.)	4,800
American Seating Co. (Grand Rapids, Mich.)	Furniture	Auto Workers (Ind.)	1,000
Arizona Steel Erectors Association	Construction	Iron Workers	1,500
Armstrong Rubber Co., Master Agreement (Interstate)	Rubber	Rubber Workers	3,000
Associated Garment Industries of St. Louis (Missouri)	Apparel	Ladies' Garment Workers	3,200
Associated General Contractors of America, Inc.: Mobile Chapter (Alabama and Florida)	Construction	Building and Construction Trades Council; including Teamsters (Ind.)	2,500
Association of Motion Picture and Television Producers, Inc., Basic Agreement (California)	Amusements	Theatrical Stage Employees	20,000
Association of Motion Picture and Television Producers, Inc. (California)	Amusements	Teamsters (Ind.)	2,000
Babcock and Wilcox Co., Power Generation Group (Ohio)	Fabricated metal products	Boilermakers	2,100
Columbus and Southern Ohio Electric Co.	Utilities	Electrical Workers (IBEW)	1,600
Diamond-Sunsweet, Inc. (Stockton, Calif.)	Food products	Teamsters (Ind.)	1,100
Dried Fruit Industry (California) ²	Food products	Longshoremen and Warehousemen (Ind.)	1,000
East Bay Restaurant Association, Inc. (California)	Restaurants	Hotel and Restaurant Employees	5,500
Fairchild Industries, Inc. (Farmingdale, N.Y.)	Transportation equipment	Machinists	3,500
Garage Attendants Agreement (Illinois) ²	Retail trade	Teamsters (Ind.)	1,700
General Electric Co., 2 agreements (Evandale, Ohio)	Transportation equipment	Machinists; Auto Workers (Ind.)	5,950
General Electric Co., National Agreement (Interstate)	Electrical products	Electrical Workers (IUE)	70,000
General Telephone Company of Michigan	Communication	Electrical Workers (IBEW)	3,100
Hamilton Industries (Two Rivers, Wis.)	Furniture	Carpenters	1,200
Hammermill Paper Co. (Kaukauna, Wis.)	Paper	Paperworkers	1,200
Houston Sheet Metal Contractors Association (Texas)	Construction	Sheet Metal Workers	1,200
Ingersoll-Rand, Torrington Co. (Connecticut)	Machinery	Auto Workers (Ind.)	1,650
Jacksonville Shipyards, Inc. (Florida)	Transportation equipment	Boilermakers	1,800
Korvettes, Inc. (New York, N.Y.)	Retail trade	Retail Clerks	3,500
Laclede Gas Co. (St. Louis, Mo.)	Utilities	Oil, Chemical and Atomic Workers	1,250
Major Shoe Chain Stores (New York, N.Y.) ²	Retail trade	Retail, Wholesale and Department Store	1,000
Missouri River Basin Agreement (Interstate) ²	Construction	Boilermakers	3,300
Monterey Peninsula Hotel and Restaurant Association, Inc. (California)	Hotels	Hotel and Restaurant Employees	2,400
National Football League Management Council (Interstate)	Amusements	National Football League Players Association (Ind.)	1,500
National Elevator Industry, Inc. (Interstate)	Construction	Elevator Constructors	16,000
Presidents' Council of Food, Beverage and Lodging Industries (Oregon)	Restaurants	Hotel and Restaurant Employees	3,850
Retail Meat Cutters ²	Retail trade	Meat Cutters	1,900
Sears Roebuck and Co. (Seattle, Wash.)	Retail trade	Teamsters (Ind.)	1,800
Stop and Shop Companies, Inc., 2 agreements (New England area)	Retail trade	Retail Clerks	7,000
Summa Corp., Hughes Helicopters Division (California)	Transportation equipment	Carpenters	1,600
Trane Company (La Crosse, Wis.)	Fabricated metal products	Machinists	1,800
TRW, Inc. (Harrisburg, Pa.)	Transportation equipment	National Federation of Independent Unions	1,200

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

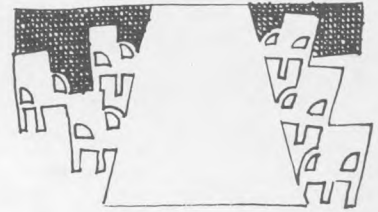
Employer and location	Industry	Union ¹	Number of workers
Union Camp Corp. (Franklin, Va.)	Paper	Paperworkers; and Firemen and Oilers	1,250
Vornado Corp. (Interstate)	Retail trade	Retail Clerks	7,000
Washington Post Co. (Washington, D.C.)	Printing and publishing	Newspaper Guild	1,000
Western Airlines, Clerical (Interstate) ³	Air transportation	Air Transport Employees	4,500
Western Union Telegraph Co., 2 agreements (Interstate)	Communication	Telegraph Workers; Communications Workers	10,500
Westinghouse Electric Corp., 6 agreements (Interstate)	Electrical products	Federation of Westinghouse Independent Salaried Unions (Ind.)	11,250
		Electrical Workers (IBEW)	18,450
		Electrical Workers (UE-Ind.)	4,950
		Electrical Workers (IUE)	18,200
Westvaco Corp. (Interstate)	Paper	Paperworkers	1,200
Whirlpool Corp. (Minnesota)	Electrical products	Teamsters (Ind.)	1,650
	Government activity	Union or employee organization¹	
California: Riverside County Supporting Services Unit	Central administration	Public Employees Association of Riverside County (Ind.)	2,200
New York: New York City Transit Authority, Subway-Surface Supervisors	Transportation	Subway-Surface Supervisors Association (Ind.)	3,300
Ohio: Greater Cleveland Regional Transit Authority, Operator's Unit	Transportation	Amalgamated Transit	2,500
Texas: Houston Metropolitan Transit Authority	Transportation	Transport Workers	1,300

¹ Affiliated with AFL-CIO except where noted as independent (Ind.).

² Industry area (group of companies signing same contract).

³ Information is from newspaper reports.

Developments in Industrial Relations



Clothing workers get new contract

Shortly before the expiration date of their agreement, the Clothing Manufacturers Association and the Clothing and Textile Workers agreed to a new 38-month agreement for 70,000 workers in the men's and boys' clothing industry. The new contract provided for a total wage increase of \$1.05 an hour—25 cents an hour on October 4, 1982, 30 cents in June 1983, and 50 cents in June 1984. The automatic cost-of-living pay adjustment formula was liberalized to provide for a June 1983 adjustment of 5 cents an hour if the CPI-W rises 4.8 percent from December 1981 to December 1982, plus 1 cent for each additional .5 percent rise. An additional 5 cents will be paid in June 1984 if the index rises 5.4 percent from December 1982 to December 1983, plus 1 cent for each additional .5-percent rise.

Other terms included a 1-percent (of payroll) increase in the employer financing of pensions; establishment of paid leave for service on trial juries; and 6 hours of call-in pay (formerly 5 hours).

United Airlines settles with Machinists union

United Airlines and the Machinists negotiated a 2-year contract to lead off the union's round of bargaining with various air carriers. The accord covered mechanics and food service workers, and was the first one the parties reached in direct negotiations without a mediator in 20 years.

Company president Richard J. Ferris said that the peaceful settlement marked a "new era in labor relations" between the parties. A union official attributed the peaceful settlement to "the condition airlines are in today," referring to problems resulting from deregulation of the industry, the state of the economy, and after-effects of the 1981 strike by air traffic controllers. (The union currently represents 14,000 United employees, compared with 18,600 in 1979.) Both parties agreed that the economic condition of the industry means that it is unlikely that the union's coming settlements with

the other carriers would continue the practice of following the lead settlement.

The settlement called for mechanics to receive a 10-percent pay increase, retroactive to November 1981, and an 8-percent increase in November 1982, bringing their pay rate to \$15.91 an hour. Food service workers receive 8 percent and 4 percent on the respective dates.

Other terms included termination of the automatic cost-of-living pay adjustment clause (it had yielded 39 cents in increases during the previous agreement); a two-step increase in the pension rate for mechanics, bringing their rate to \$29.50 a month (from \$27) for each year of credited service and a two-step increase to \$20.90 for food service workers; a 30-cent-an-hour increase in shift premiums; a 20-cent-an-hour increase in the premium for mechanics holding two Federal Aviation Administration licenses, bringing it to 85 cents; and improvements in medical, surgical, and dental benefits.

United gained some changes intended to improve productivity, including merging of some job classifications and changes in work schedules and hours. In 1981, United's pilots had agreed to cost-saving changes in a contract that called for pay increases of nearly 30 percent over 26 months. (See *Monthly Labor Review*, November 1981, p. 53.)

Difficulties continue in trucking industry

The Teamsters and the National Automobile Transporters Association agreed to a 3-year contract patterned on the National Master Freight Agreement the union negotiated earlier. (See *Monthly Labor Review*, April 1982, p. 64.)

Meanwhile, the union was encountering difficulties in enforcing the general freight agreement, as some of the covered companies withheld a scheduled April 1982 cost-of-living pay adjustment of 47 cents an hour, plus 25 cents to be applied to maintaining benefits. Generally, these firms said they would not pay the money because it would put them at a competitive disadvantage with companies that had withdrawn from the major employer associations prior to the "national" settlement and were now in the process of settling separately with the union. Reportedly, Trucking Management, Inc., the largest of the associations that signed the national

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

agreement, had only 284 firms in 1982, compared with nearly 500 in 1979.

Some of the companies covered by the master freight contract also were pressing for further concessions in negotiating the supplemental local riders to the master contract.

The difficult economic conditions in the trucking industry were indicated by the demise of Spector-Red Ball Inc., which closed its general freight hauling operations, eliminating 6,500 jobs nationwide. The company attributed the closing to intensive rate discounting resulting from the "depressed economy." The decision came despite an agreement by employees to lend the company 15 percent of their pay. Spector lost \$20 million in 1981.

Elsewhere, the Teamsters and Boss Linco Lines, Inc., of Cheektowaga, N.Y., agreed to wage concessions, replacing a voluntary stock-purchase plan instituted in 1981, in which only half of the employees participated. Company president James C. Findlay said the pay concessions had been backed by 95 percent of the workers. Boss Linco, which has terminals in 14 Northeastern States, also has been operating at a loss.

AT&T guarantees jobs

American Telephone & Telegraph Co. and the Communications Workers of America agreed on a broad job and wage protection agreement for the union's members, averting a possible confrontation when the company begins its divestiture of 22 local operating units. The union started pressing for such protection after the January 1982 divestiture announcement, which was part of the settlement of an antitrust action against AT&T initiated by the Federal Government.

Under the worker protection agreement, the 235,000 union members expected to be affected by the shedding of companies are guaranteed to receive AT&T transfer benefits or those of the new firm, whichever is larger and, for 7 years after the divestiture, they are protected against loss of employment, current pay and seniority, changes in the condition of their employment, and reductions in pension, insurance, and other benefits.

CWA President Glenn Watts had pressed for broadened protections for workers because existing protections only applied to transfers within the Bell System. CWA also represents 290,000 workers in the system who will not be affected by the divestitures.

Meanwhile, AT&T was proceeding with plans to reduce the number of outside professional firms managing its two pension funds, despite the possibility that the funds would have to split into a number of funds when the divestiture occurs. AT&T said the process was being continued to put the funds in the best possible shape for the split-up of the system and that the performance of the outside managers, who received \$50 mil-

lion in commissions in 1981, had generally been "just average."

The two funds—one for management and the other for workers—total \$36 billion. Prior to October 1980, AT&T had maintained 33 pension funds.

Marine unions seek to aid the industry

In a move to increase job opportunities and to aid the Nation's merchant marine fleet, the Seafarers and the Marine Engineers agreed on principles designed to foster closer cooperation between the two unions. One principle called for the unions to negotiate joint collective bargaining agreements, which would improve labor relations administration and cost efficiency and end jurisdictional conflicts between the unions. Union officials said this principle was impelled by the drastic decline in the merchant fleet resulting primarily from labor cost advantages enjoyed by foreign fleets. The U.S. fleet now consists of 749 vessels, with many of them in need of replacement, compared with 3,000 vessels in 1946.

The unions also agreed to joint training and upgrading programs to increase efficiency and save money; reciprocal operation of benefit funds to enable workers to preserve pension and other service credits when they change jobs, and joint legislative and political efforts to improve the condition of the industry.

The principles apply to 35,000 members of the Seafarers and 3,000 members of the Marine Engineers.

Investment plan offered at Ford

Ford announced a new investment fund for its salaried employees that will increase the money available for financing dealer and consumer purchases of company products. Under the plan, each of the 70,000 employees will be permitted to invest as little as \$50 a month in Ford Motor Credit Co. floating-rate demand notes, which will pay interest one-half of a percentage point above the average yield of money market funds in the United States.

Some outside investment advisers viewed the plan as a move to bring more money into the finance subsidiary, whose commercial paper had recently been downgraded by two major credit rating services. However, Ford said that employees had been asking for such a plan and that it had been in preparation for several months.

The plan will be offered to Ford employees represented by the United Auto Workers, if the union approves.

New programs aid laid-off workers at Rockwell

The United Automobile Workers and Rockwell International Corp. announced two new programs to provide jobs for laid-off auto workers. One program gives 2,000

laid-off workers from Rockwell's automotive division preferential hiring rights at the company's aerospace plant in Columbus, Ohio. Rockwell expects to hire about 4,000 workers for the plant to build long-range combat aircraft.

UAW Secretary-Treasurer Raymond Majerus said that the program indicated Rockwell's awareness that "UAW members on layoff from its automotive plants are a very valuable resource for the company to draw upon." UAW President Douglas Fraser also applauded the hiring arrangement and said that he hoped such plans could be instituted at other aerospace firms. The UAW represents workers at Rockwell's aerospace operations, as well as at the automotive parts operations.

The other program will use a \$300,000 grant from the Department of Labor to retrain workers laid off from the automobile industry for jobs at Rockwell's plants that will build the long-range aircraft.

The union indicated that the method for selecting the 400 participants in the pilot program—200 from Southwest Michigan and 200 from Ohio—would be worked out with the Department of Labor. This program is intended to provide jobs for laid-off workers, some of whom have been unemployed for many months and have exhausted all of their benefits.

Sugar workers' pay increase delayed 6 months

In Hawaii, sugar and pineapple growers sought contract concessions in separate negotiations with the International Longshoremen's and Warehousemen's union, but only the sugar growers gained cost relief.

The sugar settlement called for the deferral to July 1, 1982, of half of the 10-percent wage increase scheduled for February 1, 1982.

A union official said that the 6-month delay of half the increase would save the growers \$365 per employee. Lost money would be restored to the workers if the wholesale price of sugar (19 cents a pound at the time of settlement) rises to 28 cents a pound and holds there for 30 days. Prior to the settlement, the workers earned between \$6.69 and \$8.62 an hour. During 1981, the sugar growers lost \$83.5 million. There also was a \$5 rise in the monthly rent paid by workers who live in 1,600 company-owned homes. Existing rents (for example, \$35 a month for a two-bedroom unit) had not been increased since 1946.

The union agreed to establish a committee to foster increased productivity and to correct sick leave abuses. Another employer demand, for modification or elimination of incentive pay plans, led to adoption of a provision permitting local units of workers to bargain on the issue, with the international union to be given 30 days notice of any changes.

Despite the pineapple growers' contention that they

were unable to compete effectively because the Hawaiian workers' minimum pay of \$1,036 a month was far higher than for competitors in other countries, the 4,500 workers represented by the union won a 3-percent wage increase effective February 1, 1982, and a 2-percent increase 6 months later. Other terms of the 1-year contract included \$900 annual dental insurance coverage (formerly \$600) and a change permitting nonregular workers to use paid vacation time if they are not offered work because of adverse weather.

Steel workers accept stock for benefits

Wheeling-Pittsburgh Steel Corp. agreed to exchange shares of preferred stock for cost-cutting concessions by 11,000 workers represented by the Steelworkers union. Paul Rusen, director of Steelworkers' District 23, said the union was willing to cooperate because Wheeling-Pittsburgh was making a determined effort to invest in steel and keep its plants operating. Wheeling-Pittsburgh, the Nation's eighth largest producer, reportedly has a long-term debt of \$359 million, more than 30 percent of its assets.

Under the accord, scheduled to expire in November 1983, the employees agreed to defer a 15- to 47-cent wage increase scheduled to become effective in August 1982, give up a week of vacation in 1982 and in 1983, and give up 13 paid holidays from April 1982 to February 1984. In return, they will be credited with preferred stock of equal value that will pay dividends of 5 percent. The stock will become available to the employee when he or she leaves the company. Wheeling-Pittsburgh also agreed to establish a training program to prepare union members for greater participation in company operations.

A&P workers reject concessions

The Food and Commercial Workers union rejected wage and work-rule concessions A&P had proposed to help avoid further store closings. The company and union had started national negotiations on concessions in the wake of 400 store closings since last fall that had idled 15,000 members of the union. The rejected company proposal called for a 2-year wage freeze and suspension of certain scheduling restrictions, or a 10-percent pay cut so that labor costs will be "competitive with the industry average."

The union's chief bargainer said the proposal was rejected because it was "extreme" and did not offer employees "even the slightest shred of a guarantee against further reductions in staff or further store closings." A&P said that it would continue to pursue concessions in local negotiations because "we can do it better there."

General Tire to close Ohio plant

More than 1,000 employees will lose their jobs as a result of General Tire and Rubber Co.'s announced closing of its Akron, Ohio, plant. M.G. O'Neil, chairman and president of the company, said the decision was forced by excess capacity in the tire industry, noting that 14 tire and rubber plants had closed since 1979.

United Rubber Workers President Milan Stone called the move particularly sad in view of the local's effort to save the plant. In 1979, members of Local 9 agreed to a 36-cent-an-hour wage cut and a number of changes in work rules to help General Tire accumulate funds to build a replacement for the 67 year-old facility. (See *Monthly Labor Review*, August 1979, pp. 60-61.)

The savings from the pay cut will be distributed to the workers if the parties are unable to work out a way to keep the plant open before termination of the 6-month notice period required by the 1979 agreement.

Stanford nurses' pay now highest in Nation

Registered nurses at Stanford University Medical Center in California approved a 2-year contract that, union officials said, made them the highest paid nurses in the Nation. Under the contract, a nurse with 5½ years of service in the highest of four skill categories will earn \$31,283 a year, effective immediately, and \$35,298 beginning March 1, 1983. Nurses in all categories received at least a 10-percent increase immediately and, in 1983, will receive a minimum of 8 percent; the maximum value of the two increases can range up to 31 percent.

Hedy Dumpel, president of the Committee for Recognition of Nursing Achievement, said the union's 1,250 members "may not be ahead in the benefit package but . . . I am sure that our salaries are the highest [in the Nation]."

The nurses' demand for greater recognition of their role in patient treatment was met by establishing a Stanford Committee on Nursing Practice that will give

the nurses a direct voice in setting professional standards. The committee of four hospital representatives and four staff nurses will seek ways to better utilize nurses' skills and to promote a more cooperative approach between doctors and nurses in patient treatment.

Supreme Court rules on seniority systems

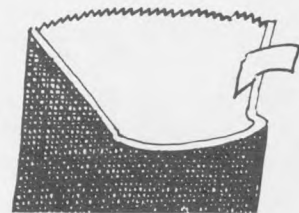
In a case involving American Tobacco Co. operations in Richmond, Va., the Supreme Court held that the immunity from legal challenge granted to bona fide worker seniority systems by the Civil Rights Act of 1964 also applies to systems adopted after passage of the act.

Writing for the five member majority, Justice White said that those who challenge a seniority system must prove that it was established with a deliberate intent to discriminate. Justice White cited Section 703 (h) of the act, which provides that "it shall not be an unlawful employment practice . . . to apply different terms, conditions, or privileges of employment pursuant to a bona fide seniority or merit system . . . provided that such differences are not the result of an intention to discriminate. . . ."

In one of the dissenting opinions, Justice Stevens backed the Fourth Circuit Court of Appeals finding that the lines of progression violated title VII of the act "because they had a disparate impact on protected employees that was not justified by any legitimate business purpose."

The case was remanded to the Fourth Circuit for reconsideration. It originated after American Tobacco Co., in 1968, combined the separate progression systems for black and white workers. John Patterson and two other black employees then filed charges with the Equal Employment Opportunity Commission alleging that American Tobacco Co. and the Tobacco Workers union had engaged in racial discrimination against them in some progression lines within the new system. Robinson's position was backed by the Federal District Court and, on appeal, by the Fourth Circuit, leading to American Tobacco's appeal to the Supreme Court.

Book Reviews



Reshaping adult education

Worklife Transitions: The Adult Learning Connection.

By Paul Barton and the National Institute for Work and Learning. New York, McGraw-Hill Book Co., 1982. 196 pp. \$14.95.

This book was commissioned by the National Institute for Work and Learning and is the product of an advisory committee (consisting of 29 members from business, organized labor, education, and professional associations) led by Paul Barton, vice president of the National Institute (formerly the National Manpower Institute), who pulled it all together.

Although many persons were involved in discussions and preparation of papers, the result is not the stereotypical camel produced by committee action but it does not flow as smoothly as does a good book written by one author. Nevertheless, it is replete with many provocative as well as sensible suggestions that should be studied by public policymakers, employers, unionists, educators, and others.

The book begins with an excellent foreword by Willard Wirtz, who puts everything into clear perspective. He notes that adult education serves occupational, avocational, and cultural interests through a very large and diverse system composed of private and public institutions and programs. While much is known about adult education, only dimly perceived are the shape and character of the principles that will be required in the coming years to help manage an almost complete transformation of our economic system. The important question explored throughout this volume is what is the proper role for broadly conceived adult education in a situation where the U.S. economy is undergoing an extraordinary and often painful transition from goods producing to one that is service oriented.

In 11 rather brief chapters, the authors outline the adult educational services that are available and describe the extent of participation and what needs to be done to make the system more effective for individuals and society alike. In somewhat more detail, the topics covered include the extent and characteristics of adult educational opportunity as provided by public schools, junior colleges, technical institutes, collegiate institutions, private business and industry, Federal employment and training programs, cooperative extension,

professional associations, organized labor, community organizations, free universities, correspondence courses, and private instruction; who participates in such programs and why and who does not and why; who provides information concerning educational opportunities and how; what public support is available; what is offered in business, industry, and government to employees; similarly, what is being offered by trade unions, by colleges and universities, tuition aid policies and programs; the problems and prospects of longer worklife and later retirements; and an excellent final chapter which integrates these themes and spells out specific recommendations. The mere listing of these topics indicates the broad design of the book.

Several themes are emphasized and reemphasized. For one, although much is known about our educational and training system, there is no available statistical information that is collected regularly and consistently. The U.S. Department of Labor has conducted experimental and feasibility studies but to date there is no adequate informational clearinghouse. The book points out that between 38 million and 84 million people are engaged in organized learning—hardly definitive data. For another, the present system appeals more to those who have had some successful experiences in schools than those with little or minimal formal education. More white-collar than blue-collar jobholders use the adult educational system which means that better specific efforts must be made to provide information, counseling, and access for all segments of our population. Also emphasized is the fact that public employment and poverty programs have not facilitated occupational adjustments as much or as well as is required. In all cases, the authors' criticisms are made in a straightforward and reasoned manner.

The last chapter reemphasizes that information about our adult educational system, which might be much more useful to us as transition points in our lifetime, is scattered and incomplete. This, coupled with the fact that we have few qualified mentors or counselors to guide us to the right learning at the right time and from the right sponsor, means that even the present adult educational system is not as productive as it could be. What then needs to be done? Suggestions for improvement include paid educational leaves akin to sabbaticals; adult education entitlements or grants; encourag-

ing more private investments in training; developing a national occupational change adjustment program; offering unemployed workers educational and skill improvement programs; encouraging a sincere commitment to adult education by educators; and establishing Work-Education Councils composed of employers, unions, educators, local governments, and others in every community of the Nation. Truly, an ambitious, but not impossible, agenda.

The authors have essayed a task of considerable magnitude where they attempt to prescribe the adult educational/training model for our complex society/economy of the future. They have presented the important issues relating to education and work not only for entry into work but over a lifetime of work. There is much to think about, written in a clear style, devoid of jargon and polemics.

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Union membership concentration

Trade Unions in the Developed Economies. Edited by E. Owen Smith. New York, St. Martin's Press, 1981. 218 pp., bibliography. \$32.50.

This slim volume discusses trade unions of seven developed countries—Australia, France, Japan, Sweden, West Germany, the United States, and the United Kingdom—and includes sections on union growth, structure, and policies. Several of the authors have had firsthand knowledge of their subject matter, for example, the chapter on Swedish trade unions, was written by T. L. Johnston, the author of an important study on collective bargaining in that country; the chapter on Australian unions was authored by two Melbourne academicians, L. Cupper and J. M. Hearn. An introduction by the editor of this book, E. Owen Smith, summarizes the contributions; Smith also contributed the chapters on the United Kingdom and West Germany.

It is not clear why the seven particular countries were selected for discussion. Each country's per capita income was probably a key factor, but several other European countries (the Netherlands, Belgium, and Austria, for example) exceed that of the United Kingdom. Presumably, the authors preferred to describe trade unions in different political and economic settings and therefore selected certain countries in order to present the reader with a variety of patterns.

There is very little new material presented in the chapter on American trade unions. The discussion on the American labor movement's failure to grow during

the 1970's was well done. It is disappointing, however, that the section on union structure did not include a discussion on "intermediate bodies" within national unions. The 5-page section on trade-union policy began with Robert Hoxie's classification of unions and then explained "business unionism" and the absence of a labor party in the United States. There is little in the chapter regarding the economic impact of American unions, although some discussion was included in the introductory chapter.

If reasonably informed readers fail to learn much from this book regarding trade unions in their own countries, they will, I think, profit from the essays on the other countries. The discussion of the French trade unions' membership figures was particularly edifying because for many years this reviewer had read that there were "problems" in determining these figures. Now, at last, there is a brief explanation of the difficulties. Similarly, the chapter on Japan includes a balanced account of the strengths and weaknesses of the seniority-linked remuneration system and the lifetime employment practices.

The introductory chapter reminded us that "trade unions are very important" and that policy prescriptions involving them should be based on accurate information. Although the contributors to this volume have succeeded in supplying accurate information, this reviewer is disappointed that some effort was not made to interpret and explain the varying growth structure and policies of trade unions in the developed countries.

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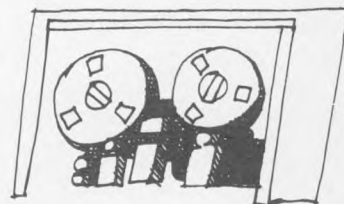
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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted labor force data in tables 2-7 were revised in the March 1982 issue of the *Review* to reflect experience through 1981. The original estimates also were revised to 1970 to reflect 1980 census population controls.

Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, February 1980). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data in tables 11, 14, and 16 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 30 and 31 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are

published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of \$3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is \$2 ($\$3/150 \times 100 = \2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *BLS Handbook of Labor Statistics*, Bulletin 2070, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau. Historically, comparable information from the establishment survey is published in two comprehensive data books—*Employment and Earnings, United States and Employment and Earnings, States and Areas*, and their annual supplements. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.

n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Series	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	June 4	May	July 2	June	1-11
Producer Price Index	June 11	May	July 16	June	23-27
Consumer Price Index	June 22	May	July 23	June	19-22
Real earnings	June 22	May	July 23	June	12-17
Productivity and costs:					
Nonfarm business and manufacturing			July 29	2nd quarter	28-31
Major collective bargaining settlements			July 29	1st half	35-36

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households, selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are

those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2-7 are seasonally adjusted, based on the seasonal experience through December 1981.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950-81

[Numbers in thousands]

Year	Total non-institutional population	Total labor force		Civilian labor force					Not in labor force	
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number		Percent of labor force
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,272	85,959	61.3	82,771	78,678	3,463	75,215	4,093	4.9	54,315
1971	143,033	87,198	61.0	84,382	79,367	3,394	75,972	5,016	5.9	55,834
1972	146,574	89,484	61.1	87,034	82,153	3,484	78,669	4,882	5.6	57,091
1973	149,423	91,756	61.4	89,429	85,064	3,470	81,594	4,365	4.9	57,667
1974	152,349	94,179	61.8	91,949	86,794	3,515	83,279	5,156	5.6	58,171
1975	155,333	95,955	61.8	93,775	85,846	3,408	82,438	7,929	8.5	59,377
1976	158,294	98,302	62.1	96,158	88,752	3,331	85,421	7,406	7.7	59,991
1977	161,166	101,142	62.8	99,009	92,017	3,283	88,734	6,991	7.1	60,025
1978	164,027	104,368	63.6	102,251	96,048	3,387	92,661	6,202	6.1	59,659
1979	166,951	107,050	64.1	104,962	98,824	3,347	95,477	6,137	5.8	59,900
1980	169,848	109,042	64.2	106,940	99,303	3,364	95,938	7,637	7.1	60,806
1981	172,272	110,812	64.3	108,670	100,397	3,368	97,030	8,273	7.6	61,460

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1981									1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Total noninstitutional population ¹	169,848	172,272	171,770	171,956	172,172	172,385	172,559	172,758	172,966	173,155	173,330	173,495	173,657	173,843	174,020
Total labor force	109,042	110,812	110,906	111,420	110,565	110,827	110,978	110,659	111,170	111,430	111,348	111,038	111,333	111,521	111,824
Civilian noninstitutional population ¹	167,745	170,130	169,641	169,829	170,042	170,246	170,399	170,593	170,809	170,996	171,166	171,335	171,489	171,667	171,844
Civilian labor force	106,940	108,670	108,777	109,293	108,434	108,688	108,818	108,494	109,012	109,272	109,184	108,879	109,165	109,346	109,648
Employed	99,303	100,397	100,878	101,045	100,430	100,864	100,840	100,258	100,343	100,172	99,613	99,581	99,590	99,492	99,340
Agriculture	3,364	3,368	3,470	3,405	3,348	3,342	3,404	3,358	3,378	3,372	3,209	3,411	3,373	3,349	3,309
Nonagricultural industries	95,938	97,030	97,408	97,640	97,082	97,522	97,436	96,900	96,965	96,800	96,404	96,170	96,217	96,144	96,032
Unemployed	7,637	8,273	7,899	8,248	8,004	7,824	7,978	8,236	8,669	9,100	9,571	9,298	9,575	9,854	10,307
Unemployment rate	7.1	7.6	7.3	7.5	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8	9.0	9.4
Not in labor force	60,806	61,460	60,864	60,536	61,608	61,558	61,581	62,099	61,797	61,724	61,982	62,456	62,324	62,321	62,197
Men, 20 years and over															
Civilian noninstitutional population ¹	71,138	72,419	72,142	72,251	72,359	72,472	72,559	72,670	72,795	72,921	73,020	73,120	73,209	73,287	73,392
Civilian labor force	56,455	57,197	57,157	57,479	57,094	57,172	57,250	57,262	57,355	57,459	57,665	57,368	57,448	57,554	57,730
Employed	53,101	53,582	53,820	53,884	53,597	53,874	53,791	53,693	53,504	53,354	53,122	53,047	53,097	53,006	52,988
Agriculture	2,396	2,384	2,419	2,390	2,379	2,383	2,422	2,383	2,413	2,382	2,311	2,390	2,386	2,377	2,382
Nonagricultural industries	50,706	51,199	51,401	51,494	51,218	51,491	51,369	51,310	51,091	50,972	50,811	50,657	50,711	50,629	50,606
Unemployed	3,353	3,615	3,337	3,585	3,497	3,298	3,459	3,569	3,851	4,105	4,543	4,322	4,351	4,548	4,742
Unemployment rate	5.9	6.3	5.8	6.3	6.1	5.8	6.0	6.2	6.7	7.1	7.9	7.5	7.6	7.9	8.2
Not in labor force	14,683	15,222	14,985	14,772	15,265	15,300	15,309	15,408	15,440	15,462	15,355	15,752	15,761	15,733	15,662
Women, 20 years and over															
Civilian noninstitutional population ¹	80,065	81,497	81,193	81,308	81,434	81,561	81,671	81,792	81,920	82,038	82,151	82,260	82,367	82,478	82,591
Civilian labor force	41,106	42,485	42,332	42,608	42,581	42,682	42,666	42,344	42,831	42,987	42,888	42,868	43,031	43,243	43,301
Employed	38,492	39,590	39,536	39,737	39,757	39,810	39,841	39,426	39,814	39,878	39,713	39,764	39,744	39,807	39,715
Agriculture	584	604	609	605	585	590	609	608	596	635	572	649	628	636	601
Nonagricultural industries	37,907	38,986	38,927	39,132	39,172	39,220	39,232	38,818	39,218	39,243	39,141	39,115	39,116	39,172	39,114
Unemployed	2,615	2,895	2,796	2,871	2,824	2,872	2,825	2,918	3,017	3,109	3,175	3,104	3,286	3,435	3,686
Unemployment rate	6.4	6.8	6.6	6.7	6.6	6.7	6.6	6.9	7.0	7.2	7.4	7.2	7.6	7.9	8.3
Not in labor force	38,959	39,012	38,861	38,700	38,853	38,879	39,005	39,448	39,089	39,051	39,263	39,392	39,336	39,235	39,290
Both sexes, 16 to 19 years															
Civilian noninstitutional population ¹	16,543	16,214	16,305	16,270	16,249	16,213	16,169	16,131	16,093	16,037	15,995	15,955	15,913	15,902	15,861
Civilian labor force	9,378	9,988	9,288	9,206	8,759	8,834	8,902	8,888	8,826	8,826	8,631	8,643	8,686	8,549	8,616
Employed	7,710	7,225	7,522	7,424	7,076	7,180	7,208	7,139	7,025	6,940	6,778	6,771	6,748	6,679	6,637
Agriculture	385	380	442	410	384	369	373	367	369	355	326	373	359	336	326
Nonagricultural industries	7,325	6,845	7,080	7,014	6,692	6,811	6,835	6,772	6,656	6,585	6,452	6,398	6,389	6,343	6,311
Unemployed	1,669	1,763	1,766	1,782	1,683	1,654	1,694	1,749	1,801	1,886	1,853	1,872	1,938	1,870	1,979
Unemployment rate	17.8	19.6	19.0	19.4	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3	21.9	23.0
Not in labor force	7,165	7,226	7,017	7,064	7,490	7,379	7,267	7,243	7,267	7,211	7,364	7,312	7,227	7,353	7,245
White															
Civilian noninstitutional population ¹	146,122	147,908	147,539	147,670	147,804	147,976	148,144	148,370	148,562	148,631	148,755	148,842	148,855	149,132	149,249
Civilian labor force	93,600	95,052	95,199	95,666	94,887	95,126	95,163	94,884	95,365	95,535	95,329	95,120	95,333	95,508	96,015
Employed	87,715	88,709	89,080	89,237	88,799	89,170	89,221	88,628	88,734	88,498	88,010	87,955	87,990	87,956	87,988
Unemployed	5,884	6,343	6,119	6,429	6,088	5,956	5,942	6,256	6,631	7,037	7,319	7,165	7,344	7,552	8,026
Unemployment rate	6.3	6.7	6.4	6.7	6.4	6.3	6.2	6.6	7.0	7.4	7.7	7.5	7.7	7.9	8.4
Not in labor force	52,522	52,856	52,340	52,004	52,917	52,850	52,981	53,486	53,197	53,096	53,426	53,722	53,522	53,624	53,234
Black															
Civilian noninstitutional population ¹	17,824	18,219	18,137	18,170	18,206	18,239	18,266	18,297	18,333	18,362	18,392	18,423	18,450	18,480	18,511
Civilian labor force	10,865	11,086	11,126	11,126	11,033	10,971	11,069	11,134	11,188	11,207	11,226	11,188	11,205	11,217	11,170
Employed	9,313	9,355	9,488	9,460	9,310	9,338	9,267	9,319	9,313	9,321	9,279	9,314	9,265	9,197	9,111
Unemployed	1,553	1,731	1,638	1,666	1,723	1,633	1,802	1,815	1,875	1,886	1,947	1,874	1,939	2,020	2,058
Unemployment rate	14.3	15.6	14.7	15.0	15.6	14.9	16.3	16.3	16.8	16.8	17.3	16.8	17.3	18.0	18.4
Not in labor force	6,959	7,133	7,011	7,044	7,173	7,268	7,197	7,163	7,145	7,155	7,166	7,235	7,245	7,263	7,341

¹As in table 1, population figures are not seasonally adjusted.

3. Selected employment indicators, seasonally adjusted

[Numbers in thousands]

Selected categories	Annual average		1981										1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	
CHARACTERISTIC																
Total employed, 16 years and over	99,303	100,397	100,878	101,045	100,430	100,864	100,840	100,258	100,343	100,172	99,613	99,581	99,590	99,492	99,340	
Men	57,186	57,397	57,792	57,793	57,279	57,640	57,551	57,471	57,266	57,051	56,725	56,629	56,658	56,472	56,401	
Women	42,117	43,000	43,086	43,252	43,151	43,224	43,289	42,787	43,077	43,121	42,888	42,952	42,932	43,020	42,940	
Married men, spouse present	39,004	38,882	39,186	39,120	38,930	38,961	38,961	38,855	38,746	38,553	38,342	38,234	38,255	38,181	38,142	
Married women, spouse present	23,532	23,915	23,979	24,192	24,106	24,159	24,043	23,626	23,874	23,820	23,691	23,744	23,727	23,900	23,831	
OCCUPATION																
White-collar workers	51,882	52,949	52,855	53,016	52,957	52,907	53,141	52,908	53,199	53,086	53,084	52,836	52,841	52,763	53,177	
Professional and technical	15,968	16,420	16,178	16,093	16,410	16,364	16,621	16,598	16,681	16,657	16,774	16,803	16,612	16,659	16,844	
Managers and administrators, except farm	11,138	11,540	11,616	11,488	11,411	11,578	11,460	11,533	11,616	11,461	11,424	11,091	11,253	11,311	11,501	
Salesworkers	6,303	6,425	6,290	6,562	6,513	6,373	6,490	6,441	6,400	6,418	6,450	6,520	6,544	6,637	6,603	
Clerical workers	18,473	18,564	18,771	18,873	18,623	18,592	18,570	18,336	18,502	18,550	18,436	18,423	18,432	18,155	18,229	
Blue-collar workers	31,452	31,261	31,685	31,796	31,538	31,580	31,611	31,266	30,953	30,683	30,344	30,203	30,309	30,416	29,924	
Craft and kindred workers	12,787	12,662	12,825	12,911	12,749	12,787	12,724	12,514	12,446	12,411	12,446	12,370	12,454	12,511	12,492	
Operatives, except transport	10,565	10,540	10,691	10,716	10,703	10,719	10,658	10,524	10,410	10,220	10,169	9,966	9,955	9,860	9,688	
Transport equipment operatives	3,531	3,476	3,483	3,466	3,493	3,526	3,530	3,506	3,580	3,438	3,368	3,415	3,503	3,397	3,400	
Nonfarm laborers	4,567	4,583	4,686	4,703	4,593	4,548	4,699	4,722	4,517	4,614	4,361	4,451	4,397	4,648	4,343	
Service workers	13,228	13,438	13,468	13,470	13,214	13,526	13,282	13,391	13,525	13,670	13,639	13,709	13,612	13,526	13,555	
Farmworkers	2,741	2,749	2,826	2,748	2,710	2,727	2,753	2,743	2,770	2,802	2,660	2,817	2,787	2,710	2,623	
MAJOR INDUSTRY AND CLASS OF WORKER																
Agriculture:																
Wage and salary workers	1,425	1,464	1,560	1,499	1,437	1,495	1,501	1,461	1,502	1,436	1,352	1,377	1,426	1,416	1,423	
Self-employed workers	1,642	1,638	1,661	1,654	1,664	1,593	1,638	1,643	1,631	1,641	1,602	1,674	1,596	1,644	1,664	
Unpaid family workers	297	266	286	235	263	244	256	256	261	321	228	380	359	277	270	
Nonagricultural industries:																
Wage and salary workers	88,525	89,543	89,913	90,402	89,508	89,971	89,995	89,376	89,460	89,238	88,991	88,759	88,586	88,526	88,322	
Government	15,912	15,689	15,885	15,776	15,707	15,637	15,526	15,475	15,491	15,397	15,585	15,578	15,527	15,492	15,453	
Private industries	72,612	73,853	74,028	74,626	73,801	74,334	74,469	73,901	73,969	73,841	73,406	73,181	73,059	73,034	72,869	
Private households	1,192	1,208	1,249	1,192	1,177	1,216	1,259	1,102	1,162	1,204	1,291	1,248	1,161	1,225	1,192	
Other industries	71,420	72,645	72,779	73,434	72,624	73,118	73,210	72,799	72,807	72,637	72,115	71,932	71,898	71,809	71,677	
Self-employed workers	7,000	7,097	7,150	6,966	7,128	7,071	7,103	7,217	7,152	7,141	7,057	6,971	7,055	7,126	7,264	
Unpaid family workers	413	390	325	356	376	389	387	399	451	425	410	410	408	434	413	
PERSONS AT WORK¹																
Nonagricultural industries	90,209	91,377	91,094	91,745	91,500	92,532	91,569	90,878	91,384	91,323	90,922	90,125	90,892	90,548	90,596	
Full-time schedules	73,590	74,339	74,259	74,871	74,693	75,620	74,467	73,794	73,886	73,915	73,360	72,803	73,028	72,649	72,335	
Part time for economic reasons	4,064	4,499	4,200	4,264	4,033	4,374	4,350	4,656	5,009	5,026	5,288	5,071	5,563	5,717	5,834	
Usually work full time	1,714	1,738	1,593	1,657	1,465	1,680	1,729	1,759	2,006	1,945	2,121	1,783	2,193	2,237	2,223	
Usually work part time	2,350	2,761	2,607	2,607	2,568	2,694	2,621	2,897	3,003	3,081	3,167	3,287	3,370	3,480	3,611	
Part time for noneconomic reasons	12,555	12,539	12,635	12,610	12,774	12,538	12,752	12,428	12,489	12,382	12,274	12,251	12,300	12,183	12,427	

¹Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1981									1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Total, 16 years and over	7.1	7.6	7.3	7.5	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8	9.0	9.4
Men, 20 years and over	5.9	6.3	5.8	6.3	6.1	5.8	6.0	6.2	6.7	7.1	7.9	7.5	7.6	7.9	8.2
Women, 20 years and over	6.4	6.8	6.6	6.7	6.6	6.7	6.6	6.9	7.0	7.2	7.4	7.2	7.6	7.9	8.3
Both sexes, 16 to 19 years	17.8	19.6	19.0	19.4	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3	21.9	23.0
White, total	6.3	6.7	6.4	6.7	6.4	6.3	6.2	6.6	7.0	7.4	7.7	7.5	7.7	7.9	8.4
Men, 20 years and over	5.3	5.6	5.2	5.6	5.3	5.0	5.2	5.5	5.9	6.4	6.9	6.6	6.7	7.0	7.3
Women, 20 years and over	5.6	5.9	5.7	5.9	5.7	5.8	5.5	5.9	6.1	6.3	6.4	6.3	6.6	6.9	7.2
Both sexes, 16 to 19 years	15.5	17.3	17.0	17.5	16.8	16.4	16.1	17.2	17.7	19.0	19.0	19.6	20.0	19.0	20.8
Black, total	14.3	15.6	14.7	15.0	15.6	14.9	16.3	16.3	16.8	16.8	17.3	16.8	17.3	18.0	18.4
Men, 20 years and over	12.4	13.5	12.1	13.0	13.7	12.7	13.6	14.5	14.7	15.5	16.5	16.3	16.0	16.0	16.9
Women, 20 years and over	11.9	13.4	12.9	13.1	13.3	13.1	13.8	14.0	13.9	13.6	14.1	13.3	14.5	15.4	15.6
Both sexes, 16 to 19 years	38.5	41.4	40.2	36.9	40.9	40.0	49.0	40.8	45.6	44.1	42.2	41.2	42.3	46.0	48.1
Married men, spouse present	4.2	4.3	3.8	4.0	4.2	3.9	4.0	4.4	4.8	5.2	5.7	5.3	5.3	5.5	6.0
Married women, spouse present	5.8	6.0	5.9	5.8	5.7	5.7	5.5	6.0	6.1	6.5	6.6	6.2	7.0	7.1	7.8
Women who maintain families	9.2	10.4	9.9	10.4	10.7	11.2	10.1	10.7	10.6	10.8	10.5	10.4	10.2	10.6	11.5
Full-time workers	6.9	7.3	6.9	7.1	7.1	6.8	6.9	7.3	7.7	8.1	8.7	8.4	8.5	8.9	9.2
Part-time workers	8.8	9.4	9.2	9.6	9.2	9.3	9.6	9.6	9.5	10.2	9.2	9.6	10.8	10.0	10.9
Unemployed 15 weeks and over	1.7	2.1	2.0	2.0	2.2	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.5	2.7	2.7
Labor force time lost ¹	7.9	8.5	8.2	8.6	7.9	7.9	7.9	8.5	9.1	9.5	10.1	10.0	9.8	10.4	10.4
OCCUPATION															
White-collar workers	3.7	4.0	4.0	4.0	3.9	4.0	3.9	4.1	4.1	4.2	4.5	4.2	4.6	4.8	4.9
Professional and technical	2.5	2.8	3.1	2.8	2.8	2.8	2.5	2.8	2.6	2.7	3.4	2.9	3.1	3.2	3.2
Managers and administrators, except farm	2.4	2.7	2.4	2.6	2.7	2.6	2.7	2.8	2.8	3.0	3.1	2.7	3.1	3.0	3.3
Salesworkers	4.4	4.6	4.2	4.6	4.3	4.9	4.7	5.0	4.9	5.0	4.9	4.5	4.8	5.8	5.6
Clerical workers	5.3	5.7	5.6	5.6	5.4	5.7	5.7	5.8	6.0	6.0	6.2	6.3	6.7	6.9	7.2
Blue-collar workers	10.0	10.3	9.7	9.9	9.8	9.5	9.5	10.2	10.9	11.8	12.7	12.5	12.5	12.9	13.7
Craft and kindred workers	6.6	7.5	6.8	7.2	7.1	6.9	7.0	7.7	8.3	8.5	9.3	9.0	8.4	9.1	9.6
Operatives, except transport	12.2	12.2	11.6	11.8	11.1	11.1	11.1	11.6	12.8	14.1	15.5	15.4	15.4	15.9	16.9
Transport equipment operatives	8.8	8.7	8.1	8.2	8.1	7.3	8.0	8.7	8.0	10.4	10.5	10.2	10.3	10.4	10.7
Nonfarm laborers	14.6	14.7	14.0	13.5	14.7	14.4	13.2	14.6	15.6	16.0	16.9	16.9	17.9	17.9	19.2
Service workers	7.9	8.9	8.5	9.4	8.9	8.0	8.9	9.0	9.3	9.7	9.6	9.2	9.8	10.2	11.1
Farmworkers	4.6	5.3	3.9	5.2	6.2	4.8	5.4	4.0	6.2	6.2	6.4	6.9	4.9	5.4	5.8
INDUSTRY															
Nonagricultural private wage and salary workers ²	7.4	7.7	7.3	7.7	7.4	7.2	7.3	7.7	8.1	8.4	9.1	8.8	9.0	9.5	9.9
Construction	14.1	15.6	14.5	15.7	16.1	15.2	16.2	16.3	17.6	17.8	18.1	18.7	18.1	17.9	19.4
Manufacturing	8.5	8.3	7.6	7.8	7.4	7.3	7.0	7.9	8.6	9.4	11.0	10.4	10.6	10.8	11.3
Durable goods	8.9	8.2	7.5	7.4	7.1	7.1	6.5	7.7	8.6	9.5	11.8	11.0	11.3	10.8	11.9
Nondurable goods	7.9	8.4	7.8	8.6	7.9	7.6	7.9	8.3	8.6	9.3	9.6	9.5	9.5	10.8	10.5
Transportation and public utilities	4.9	5.2	5.5	5.7	4.9	4.1	4.8	4.2	4.8	5.5	6.0	6.4	5.9	5.6	7.0
Wholesale and retail trade	7.4	8.1	7.5	8.3	7.7	7.9	7.9	8.5	8.4	8.6	8.9	8.7	9.0	10.3	10.1
Finance and service industries	5.3	5.9	5.8	5.8	5.8	5.7	5.7	6.0	6.2	6.1	6.4	5.9	6.5	6.9	7.0
Government workers	4.1	4.7	4.7	4.7	4.6	4.6	4.5	4.7	4.7	5.2	5.0	4.8	5.2	4.9	5.3
Agricultural wage and salary workers	11.0	12.1	9.4	11.0	13.3	10.7	12.0	11.0	13.4	14.1	14.8	16.2	12.8	14.0	14.6

¹ Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

² Includes mining, not shown separately.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1981									1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total, 16 years and over	7.1	7.6	7.3	7.5	7.4	7.2	7.3	7.6	8.0	8.3	8.8	8.5	8.8	9.0	9.4
16 to 19 years	17.8	19.6	19.0	19.4	19.2	18.7	19.0	19.7	20.4	21.4	21.5	21.7	22.3	21.9	23.0
16 to 17 years	20.0	21.4	21.6	21.3	22.6	19.8	20.8	21.4	21.5	22.6	21.9	22.7	22.7	22.7	24.6
18 to 19 years	16.2	18.4	17.2	17.7	17.5	17.8	17.6	18.5	20.0	20.5	21.2	21.3	22.0	21.3	21.9
20 to 24 years	11.5	12.3	12.0	12.6	12.1	11.5	12.1	12.3	12.7	13.0	13.5	13.5	14.1	14.2	14.7
25 years and over	5.1	5.4	5.1	5.2	5.3	5.2	5.2	5.4	5.7	6.0	6.5	6.3	6.4	6.8	7.0
25 to 54 years	5.5	5.8	5.4	5.6	5.6	5.5	5.5	5.8	6.2	6.5	6.9	6.7	6.8	7.3	7.4
55 years and over	3.3	3.6	3.4	3.4	3.5	3.5	3.5	3.8	3.8	3.8	4.1	4.2	4.3	4.6	5.0
Men, 16 years and over	6.9	7.4	6.9	7.3	7.2	6.7	7.1	7.3	7.7	8.3	9.0	8.6	8.7	9.0	9.4
16 to 19 years	18.3	20.1	19.5	20.0	20.0	18.8	19.8	19.9	20.1	21.8	22.3	22.1	22.5	23.5	24.4
16 to 17 years	20.4	22.0	22.5	22.3	24.0	19.9	21.5	21.5	21.1	22.7	22.6	23.0	23.0	24.3	24.7
18 to 19 years	16.7	18.8	17.4	18.0	18.2	17.9	18.3	18.7	19.3	21.0	22.2	21.4	22.1	22.9	24.3
20 to 24 years	12.5	13.2	13.0	13.8	12.9	11.6	12.9	13.1	13.8	14.4	14.8	14.9	15.4	15.7	16.0
25 years and over	4.8	5.1	4.6	4.7	5.0	4.7	4.9	5.0	5.5	5.8	6.5	6.3	6.3	6.6	6.9
25 to 54 years	5.1	5.5	4.9	5.1	5.2	5.0	5.2	5.5	5.9	6.3	6.9	6.7	6.7	7.1	7.2
55 years and over	3.3	3.5	3.2	3.4	3.4	3.4	3.4	3.5	3.7	3.7	4.4	4.3	4.2	4.8	5.1
Women, 16 years and over	7.4	7.9	7.7	7.8	7.7	7.8	7.7	8.0	8.2	8.4	8.5	8.4	8.9	9.0	9.4
16 to 19 years	17.2	19.0	18.4	18.7	18.4	18.6	18.2	19.5	20.7	20.9	20.5	21.2	22.1	20.1	21.3
16 to 17 years	19.6	20.7	20.5	20.2	21.1	19.7	20.0	21.2	21.9	22.5	21.1	20.6	22.5	20.8	24.5
18 to 19 years	15.6	17.9	17.1	17.4	16.8	17.7	16.9	18.3	20.6	19.9	20.0	21.1	21.9	19.6	19.4
20 to 24 years	10.4	11.2	10.9	11.2	11.2	11.3	11.1	11.4	11.5	11.3	12.0	11.9	12.7	12.6	13.3
25 years and over	5.5	5.9	5.7	5.8	5.7	5.8	5.6	6.0	6.1	6.4	6.4	6.3	6.5	7.0	7.2
25 to 54 years	6.0	6.3	6.1	6.4	6.1	6.1	6.0	6.3	6.5	6.8	6.9	6.7	7.0	7.6	7.7
55 years and over	3.2	3.8	3.7	3.4	3.5	3.7	3.7	4.3	4.0	3.8	3.7	4.1	4.3	4.3	4.8

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1981									1982			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
NUMBER OF UNEMPLOYED													
Lost last job	3,958	4,032	4,173	3,867	4,106	4,426	4,573	4,905	5,343	5,205	5,153	5,622	5,906
On layoff	1,303	1,357	1,302	1,225	1,276	1,452	1,631	1,826	2,042	1,860	1,740	1,828	1,946
Other job losers	2,655	2,675	2,871	2,642	2,830	2,974	2,942	3,079	3,301	3,345	3,413	3,794	3,959
Left last job	903	1,004	896	926	879	921	976	916	923	835	964	885	937
Reentered labor force	2,044	2,106	2,039	2,078	2,034	2,058	2,178	2,339	2,244	2,079	2,277	2,249	2,365
Seeking first job	988	956	973	940	971	977	1,002	996	1,021	1,055	1,100	1,044	1,081
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	50.1	49.8	51.6	49.5	51.4	52.8	52.4	53.6	56.1	56.7	54.3	57.4	57.4
On layoff	16.5	16.8	16.1	15.7	16.0	17.3	18.7	19.9	21.4	20.3	18.3	18.7	18.9
Other job losers	33.6	33.0	35.5	33.8	35.4	35.5	33.7	33.6	34.6	36.5	35.9	38.7	38.5
Job leavers	11.4	12.4	11.1	11.9	11.0	11.2	10.0	9.7	9.1	10.2	9.0	9.1	9.1
Reentrants	25.9	26.0	25.2	26.6	25.5	24.6	25.0	25.5	23.5	22.7	24.0	22.9	23.0
New entrants	12.5	11.8	12.0	12.0	12.2	11.7	11.5	10.9	10.7	11.5	11.6	10.7	10.5
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	3.7	3.7	3.8	3.6	3.8	4.1	4.2	4.5	4.9	4.8	4.7	5.1	5.4
Job leavers	.8	.9	.8	.9	.8	.8	.9	.8	.8	.8	.9	.8	.9
Reentrants	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.1	1.9	2.1	2.1	2.2
New entrants	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0	1.0	1.0	1.0

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1981									1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Less than 5 weeks	3,295	3,449	3,189	3,378	3,303	3,323	3,326	3,529	3,707	3,852	4,037	3,852	3,789	3,825	3,958
5 to 14 weeks	2,470	2,539	2,472	2,606	2,423	2,312	2,469	2,585	2,686	2,882	3,016	3,068	3,052	3,078	3,304
15 weeks and over	1,871	2,285	2,187	2,231	2,363	2,170	2,217	2,248	2,292	2,364	2,372	2,399	2,724	2,954	3,015
15 to 26 weeks	1,052	1,122	1,048	1,061	1,227	1,096	1,078	1,146	1,166	1,229	1,189	1,210	1,445	1,605	1,508
27 weeks and over	820	1,162	1,139	1,170	1,136	1,074	1,139	1,102	1,126	1,135	1,183	1,190	1,278	1,349	1,507
Average (mean) duration, in weeks	11.9	13.7	13.7	13.3	14.3	14.1	14.3	13.7	13.6	13.1	12.8	13.5	14.1	13.9	14.2

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 166,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12-17 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities; in wholesale and retail trade; in finance, insurance, and real estate; and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special

payments. **Real earnings** are earnings adjusted to eliminate the effects of price change, using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of June 1981 data, published in the August 1981 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1981 and seasonally adjusted data from January 1974 through March 1981) and in *Employment and Earnings, United States, 1909-78*, BLS Bulletin 1312-11 (for prior periods).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9-20. See also *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

8. Employment by industry, selected years, 1950-81

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1960 ¹	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,823	958	4,463	21,040	5,136	20,192	5,204	14,989	4,975	17,112	15,947	2,773	13,147
1980	90,564	1,020	4,399	20,300	5,143	20,386	5,281	15,104	5,168	17,901	16,249	2,866	13,383
1981	91,543	1,104	4,307	20,261	5,151	20,738	5,343	15,395	5,331	18,598	16,054	2,772	13,282

¹Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Mar. 1981	Feb. 1982	Mar. 1982 ^P	State	Mar. 1981	Feb. 1982	Mar. 1982 ^P
Alabama	1,350.5	1,338.4	1,332.8	Montana	276.3	288.9	288.5
Alaska	165.5	171.6	175.7	Nebraska	615.3	610.1	611.5
Arizona	1,044.9	1,049.4	1,050.2	Nevada	404.2	412.3	413.8
Arkansas	738.7	717.8	722.0	New Hampshire	382.6	386.3	386.8
California	9,952.0	10,004.4	10,034.7	New Jersey	3,036.7	3,025.7	3,036.5
Colorado	1,271.5	1,274.8	1,279.1	New Mexico	470.6	471.2	472.7
Connecticut	1,422.9	1,409.6	1,413.9	New York	7,197.7	7,202.8	7,230.0
Delaware	254.8	248.0	253.6	North Carolina	2,384.7	2,344.3	2,342.9
District of Columbia	612.5	598.9	599.4	North Dakota	240.9	245.2	246.8
Florida	3,739.9	3,816.1	3,830.3	Ohio	4,289.4	4,171.8	4,198.8
Georgia	2,186.3	2,160.7	2,159.9	Oklahoma	1,178.4	1,201.7	1,214.5
Hawaii	407.7	402.2	403.3	Oregon	1,019.8	970.1	970.6
Idaho	324.8	313.4	314.5	Pennsylvania	4,693.4	4,573.7	4,578.8
Illinois	4,711.7	4,614.3	4,625.6	Rhode Island	394.3	387.2	386.9
Indiana	2,110.9	2,021.0	2,025.4	South Carolina	1,193.6	1,176.3	1,179.7
Iowa	1,091.3	1,049.3	1,046.5	South Dakota	232.5	228.3	229.2
Kansas	946.7	933.4	940.6	Tennessee	1,743.5	1,708.7	1,771.8
Kentucky	1,190.9	1,166.2	1,169.0	Texas	6,055.8	6,283.6	6,290.6
Louisiana	1,602.7	1,627.0	1,629.9	Utah	549.8	556.7	559.6
Maine	406.2	399.7	398.9	Vermont	200.3	200.7	200.3
Maryland	1,706.5	1,653.2	1,662.6	Virginia	2,140.0	2,139.1	2,145.2
Massachusetts	2,639.2	2,589.4	2,606.3	Washington	1,602.0	1,538.1	1,548.0
Michigan	3,375.1	3,218.2	3,227.4	West Virginia	630.0	607.7	610.1
Minnesota	1,737.9	1,710.1	1,715.4	Wisconsin	1,884.0	1,859.1	1,857.3
Mississippi	817.2	808.6	809.4	Wyoming	211.2	208.7	211.4
Missouri	1,950.3	1,920.3	1,939.8	Virgin Islands	38.1	36.6	36.6

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10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1981									1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. P	Apr. P
TOTAL	90,564	91,543	91,337	91,848	92,481	91,600	91,598	92,159	92,424	92,293	91,932	89,799	89,945	90,192	90,451
MINING	1,020	1,104	941	957	1,132	1,155	1,169	1,169	1,164	1,170	1,166	1,149	1,145	1,144	1,141
CONSTRUCTION	4,399	4,307	4,246	4,356	4,477	4,554	4,579	4,516	4,493	4,369	4,155	3,721	3,703	3,769	3,869
MANUFACTURING	20,300	20,261	20,253	20,342	20,531	20,337	20,473	20,600	20,368	20,122	19,804	19,462	19,410	19,315	19,182
Production workers	14,223	14,083	14,127	14,195	14,325	14,108	14,230	14,376	14,147	13,904	13,583	13,276	13,243	13,168	13,057
Durable goods	12,181	12,136	12,197	12,235	12,334	12,198	12,188	12,292	12,163	11,999	11,786	11,589	11,536	11,482	11,384
Production workers	8,438	8,316	8,412	8,438	8,500	8,347	8,323	8,440	8,313	8,153	7,941	7,763	7,729	7,686	7,598
Lumber and wood products	690.3	679.3	686.9	703.4	711.0	708.6	701.5	691.0	664.5	638.7	618.8	602.4	610.3	609.8	613.5
Furniture and fixtures	468.8	476.6	478.0	479.0	480.5	472.0	480.6	484.7	483.5	476.5	471.1	463.2	459.7	455.1	451.7
Stone, clay, and glass products	665.6	650.2	652.6	659.7	671.0	666.7	669.1	664.5	652.8	641.2	619.6	589.1	584.5	588.8	593.7
Primary metal industries	1,144.1	1,128.2	1,149.9	1,147.5	1,155.5	1,135.5	1,140.3	1,138.8	1,109.3	1,087.8	1,058.0	1,041.7	1,025.0	1,013.8	998.6
Fabricated metal products	1,609.0	1,583.6	1,593.7	1,596.1	1,606.8	1,584.5	1,590.9	1,607.5	1,584.2	1,563.5	1,532.8	1,502.3	1,494.5	1,483.9	1,466.8
Machinery, except electrical	2,497.0	2,512.6	2,506.1	2,508.6	2,531.3	2,517.4	2,511.4	2,540.7	2,528.4	2,512.3	2,495.4	2,465.0	2,457.7	2,429.1	2,393.6
Electric and electronic equipment	2,103.2	2,133.9	2,129.7	2,134.7	2,152.7	2,138.9	2,146.1	2,164.8	2,158.3	2,131.3	2,104.1	2,099.3	2,088.1	2,074.8	2,071.9
Transportation equipment	1,875.3	1,837.8	1,874.3	1,877.4	1,882.7	1,840.3	1,799.6	1,848.3	1,832.3	1,803.0	1,755.7	1,719.4	1,712.6	1,723.8	1,696.8
Instruments and related products	708.5	718.0	714.4	715.2	723.2	722.1	726.2	723.1	720.0	718.6	718.0	710.8	707.3	706.1	703.9
Miscellaneous manufacturing	419.3	415.3	411.3	413.4	419.5	412.3	421.8	428.7	429.9	426.2	412.2	395.3	396.5	397.2	393.2
Nondurable goods	8,118	8,125	8,056	8,107	8,197	8,139	8,285	8,308	8,205	8,123	8,018	7,873	7,874	7,833	7,798
Production workers	5,786	5,766	5,715	5,757	5,825	5,761	5,907	5,936	5,834	5,751	5,642	5,513	5,514	5,482	5,459
Food and kindred products	1,710.8	1,684.1	1,631.0	1,648.1	1,673.4	1,714.8	1,773.2	1,776.1	1,729.0	1,689.2	1,657.3	1,613.3	1,613.1	1,608.4	1,591.9
Tobacco manufactures	69.2	71.1	66.2	65.2	66.4	66.3	75.6	77.7	77.0	74.9	73.3	72.2	68.8	65.4	63.0
Textile mill products	852.7	839.3	841.6	844.3	851.0	836.5	847.3	850.2	834.3	826.8	816.5	795.5	795.1	777.2	785.1
Apparel and other textile products	1,265.8	1,255.8	1,255.2	1,265.9	1,283.9	1,231.1	1,276.8	1,287.3	1,274.1	1,259.5	1,224.4	1,189.8	1,208.5	1,199.0	1,181.4
Paper and allied products	694.0	692.3	690.9	693.1	701.0	696.4	700.3	702.0	691.4	686.4	681.7	674.9	671.4	671.0	667.1
Printing and publishing	1,258.3	1,288.0	1,280.4	1,281.8	1,286.2	1,286.5	1,289.4	1,294.1	1,299.7	1,305.1	1,312.5	1,300.9	1,304.6	1,306.9	1,305.3
Chemicals and allied products	1,107.4	1,107.3	1,106.2	1,110.3	1,121.1	1,116.6	1,112.0	1,110.5	1,104.4	1,100.2	1,096.3	1,088.0	1,086.5	1,087.4	1,081.9
Petroleum and coal products	196.6	210.8	209.5	212.9	215.4	216.1	215.4	212.7	211.4	210.4	206.8	199.0	197.5	198.4	199.2
Rubber and miscellaneous plastics products	730.7	744.4	743.5	749.2	759.0	747.0	756.8	760.8	748.2	738.6	726.4	720.4	715.8	708.5	709.6
Leather and leather products	232.6	232.3	231.7	235.9	239.1	227.5	238.6	237.0	235.7	232.1	223.1	218.5	212.2	210.5	213.0
TRANSPORTATION AND PUBLIC UTILITIES	5,143	5,151	5,120	5,148	5,195	5,177	5,175	5,222	5,204	5,183	5,153	5,063	5,049	5,047	5,059
WHOLESALE AND RETAIL TRADE	20,386	20,738	20,513	20,672	20,795	20,735	20,811	20,919	20,999	21,148	21,413	20,682	20,538	20,590	20,697
WHOLESALE TRADE	5,281	5,343	5,317	5,335	5,381	5,376	5,386	5,370	5,381	5,379	5,352	5,294	5,284	5,284	5,285
RETAIL TRADE	15,104	15,395	15,196	15,337	15,414	15,359	15,425	15,549	15,618	15,769	16,061	15,388	15,254	15,306	15,412
FINANCE, INSURANCE, AND REAL ESTATE	5,168	5,331	5,295	5,326	5,384	5,408	5,408	5,361	5,349	5,344	5,350	5,329	5,328	5,345	5,350
SERVICES	17,901	18,598	18,512	18,633	18,764	18,847	18,835	18,812	18,826	18,800	18,762	18,506	18,666	18,793	18,990
GOVERNMENT	16,249	16,054	16,457	16,414	16,203	15,387	15,148	15,560	16,021	16,157	16,129	15,887	16,106	16,189	16,163
Federal	2,866	2,772	2,773	2,782	2,825	2,833	2,803	2,735	2,737	2,729	2,729	2,717	2,723	2,721	2,722
State and local	13,383	13,282	13,684	13,632	13,378	12,554	12,345	12,825	13,284	13,428	13,400	13,170	13,383	13,468	13,441

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1981									1982			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. P	Apr. P
TOTAL	91,458	91,564	91,615	91,880	91,901	92,033	91,832	91,522	91,113	90,879	91,019	90,760	90,593
MINING	950	957	1,110	1,132	1,151	1,162	1,162	1,172	1,175	1,166	1,165	1,159	1,151
CONSTRUCTION	4,418	4,334	4,284	4,272	4,275	4,272	4,259	4,229	4,193	4,085	4,165	4,110	4,026
MANUFACTURING	20,332	20,414	20,424	20,535	20,505	20,496	20,241	20,017	19,736	19,550	19,506	19,340	19,258
Production workers	14,187	14,247	14,245	14,327	14,294	14,281	14,030	13,797	13,514	13,342	13,316	13,188	13,113
Durable goods	12,207	12,254	12,278	12,333	12,332	12,311	12,115	11,932	11,714	11,596	11,559	11,458	11,393
Production workers	8,412	8,442	8,455	8,491	8,485	8,465	8,267	8,083	7,868	7,758	7,740	7,661	7,596
Lumber and wood products	702	710	699	702	686	677	652	634	619	615	625	622	627
Furniture and fixtures	478	484	486	488	487	485	480	470	464	458	454	450	452
Stone, clay, and glass products	656	658	658	658	660	655	644	634	622	607	605	600	597
Primary metal industries	1,145	1,142	1,144	1,140	1,148	1,139	1,114	1,090	1,058	1,042	1,027	1,013	995
Fabricated metal products	1,595	1,604	1,604	1,614	1,610	1,606	1,575	1,546	1,516	1,501	1,493	1,479	1,468
Machinery, except electrical	2,491	2,511	2,521	2,533	2,542	2,551	2,549	2,522	2,488	2,455	2,441	2,405	2,379
Electric and electronic equipment	2,134	2,143	2,148	2,163	2,166	2,163	2,150	2,119	2,089	2,093	2,084	2,073	2,076
Transportation equipment	1,878	1,872	1,886	1,886	1,889	1,889	1,811	1,783	1,725	1,706	1,719	1,712	1,700
Instruments and related products	714	716	717	723	727	727	723	719	717	711	708	705	703
Miscellaneous manufacturing	414	414	415	426	417	419	417	415	416	408	403	399	396
Nondurable goods	8,125	8,160	8,146	8,202	8,173	8,185	8,126	8,085	8,022	7,954	7,947	7,882	7,865
Production workers	5,775	5,805	5,790	5,836	5,809	5,816	5,763	5,714	5,646	5,584	5,576	5,527	5,517
Food and kindred products	1,697	1,703	1,673	1,691	1,668	1,669	1,675	1,676	1,669	1,663	1,677	1,665	1,657
Tobacco manufactures	72	71	71	71	73	71	70	70	71	70	71	69	68
Textile mill products	842	843	846	856	849	849	833	823	812	795	793	775	785
Apparel and other textile products	1,250	1,258	1,264	1,278	1,272	1,273	1,259	1,251	1,233	1,210	1,212	1,192	1,177
Paper and allied products	691	694	695	696	698	703	691	686	682	678	673	671	667
Printing and publishing	1,280	1,283	1,284	1,290	1,295	1,301	1,302	1,302	1,302	1,301	1,303	1,304	1,305
Chemicals and allied products	1,107	1,109	1,111	1,110	1,106	1,112	1,108	1,104	1,100	1,093	1,092	1,088	1,083
Petroleum and coal products	211	213	212	212	212	211	210	210	208	203	201	201	201
Rubber and miscellaneous plastics products	744	753	757	760	764	760	744	733	722	718	712	706	710
Leather and leather products	231	233	232	238	236	236	234	230	224	222	214	211	212
TRANSPORTATION AND PUBLIC UTILITIES	5,161	5,148	5,149	5,167	5,170	5,186	5,168	5,147	5,122	5,124	5,105	5,088	5,100
WHOLESALE AND RETAIL TRADE	20,636	20,714	20,717	20,796	20,862	20,872	20,916	20,838	20,735	20,849	20,934	20,892	20,853
WHOLESALE TRADE	5,333	5,346	5,349	5,360	5,375	5,370	5,360	5,363	5,336	5,321	5,321	5,305	5,301
RETAIL TRADE	15,303	15,368	15,368	15,436	15,487	15,502	15,556	15,475	15,399	15,528	15,613	15,587	15,552
FINANCE, INSURANCE, AND REAL ESTATE	5,316	5,326	5,331	5,344	5,354	5,366	5,360	5,355	5,366	5,361	5,366	5,377	5,371
SERVICES	18,475	18,540	18,560	18,642	18,667	18,774	18,788	18,838	18,856	18,845	18,893	18,887	18,952
GOVERNMENT	16,170	16,131	16,040	15,992	15,917	15,905	15,938	15,926	15,930	15,899	15,885	15,907	15,882
Federal	2,767	2,779	2,781	2,777	2,770	2,765	2,759	2,748	2,741	2,742	2,739	2,729	2,717
State and local	13,403	13,352	13,259	13,215	13,147	13,140	13,179	13,178	13,189	13,157	13,146	13,178	13,165

12. Hours and earnings, by industry division, selected years, 1950-81

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1950	\$53.13	39.8	\$1.335	\$67.16	37.9	\$1.772	\$69.68	37.4	\$1.863	\$58.32	40.5	\$1.440
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1960 ¹	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.91	35.7	6.16	365.07	43.0	8.49	342.99	37.0	9.27	269.34	40.2	6.70
1980	235.10	35.3	6.66	396.14	43.2	9.17	367.04	37.0	9.92	288.62	39.7	7.27
1981	255.20	35.2	7.25	438.62	43.6	10.06	395.60	36.8	10.75	317.60	39.8	7.98
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1950				\$44.55	40.5	\$1.100	\$50.52	37.7	\$1.340			
1955				55.16	39.4	1.40	63.92	37.6	1.70			
1960 ¹				66.01	38.6	1.71	75.14	37.2	2.02			
1964	\$118.78	41.1	\$2.89	74.66	37.9	1.97	85.79	37.3	2.30	\$70.03	36.1	\$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.58	39.9	8.16	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36
1980	351.25	39.6	8.87	176.46	32.2	5.48	209.24	36.2	5.78	190.71	32.6	5.85
1981	382.97	39.4	9.72	190.35	32.1	5.93	228.69	36.3	6.30	208.97	32.6	6.41

¹ Data include Alaska and Hawaii beginning in 1959.

13. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1981									1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
TOTAL PRIVATE	35.3	35.2	35.2	35.2	35.4	35.6	35.6	35.0	35.1	35.1	35.2	33.9	34.7	34.7	34.6
MINING	43.2	43.6	43.6	43.8	42.1	43.5	44.1	43.8	44.5	44.3	44.7	42.8	43.5	43.7	43.1
CONSTRUCTION	37.0	36.8	36.9	36.9	37.2	37.7	37.3	35.7	37.5	37.0	37.0	33.2	35.7	36.9	36.2
MANUFACTURING	39.7	39.8	39.7	40.1	40.2	39.6	39.8	39.5	39.7	39.6	39.9	37.1	39.2	39.1	38.7
Overtime hours	2.8	2.8	2.6	2.9	3.0	2.8	3.0	2.9	2.8	2.6	2.6	2.2	2.3	2.3	2.1
Durable goods	40.1	40.2	40.3	40.6	40.6	39.9	40.2	39.8	40.1	40.0	40.4	37.7	39.7	39.6	39.1
Overtime hours	2.8	2.8	2.7	3.0	3.0	2.8	2.9	2.8	2.7	2.5	2.6	2.1	2.2	2.2	2.0
Lumber and wood products	38.6	38.7	39.1	39.6	39.5	38.7	39.0	37.9	38.2	37.6	38.1	33.7	37.6	37.7	37.5
Furniture and fixtures	38.1	38.4	38.2	38.5	38.9	37.8	38.6	37.7	38.6	38.1	38.9	32.3	37.4	37.6	37.1
Stone, clay, and glass products	40.8	40.6	40.9	41.1	41.2	40.8	41.0	40.6	40.5	40.5	40.1	37.4	39.2	39.7	39.8
Primary metal industries	40.1	40.5	41.2	40.9	40.9	40.3	40.3	40.8	39.6	39.7	39.6	38.4	39.6	38.9	38.4
Fabricated metal products	40.4	40.3	40.2	40.7	40.8	39.9	40.3	39.6	40.1	40.0	40.4	37.8	39.4	39.5	38.9
Machinery except electrical	41.0	40.9	40.8	41.2	41.1	40.4	40.7	40.4	40.6	40.9	41.5	39.1	40.7	40.4	39.7
Electric and electronic equipment	39.8	39.9	39.8	40.1	40.2	39.7	40.0	39.7	39.9	39.8	40.3	38.1	39.8	39.6	39.1
Transportation equipment	40.6	40.9	41.0	41.6	41.3	40.7	40.5	39.9	40.9	40.8	41.4	38.4	40.5	40.5	40.6
Instruments and related products	40.5	40.4	39.9	40.3	40.4	39.9	40.4	40.4	40.4	40.8	40.7	38.6	40.0	40.1	39.3
Miscellaneous manufacturing	38.7	38.9	38.6	38.9	39.0	38.5	39.0	38.7	39.3	39.5	39.1	36.7	38.5	38.7	38.3
Nondurable goods	39.0	39.2	38.9	39.4	39.5	39.1	39.4	39.1	39.1	39.1	39.2	36.2	38.6	38.4	38.0
Overtime hours	2.8	2.8	2.6	2.9	2.9	2.8	3.0	3.1	2.9	2.8	2.6	2.4	2.5	2.4	2.3
Food and kindred products	39.7	39.7	39.3	39.8	39.8	39.6	40.0	39.8	39.6	39.9	40.4	38.8	39.7	39.2	38.9
Tobacco manufactures	38.1	38.8	37.2	38.6	38.5	38.6	40.7	40.2	39.4	38.8	38.1	36.1	38.3	37.0	36.7
Textile mill products	40.1	39.7	39.4	40.3	40.4	39.7	40.0	38.9	39.4	39.2	38.6	31.2	38.1	37.7	37.0
Apparel and other textile products	35.4	35.7	35.2	36.0	36.4	36.0	36.3	35.2	35.8	35.8	35.5	30.0	35.2	35.1	34.5
Paper and allied products	42.3	42.5	42.3	42.5	42.7	42.4	42.5	43.2	42.4	42.3	42.7	41.3	42.0	41.7	41.9
Printing and publishing	37.1	37.3	37.0	37.3	37.2	37.2	37.5	37.4	37.2	37.3	37.9	36.2	37.0	37.1	36.5
Chemicals and allied products	41.5	41.6	41.6	41.6	41.6	41.5	41.4	42.2	41.5	41.7	41.8	40.8	41.1	40.8	40.5
Petroleum and coal products	41.8	43.2	43.9	43.6	43.5	43.7	43.0	44.4	43.1	43.0	42.6	43.1	42.2	42.4	42.6
Rubber and miscellaneous plastics products	40.1	40.4	40.4	40.9	40.9	40.0	40.4	39.8	40.2	39.9	40.1	37.9	39.9	39.7	39.4
Leather and leather products	36.7	36.8	36.3	37.4	38.1	36.6	36.9	36.0	36.7	36.6	36.4	33.3	35.3	35.5	35.2
TRANSPORTATION AND PUBLIC UTILITIES	39.6	39.4	39.3	39.3	39.8	39.8	39.5	39.2	39.1	39.3	39.3	38.4	39.2	38.9	39.0
WHOLESALE AND RETAIL TRADE	32.2	32.1	32.1	32.0	32.3	32.8	32.8	32.2	31.9	31.9	32.2	31.1	31.5	31.5	31.5
WHOLESALE TRADE	38.5	38.6	38.5	38.5	38.6	38.8	38.7	38.5	38.7	38.6	38.7	37.8	38.2	38.2	38.1
RETAIL TRADE	30.2	30.1	30.0	29.9	30.4	30.9	30.9	30.2	29.8	29.8	30.3	29.0	29.4	29.4	29.5
FINANCE, INSURANCE, AND REAL ESTATE	36.2	36.3	36.3	36.1	36.1	36.3	36.3	36.0	36.2	36.2	36.2	36.2	36.2	36.2	36.1
SERVICES	32.6	32.6	32.6	32.5	32.7	33.0	32.9	32.4	32.5	32.5	32.6	32.3	32.5	32.5	32.5

14. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1981									1982			
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. P	Apr. P
TOTAL PRIVATE	35.4	35.3	35.2	35.3	35.2	34.9	35.0	35.0	34.9	34.2	35.0	34.9	34.8
MANUFACTURING	40.2	40.3	40.1	40.0	40.0	39.3	39.5	39.3	39.0	37.3	39.5	39.0	39.1
Overtime hours	2.9	3.2	3.0	3.0	3.0	2.7	2.7	2.5	2.4	2.3	2.4	2.3	2.4
Durable goods	40.8	40.8	40.5	40.5	40.5	39.7	39.9	39.7	39.3	37.9	39.9	39.4	39.6
Overtime hours	3.0	3.2	3.0	3.0	3.0	2.6	2.6	2.4	2.4	2.2	2.2	2.1	2.2
Lumber and wood products	39.6	39.8	39.0	38.8	38.6	37.3	37.6	37.5	37.6	34.6	38.2	37.9	38.0
Furniture and fixtures	38.8	39.0	38.9	38.5	38.6	37.5	38.1	37.7	37.7	32.6	37.6	37.4	37.7
Stone, clay, and glass products	41.2	41.0	40.8	40.9	40.8	40.3	40.0	40.0	39.5	38.3	40.2	39.8	40.1
Primary metal industries	41.2	41.0	40.8	40.5	40.7	40.6	39.8	39.7	39.2	38.4	39.6	38.8	38.4
Fabricated metal products	40.9	40.9	40.7	40.5	40.5	39.5	40.0	39.6	39.2	37.9	39.6	39.3	39.6
Machinery, except electrical	41.3	41.4	41.1	41.1	41.2	40.3	40.7	40.6	40.3	39.0	40.7	40.1	40.2
Electric and electronic equipment	40.2	40.4	40.2	40.5	40.4	39.6	39.9	39.3	39.2	38.1	39.8	39.4	39.5
Transportation equipment	42.0	41.8	41.4	41.2	41.3	39.9	40.5	40.3	39.4	38.7	40.9	40.4	41.6
Instruments and related products	40.1	40.4	40.4	40.5	40.8	40.5	40.4	40.3	39.9	38.6	40.0	40.0	39.5
Miscellaneous manufacturing	38.9	39.2	39.1	39.2	39.1	38.4	39.0	39.0	38.4	36.9	38.7	38.5	38.6
Nondurable goods	39.3	39.6	39.4	39.3	39.3	38.9	39.0	38.8	38.6	36.4	38.9	38.5	38.4
Overtime hours	2.9	3.1	3.0	2.9	2.9	2.8	2.8	2.7	2.4	2.4	2.6	2.5	2.6
Food and kindred products	40.1	40.0	39.8	39.4	39.4	39.2	39.5	39.6	39.8	39.1	40.3	39.8	39.7
Textile mill products	39.8	40.5	40.2	40.4	40.3	38.9	39.3	38.8	37.8	31.3	38.1	37.5	37.4
Apparel and other textile products	35.5	36.0	36.1	35.9	36.1	35.2	35.7	35.6	35.1	30.7	35.4	35.0	34.8
Paper and allied products	42.6	42.8	42.7	42.7	42.7	43.1	42.4	41.9	41.8	41.2	42.2	41.7	42.2
Printing and publishing	37.3	37.6	37.4	37.3	37.3	37.1	37.1	36.9	37.2	36.5	37.4	37.1	36.8
Chemicals and allied products	41.5	41.7	41.7	41.8	41.7	42.3	41.5	41.3	41.3	40.8	41.2	40.7	40.4
Petroleum and coal products	44.1	43.8	43.4	43.1	42.8	43.3	42.1	42.3	42.6	44.3	43.5	43.4	42.8
Rubber and miscellaneous plastics products	40.7	41.3	41.0	40.5	40.6	39.6	40.0	39.6	39.4	37.8	40.0	39.5	39.7
Leather and leather products	36.6	37.1	37.1	36.5	36.9	36.1	36.8	36.7	36.1	33.6	35.5	35.8	35.4
WHOLESALE AND RETAIL TRADE	32.3	32.1	32.1	32.2	32.1	32.1	31.9	32.0	31.9	31.6	31.9	31.8	31.8
WHOLESALE TRADE	38.6	38.5	38.5	38.7	38.6	38.5	38.5	38.6	38.4	38.0	38.5	38.3	38.2
RETAIL TRADE	30.3	30.1	30.1	30.1	30.1	30.1	29.9	29.9	29.9	29.6	29.9	29.8	29.8
SERVICES	32.8	32.7	32.5	32.5	32.4	32.4	32.5	32.6	32.7	32.5	32.7	32.7	32.7

NOTE: The industry divisions of mining, construction; tobacco manufactures (a major manufacturing group, nondurable goods); transportation and public utilities; and finance, insurance, and real estate are no longer shown. This is because the seasonal component in these is

small relative to the trend-cycle, or irregular components, or both, and consequently cannot be precisely separated.

15. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1981										1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P	
TOTAL PRIVATE	\$6.66	\$7.25	\$7.13	\$7.17	\$7.20	\$7.24	\$7.30	\$7.40	\$7.42	\$7.46	\$7.45	\$7.55	\$7.55	\$7.54	\$7.56	
MINING	9.17	10.06	9.70	9.68	9.94	10.11	10.15	10.29	10.28	10.42	10.43	10.68	10.65	10.64	10.68	
CONSTRUCTION	9.92	10.75	10.43	10.53	10.60	10.74	10.87	11.02	11.10	11.12	11.19	11.56	11.28	11.30	11.22	
MANUFACTURING	7.27	7.98	7.88	7.92	7.97	8.02	8.02	8.15	8.15	8.20	8.26	8.41	8.34	8.35	8.40	
Durable goods	7.75	8.52	8.40	8.45	8.52	8.55	8.57	8.68	8.71	8.75	8.81	8.91	8.88	8.89	8.91	
Lumber and wood products	6.53	7.00	6.83	6.92	7.10	7.16	7.13	7.15	7.09	7.15	7.17	7.40	7.28	7.24	7.18	
Furniture and fixtures	5.49	5.90	5.78	5.83	5.89	5.91	5.98	6.00	6.05	6.04	6.11	6.27	6.18	6.20	6.20	
Stone, clay, and glass products	7.50	8.27	8.11	8.20	8.31	8.39	8.41	8.53	8.50	8.54	8.56	8.73	8.65	8.65	8.70	
Primary metal industries	9.77	10.81	10.76	10.68	10.76	10.79	10.99	11.22	10.97	11.10	11.09	11.23	11.20	11.16	11.30	
Fabricated metal products	7.45	8.20	8.05	8.17	8.23	8.22	8.27	8.34	8.39	8.43	8.53	8.55	8.57	8.63	8.68	
Machinery, except electrical	8.00	8.83	8.67	8.75	8.81	8.85	8.86	8.98	9.05	9.10	9.20	9.21	9.22	9.19	9.18	
Electric and electronic equipment	6.95	7.65	7.51	7.55	7.60	7.69	7.76	7.79	7.84	7.86	7.93	8.02	8.00	8.06	8.09	
Transportation equipment	9.32	10.31	10.14	10.25	10.36	10.35	10.30	10.41	10.65	10.66	10.69	10.72	10.75	10.80	10.76	
Instruments and related products	6.80	7.44	7.25	7.31	7.34	7.44	7.56	7.60	7.61	7.70	7.83	7.94	7.95	8.01	8.04	
Miscellaneous manufacturing	5.47	5.98	5.91	5.93	5.93	5.98	5.97	6.07	6.06	6.12	6.20	6.31	6.33	6.36	6.40	
Nondurable goods	6.56	7.19	7.08	7.11	7.14	7.23	7.24	7.37	7.34	7.39	7.45	7.68	7.55	7.57	7.66	
Food and kindred products	6.86	7.45	7.37	7.43	7.43	7.47	7.50	7.58	7.53	7.63	7.69	7.83	7.75	7.79	7.89	
Tobacco manufactures	7.73	8.82	8.90	9.03	9.33	9.43	8.61	8.66	8.58	8.96	8.90	9.15	9.51	9.62	9.94	
Textile mill products	5.08	5.52	5.36	5.40	5.42	5.51	5.66	5.69	5.72	5.74	5.72	5.76	5.76	5.77	5.80	
Apparel and other textile products	4.57	4.98	4.96	4.98	5.00	4.94	4.98	5.06	5.07	5.06	5.05	5.20	5.15	5.17	5.21	
Paper and allied products	7.84	8.60	8.37	8.42	8.55	8.73	8.67	8.95	8.82	8.89	8.96	9.07	9.00	9.03	9.13	
Printing and publishing	7.53	8.20	8.04	8.10	8.13	8.22	8.27	8.40	8.42	8.44	8.50	8.61	8.60	8.63	8.67	
Chemicals and allied products	8.30	9.12	8.94	8.99	9.07	9.16	9.19	9.38	9.37	9.42	9.52	9.68	9.68	9.66	9.79	
Petroleum and coal products	10.09	11.37	11.40	11.28	11.29	11.41	11.31	11.53	11.46	11.57	11.58	11.90	12.27	12.20	12.45	
Rubber and miscellaneous plastics products	6.56	7.25	7.15	7.22	7.23	7.28	7.32	7.38	7.39	7.41	7.48	7.62	7.59	7.55	7.63	
Leather and leather products	4.58	4.99	4.93	4.95	4.98	4.96	4.97	5.08	5.09	5.10	5.14	5.18	5.21	5.22	5.23	
TRANSPORTATION AND PUBLIC UTILITIES	8.87	9.72	9.54	9.59	9.63	9.69	9.89	9.97	9.96	10.07	10.08	10.15	10.19	10.14	10.19	
WHOLESALE AND RETAIL TRADE	5.48	5.93	5.87	5.89	5.89	5.91	5.94	6.04	6.00	6.03	6.01	6.17	6.16	6.15	6.17	
WHOLESALE TRADE	6.96	7.58	7.47	7.51	7.51	7.59	7.67	7.71	7.74	7.81	7.83	7.95	7.95	7.94	7.97	
RETAIL TRADE	4.88	5.26	5.22	5.23	5.23	5.24	5.26	5.37	5.29	5.32	5.32	5.44	5.43	5.43	5.45	
FINANCE, INSURANCE, AND REAL ESTATE	5.78	6.30	6.20	6.24	6.24	6.27	6.37	6.38	6.42	6.51	6.46	6.57	6.62	6.60	6.64	
SERVICES	5.85	6.41	6.30	6.33	6.33	6.34	6.41	6.51	6.57	6.67	6.66	6.79	6.79	6.77	6.79	

16. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1977=100]

Industry	1981										1982				Mar. 1982 to Apr. 1982	Apr. 1981 to Apr. 1982 ¹
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P			
TOTAL PRIVATE (in current dollars) ..	136.7	137.7	138.4	139.0	140.7	141.5	141.9	143.2	143.5	145.1	145.3	145.7	146.4	0.4	7.1	
Mining ²	145.7	145.6	147.2	148.9	149.4	151.5	151.3	153.3	153.2	156.0	155.9	155.8	156.8	.6	7.6	
Construction	129.0	129.4	130.4	131.8	132.5	132.9	134.3	135.4	136.2	140.8	138.2	138.3	137.8	-.3	6.9	
Manufacturing	139.9	140.7	141.6	142.5	143.6	144.8	145.5	146.4	147.0	149.0	149.1	149.8	150.8	.7	7.8	
Transportation and public utilities ..	137.3	138.9	139.8	139.3	141.8	141.7	142.0	144.0	144.4	145.8	146.5	147.2	147.1	-.1	7.1	
Wholesale and retail trade	136.4	137.4	137.8	138.4	140.0	141.2	140.5	141.5	141.9	142.3	143.0	143.2	144.0	.5	5.5	
Finance, insurance, and real estate ..	135.4	136.8	137.1	137.4	140.4	140.3	140.9	143.2	141.8	143.4	143.9	144.9	144.9	.4	7.1	
Services	134.8	136.0	136.6	136.9	139.4	139.8	140.7	142.6	142.7	143.6	144.0	144.2	145.1	.7	7.7	
TOTAL PRIVATE (in constant dollars) ..	93.1	93.0	92.9	92.2	92.6	92.1	92.0	92.5	92.3	93.1	92.9	93.5	(³)	(³)	(³)	

¹ Over-the-year percent change before seasonal adjustment.

³ Not available.

² This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

r = revised.

17. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1981									1982			
	1980	1981	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	Apr. ^P
TOTAL PRIVATE:															
Current dollars	\$235.10	\$255.20	\$250.98	\$252.38	\$254.88	\$257.74	\$259.88	\$259.00	\$260.44	\$261.85	\$262.24	\$255.95	\$261.99	\$261.64	\$261.58
Constant (1977) dollars	172.74	170.13	170.73	170.18	170.49	170.35	170.64	168.40	169.01	169.48	169.30	164.70	168.05	168.15	(¹)
MINING	396.14	438.62	422.92	423.98	418.47	439.79	447.62	450.70	457.46	461.61	466.22	457.10	463.28	464.97	460.31
CONSTRUCTION	367.04	395.60	384.87	388.56	394.32	404.90	405.45	393.41	416.25	411.44	414.03	383.79	402.70	416.97	406.16
MANUFACTURING															
Current dollars	288.62	317.60	312.84	317.59	320.39	317.59	319.20	321.93	323.56	324.72	329.57	312.01	326.93	326.49	325.08
Constant (1977) dollars	212.06	211.73	212.82	214.15	214.31	209.91	209.59	209.32	209.97	210.17	212.76	200.78	209.70	209.83	(¹)
Durable goods															
Lumber and wood products	310.78	342.50	338.52	343.07	345.91	341.15	344.51	345.46	349.27	350.00	355.92	335.91	352.54	352.04	348.38
Furniture and fixtures	252.06	270.90	267.05	274.03	280.45	277.09	278.07	270.99	270.84	268.84	273.18	249.38	273.73	272.95	269.25
Stone, clay, and glass products	209.17	226.56	220.80	224.46	229.12	223.40	230.83	226.20	233.53	230.12	237.68	202.52	231.13	233.12	230.02
Primary metal industries	306.00	335.76	331.70	337.02	342.37	342.31	344.81	346.32	344.25	345.87	343.26	326.50	339.08	343.41	346.26
Fabricated metal products	391.78	437.81	443.31	436.81	440.08	434.84	442.90	457.78	434.41	440.67	439.16	431.23	443.52	434.12	433.92
Machinery except electrical	300.98	330.46	323.61	332.52	335.78	327.98	333.28	330.26	336.44	337.20	344.61	323.19	337.66	340.89	337.65
Electric and electronic equipment	328.00	361.15	353.74	360.50	362.09	357.54	360.60	362.79	367.43	372.19	381.80	360.11	375.25	371.28	364.45
Transportation equipment	276.51	305.24	298.90	302.76	305.52	305.29	310.40	309.26	312.82	312.83	319.58	305.56	318.40	319.18	316.32
Instruments and related products	378.39	421.68	415.74	426.40	427.87	421.25	417.15	415.36	435.59	434.93	442.57	411.65	435.38	437.40	436.86
Miscellaneous manufacturing	275.40	300.58	289.28	294.59	296.54	296.86	305.42	307.04	307.44	314.16	318.68	306.48	318.00	321.20	315.97
Miscellaneous manufacturing	211.69	232.62	228.13	230.68	231.27	230.23	232.83	234.91	238.16	241.74	242.42	231.58	243.71	246.13	245.12
Nondurable goods															
Food and kindred products	255.84	281.85	275.41	280.13	282.03	282.69	285.26	288.17	286.99	288.95	292.04	278.02	291.43	290.69	291.08
Tobacco manufactures	272.34	295.77	289.64	295.71	295.71	295.81	300.00	301.68	298.19	304.44	310.68	303.80	307.68	305.37	306.92
Textile mill products	294.51	342.22	331.08	348.56	359.21	364.00	350.43	348.13	338.05	347.65	339.09	330.32	364.23	355.94	364.80
Apparel and other textile products	203.71	219.14	211.18	217.62	218.97	218.75	226.40	221.34	225.37	225.01	220.79	179.71	219.46	217.53	214.60
Paper and allied products	161.78	177.79	174.59	179.28	182.00	177.84	180.77	178.11	181.51	181.15	179.28	156.00	181.28	181.47	179.75
Printing and publishing	331.63	365.50	354.05	357.85	365.09	370.15	368.48	386.64	373.97	376.05	382.59	374.59	378.00	376.55	382.55
Chemicals and allied products	279.36	305.86	297.48	302.13	302.44	305.78	310.13	314.16	313.22	314.81	322.15	311.68	318.20	320.17	316.46
Petroleum and coal products	344.45	379.39	371.90	373.98	377.31	380.14	380.47	395.84	388.86	392.81	397.94	394.94	397.85	394.13	396.50
Rubber and miscellaneous plastics products	421.76	491.18	500.46	491.81	491.12	498.62	486.33	511.93	493.93	497.51	493.31	512.89	517.79	517.28	530.37
Leather and leather products	263.06	292.90	288.86	295.30	295.71	291.20	295.73	293.72	297.08	295.66	299.95	288.80	302.84	299.74	300.62
Leather and leather products	168.09	183.63	178.96	185.13	189.74	181.54	183.39	182.88	186.80	186.66	187.10	172.49	183.91	185.31	184.10
TRANSPORTATION AND PUBLIC UTILITIES	351.25	382.97	374.92	376.89	383.27	385.66	390.66	390.82	389.44	395.75	396.14	389.76	399.45	394.45	397.41
WHOLESALE AND RETAIL TRADE	176.46	190.35	188.43	188.48	190.25	193.85	194.83	194.49	191.40	192.36	193.52	191.89	194.04	193.73	194.36
WHOLESALE TRADE	267.96	292.59	287.60	289.14	289.89	294.49	296.83	296.84	299.54	301.47	303.02	300.51	303.69	303.31	303.66
RETAIL TRADE	147.38	158.33	156.60	156.38	158.99	161.92	162.53	162.17	157.64	158.54	161.20	157.76	159.64	159.64	160.78
FINANCE, INSURANCE, AND REAL ESTATE	209.24	228.69	225.06	225.26	225.26	227.60	231.23	229.68	232.40	235.66	233.85	237.83	239.64	238.92	239.70
SERVICES	190.71	208.97	205.38	206.73	206.99	209.22	210.89	210.92	213.53	216.78	217.12	219.32	220.68	220.03	220.68

¹ Not available.

UNEMPLOYMENT INSURANCE DATA

NATIONAL UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from monthly reports of unemployment insurance activity prepared by State agencies. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for all programs represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unem-

ployed. Persons not covered by unemployment insurance (about 10 percent of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

18. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1981											1982		
	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. ^P	
All programs:														
Insured unemployment	3,948	3,453	3,111	2,949	3,012	2,874	2,680	2,753	3,228	3,935	4,681	4,723	4,892	
State unemployment insurance program: ¹														
Initial claims ²	1,684	1,647	1,417	1,741	2,114	1,610	1,681	1,996	2,286	3,272	3,328	2,272	2,416	
Insured unemployment (average weekly volume)	3,382	2,988	2,691	2,596	2,743	2,656	2,488	2,592	3,061	3,778	4,470	4,376	4,280	
Rate of insured unemployment	3.9	3.4	3.1	3.0	3.1	3.0	2.9	3.0	3.5	4.3	5.1	5.0	4.9	
Weeks of unemployment compensated	13,504	11,871	9,790	9,928	10,486	9,594	9,565	9,424	10,052	14,592	15,962	15,631	18,064	
Average weekly benefit amount for total unemployment	\$105.63	\$105.96	\$105.49	\$99.02	\$103.47	\$105.94	\$107.39	\$108.92	\$110.52	\$112.83	\$114.83	\$116.95	\$117.06	
Total benefits paid	\$1,393,612	\$1,226,815	\$1,006,341	\$1,012,764	\$1,061,899	\$1,004,864	\$1,001,020	\$997,757	\$1,080,810	\$1,592,546	\$1,764,206	\$1,781,830	\$2,062,887	
Unemployment compensation for ex-servicemen: ³														
Initial claims ¹	18	16	15	19	22	19	15	11	9	11	8	8	10	
Insured unemployment (average weekly volume)	51	46	43	42	44	44	34	26	22	19	16	13	11	
Weeks of unemployment compensated	234	214	183	192	203	190	153	116	91	93	65	49	48	
Total benefits paid	\$24,668	\$23,048	\$19,965	\$21,145	\$22,785	\$21,425	\$17,144	\$12,952	\$10,043	\$10,155	\$7,098	\$5,311	\$5,129	
Unemployment compensation for Federal civilian employees: ⁴														
Initial claims	12	12	11	13	15	17	18	20	16	17	17	12	13	
Insured unemployment (average weekly volume)	36	31	27	25	25	25	29	32	36	39	40	40	38	
Weeks of unemployment compensated	156	135	107	105	105	102	100	112	127	174	162	154	172	
Total benefits paid	\$15,561	\$13,701	\$11,023	\$10,705	\$10,805	\$9,543	\$10,495	\$11,719	\$13,491	\$18,891	\$18,040	\$17,517	\$19,628	
Railroad unemployment insurance:														
Applications	5	6	6	26	41	13	15	21	13	19	22	11	9	
Insured unemployment (average weekly volume)	44	41	35	30	28	29	34	40	44	54	75	67	65	
Number of payments	115	94	79	86	32	63	74	86	83	117	153	140	154	
Average amount of benefit payment	\$214.93	\$201.12	\$199.43	\$201.06	\$199.63	\$202.53	\$207.98	\$197.26	\$207.08	\$212.33	\$213.39	\$214.07	\$215.71	
Total benefits paid	\$23,233	\$19,239	\$15,428	\$16,206	\$11,541	\$7,071	15,046	15,994	\$16,377	\$25,292	\$30,544	\$28,011	\$33,853	
Employment service: ⁵														
New applications and renewals	8,778	.....	.....	12,868	.....	.....	16,502	.....	.....	3,363	.....	.....	5,834
Nonfarm placements	1,595	.....	.....	2,446	.....	.....	3,509	.....	.....	602	.....	.....	990

¹ Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

² Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

³ Excludes data on claims and payments made jointly with other programs.

⁴ Excludes data on claims and payments made jointly with State programs.

⁵ Cumulative total for fiscal year (October 1-September 30). Data computed quarterly.

Note: Data for Puerto Rico and the Virgin Islands included. Dashes indicate data not available.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972-73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States, from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire.

Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 21.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*, Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122-133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13-15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7-15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974-82.

19. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967-81

[1967=100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	3.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2
1980	247.0	13.5	248.7	8.7	263.2	15.7	177.4	6.6	250.5	17.7	267.2	11.3	203.7	8.5	213.6	8.8
1981	272.3	10.2	267.8	7.7	293.2	11.4	186.6	5.2	281.3	12.3	295.1	10.4	219.0	7.5	233.3	9.2

20. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981			1982			1981			1982				
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
All items	265.1	279.9	280.7	281.5	282.5	283.4	283.1	265.2	279.7	280.4	281.1	282.1	282.9	282.5
Food and beverages	265.0	270.3	269.9	270.5	273.6	275.8	275.6	265.5	270.7	270.3	270.8	273.9	276.0	275.9
Housing	282.6	303.5	304.2	305.2	306.1	307.3	306.7	282.2	303.3	303.8	304.7	305.6	306.7	306.2
Apparel and upkeep	185.1	191.5	191.3	190.5	187.3	188.0	191.1	184.3	190.6	190.5	189.4	186.5	187.3	190.5
Transportation	273.5	287.2	289.1	289.8	289.9	288.0	285.1	274.4	288.9	290.8	291.5	291.6	289.6	286.6
Medical care	284.7	304.8	308.2	310.2	313.4	316.2	318.8	287.0	304.0	307.1	309.1	312.0	314.9	317.4
Entertainment	218.2	225.5	226.8	227.3	229.2	231.2	232.8	216.1	223.4	224.3	224.4	226.1	228.1	229.5
Other goods and services	228.7	245.2	245.9	246.7	248.4	250.3	252.2	226.8	241.4	242.5	243.5	245.0	247.1	249.3
Commodities	249.8	257.9	258.0	258.4	258.8	259.5	258.8	250.2	258.4	258.5	258.8	259.3	259.9	259.1
Commodities less food and beverages	239.0	248.0	248.3	248.7	248.0	248.1	247.1	239.4	248.7	249.1	249.3	248.7	248.6	247.5
Nondurables less food and beverages	263.1	266.4	266.7	266.7	265.6	265.3	263.4	265.7	268.6	269.0	268.9	267.8	267.5	265.3
Durables	219.8	232.9	233.2	233.7	233.4	233.7	233.5	217.8	232.0	232.3	232.7	232.4	232.5	232.4
Services	292.5	318.6	320.6	321.8	323.9	325.3	325.5	293.1	319.2	321.1	322.4	324.3	325.5	325.8
Rent, residential	203.0	213.6	215.0	216.5	217.8	218.6	219.6	202.7	213.2	214.5	216.0	217.4	218.1	219.1
Household services less rent	348.8	387.2	389.2	390.4	392.4	393.7	392.5	351.8	391.8	393.6	394.8	396.5	397.7	396.6
Transportation services	262.5	281.0	283.2	284.2	286.6	287.6	288.8	261.3	279.9	282.3	283.6	285.9	286.7	287.9
Medical care services	307.5	329.7	333.7	335.7	339.4	342.4	345.1	310.2	328.3	332.0	334.0	337.5	340.6	343.0
Other services	233.2	247.8	248.7	249.5	251.7	253.0	254.0	233.0	246.6	247.2	248.0	250.0	251.3	252.4
Special indexes:														
All items less food	262.3	279.0	280.1	280.8	281.4	282.1	281.7	262.6	279.1	280.1	280.7	281.3	281.7	281.3
All items less mortgage interest costs	252.3	263.6	264.2	264.9	266.1	267.1	267.2	252.9	264.0	264.6	265.2	266.4	267.2	267.3
Commodities less food	237.0	245.9	246.2	246.5	245.9	246.0	245.2	237.4	246.6	247.0	247.2	246.6	246.6	245.6
Nondurables less food	257.5	260.7	261.1	261.1	260.2	260.1	258.4	259.9	263.0	263.4	263.3	262.4	262.2	260.2
Nondurables less food and apparel	297.3	299.5	300.1	300.7	301.0	300.5	296.6	299.5	301.5	302.0	302.5	302.6	302.0	297.8
Nondurables	265.2	269.5	269.5	269.8	270.8	271.7	270.7	266.6	270.7	270.7	270.9	271.9	272.8	271.6
Services less rent	309.5	338.7	340.8	342.0	344.2	345.7	345.7	310.4	339.7	341.6	342.9	345.0	346.3	346.4
Services less medical care	288.9	315.1	316.9	318.1	320.0	321.1	321.1	289.2	315.8	317.5	318.7	320.5	321.6	321.6
Domestically produced farm foods	255.4	259.5	258.3	259.1	262.4	265.1	263.8	254.9	258.6	257.8	258.2	261.4	264.0	262.7
Selected beef cuts	210.9	275.5	271.9	270.7	269.6	271.7	272.0	273.9	276.5	273.2	271.9	271.1	273.1	273.3
Energy	409.3	414.9	414.1	414.6	416.4	413.0	406.1	413.7	417.9	417.3	417.6	419.0	415.4	407.9
All items less energy	253.8	269.4	270.4	271.1	272.1	273.4	273.6	252.9	268.3	269.2	269.9	270.9	272.1	272.3
All items less food and energy	248.1	265.9	267.2	267.9	268.5	269.5	269.8	246.9	264.8	265.9	266.6	267.1	268.0	268.3
Commodities less food and energy	212.2	223.4	223.8	224.2	223.7	224.5	225.3	210.7	222.6	223.0	223.3	222.8	223.6	224.5
Energy commodities	460.0	448.2	448.2	448.0	446.4	440.1	424.5	460.9	448.9	449.0	448.7	447.0	440.7	425.0
Services less energy	289.9	315.3	317.7	318.9	320.5	321.9	321.5	290.6	316.0	318.2	319.5	321.0	322.2	321.8
Purchasing power of the consumer dollar, 1967 = \$1	\$0.377	\$0.357	\$0.356	\$0.355	\$0.354	\$0.353	\$0.353	\$0.377	\$0.358	\$0.357	\$0.356	\$0.354	\$0.353	\$0.354

NOTE: The correct figure for the September 1981 "All items" Consumer Price Index for All Urban Consumers was 279.3, not 297.3 as previously reported.

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20. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981				1982		1981				1982			
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
FOOD AND BEVERAGES	265.0	270.3	269.9	270.5	273.6	275.8	275.6	265.5	270.7	270.3	270.8	273.9	276.0	275.9
Food	272.2	277.6	277.1	277.8	281.0	283.3	283.0	272.6	277.8	277.4	277.9	281.1	283.4	283.1
Food at home	268.6	272.1	271.0	271.7	275.3	278.0	277.1	268.1	271.3	270.4	270.8	274.4	277.0	276.2
Cereals and bakery products	266.7	275.0	276.3	277.7	279.8	280.9	281.3	266.5	274.0	275.5	276.6	278.6	279.8	280.0
Cereals and cereal products (12/77 = 100)	145.2	150.0	149.9	151.5	153.0	154.0	153.9	146.5	151.5	152.1	152.5	153.9	155.0	154.8
Flour and prepared flour mixes (12/77 = 100)	138.5	139.3	138.4	137.8	139.1	139.1	139.2	139.4	140.9	140.2	138.4	139.6	139.6	139.6
Cereal (12/77 = 100)	146.9	156.1	157.4	160.2	163.1	164.8	165.2	148.5	157.9	158.9	162.1	165.1	166.8	167.2
Rice, pasta, and cornmeal (12/77 = 100)	148.9	151.1	149.6	151.7	151.1	152.4	151.2	150.5	152.7	153.9	152.9	152.4	153.6	152.4
Bakery products (12/77 = 100)	139.7	144.0	144.9	145.4	146.4	146.8	147.1	139.2	142.8	143.7	144.3	145.3	145.7	146.0
White bread	232.9	238.4	241.3	241.5	243.3	243.8	242.3	231.2	235.5	237.6	237.4	239.4	240.0	238.3
Other breads (12/77 = 100)	137.9	141.6	142.8	143.4	143.9	143.7	145.1	140.3	143.6	144.9	145.3	145.7	145.5	147.0
Fresh biscuits, rolls, and muffins (12/77 = 100)	140.1	144.8	145.2	145.9	146.5	146.4	148.4	138.4	141.7	141.9	141.9	142.5	142.8	144.6
Fresh cakes and cupcakes (12/77 = 100)	140.0	143.9	145.0	144.9	147.2	147.0	148.0	139.5	141.7	143.2	143.7	145.8	145.8	146.4
Cookies (12/77 = 100)	139.7	145.7	146.3	147.6	148.1	149.2	149.4	140.6	146.4	146.8	148.4	148.9	150.1	150.2
Crackers, bread, and cracker products (12/77 = 100)	129.1	133.2	133.1	134.2	133.4	133.4	129.6	134.0	133.4	133.4	135.6	134.7	136.8	136.5
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	141.1	144.4	144.8	145.4	146.2	147.0	146.3	140.7	144.9	145.8	147.8	148.9	149.3	148.7
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	141.9	148.9	149.2	149.3	151.2	151.5	153.5	137.6	142.8	143.1	143.0	144.7	144.8	146.8
Meats, poultry, fish, and eggs	250.5	256.4	254.2	253.7	253.7	256.8	256.9	249.9	256.0	254.0	253.1	253.3	256.4	256.4
Meats, poultry, and fish	256.2	262.2	259.2	258.4	259.1	261.2	262.1	255.7	261.7	258.8	257.7	258.6	260.7	261.5
Meats	254.4	262.5	259.6	258.7	257.8	260.2	261.2	254.2	262.1	259.3	257.9	257.3	260.7	260.6
Beef and veal	270.3	274.9	271.5	270.5	269.4	271.5	271.7	272.6	275.3	272.2	270.9	270.1	272.2	272.3
Ground beef other than canned	269.7	267.4	266.1	264.5	262.2	265.0	265.8	272.9	268.6	268.0	265.8	263.7	266.3	266.9
Chuck roast	284.1	287.8	282.6	282.2	279.6	285.8	284.3	295.6	297.2	292.6	291.5	288.5	290.5	293.1
Round roast	243.9	245.1	245.0	242.6	241.6	245.3	243.0	248.8	250.1	248.2	245.9	244.7	248.9	245.9
Round steak	256.1	259.0	256.7	254.6	257.5	256.1	258.8	253.3	254.9	254.8	252.2	256.1	254.4	256.4
Sirloin steak	259.8	273.3	262.0	260.1	258.2	257.1	260.6	264.5	275.1	260.7	260.7	258.9	257.8	262.2
Other beef and veal (12/77 = 100)	157.8	163.4	161.1	161.0	160.9	161.4	161.5	156.7	161.3	159.2	159.1	159.3	159.7	159.8
Pork	221.6	238.6	236.6	234.3	234.7	238.9	239.5	221.3	239.3	235.9	233.8	234.4	238.5	238.9
Bacon	218.5	240.1	238.1	237.2	235.5	245.6	249.6	221.6	245.1	242.9	240.5	239.3	249.3	253.3
Chops	209.3	223.1	217.0	212.4	219.2	222.1	216.3	206.9	221.3	216.2	211.0	217.6	220.2	214.7
Ham other than canned (12/77 = 100)	98.7	109.4	108.9	109.1	107.3	107.0	109.2	96.3	107.5	106.6	106.3	104.8	104.7	106.5
Sausage	281.0	298.7	298.1	299.1	297.6	300.0	305.8	282.7	302.1	299.2	300.0	298.8	301.0	306.6
Canned ham	236.6	241.9	243.1	244.3	245.4	246.1	247.6	237.9	244.7	247.0	247.7	249.0	249.9	251.2
Other pork (12/77 = 100)	124.2	134.1	131.1	130.0	129.5	133.8	132.6	124.3	134.5	130.9	129.2	128.8	133.1	131.7
Other meats	258.5	261.6	260.5	260.6	258.1	258.1	262.4	256.0	260.5	259.9	259.7	257.3	261.7	261.4
Frankfurters	257.8	261.2	259.9	261.0	256.7	258.0	260.5	257.2	262.4	260.9	260.0	256.1	257.1	260.0
Bologna, liverwurst, and salami (12/77 = 100)	147.0	147.6	146.7	146.4	145.4	146.1	149.2	144.7	146.9	145.9	146.3	145.4	146.2	149.1
Other luncheon meats (12/77 = 100)	128.1	131.8	132.1	132.6	132.2	131.7	133.7	126.4	130.2	130.6	130.6	130.2	129.7	131.7
Lamb and organ meats (12/77 = 100)	144.7	143.4	141.7	140.7	138.6	137.7	141.0	146.0	145.0	144.6	143.9	141.4	141.0	144.2
Poultry	201.6	196.6	192.3	191.7	194.2	195.7	194.7	200.6	194.7	190.6	189.5	192.4	193.8	192.8
Fresh whole chicken	203.1	194.0	190.9	190.1	193.1	196.3	195.1	200.9	189.9	188.5	187.8	190.9	194.4	192.8
Fresh and frozen chicken parts (12/77 = 100)	131.6	129.2	127.3	128.1	128.5	128.9	127.5	130.1	129.7	126.5	126.3	126.9	127.1	125.9
Other poultry (12/77 = 100)	127.6	127.2	122.2	120.7	123.2	123.2	123.9	128.9	126.1	121.5	119.8	123.0	122.6	123.3
Fish and seafood	358.8	360.8	358.9	359.6	373.3	373.8	376.3	351.5	358.2	356.6	358.6	372.4	373.2	375.5
Canned fish and seafood (12/77 = 100)	138.9	140.5	141.5	140.7	140.6	140.9	141.0	136.2	140.3	141.0	140.2	140.0	140.4	140.5
Fresh and frozen fish and seafood (12/77 = 100)	135.3	135.6	133.9	134.7	143.2	143.2	144.7	132.5	134.0	132.7	134.4	143.0	143.2	144.6
Eggs	180.5	185.9	184.7	189.0	189.4	195.2	195.2	180.5	187.0	196.7	198.8	190.6	206.1	196.3
Dairy products	242.6	244.6	245.0	245.5	245.8	246.5	246.5	242.7	244.2	244.7	244.9	245.2	245.8	245.9
Fresh milk and cream (12/77 = 100)	134.3	134.7	134.9	135.2	135.1	135.5	135.3	134.1	134.4	134.6	134.6	134.6	134.9	134.8
Fresh whole milk	219.9	220.2	220.8	221.2	221.2	221.5	221.7	219.4	219.5	220.1	220.2	220.2	220.5	220.8
Other fresh milk and cream (12/77 = 100)	134.4	135.2	134.9	135.3	135.1	135.8	135.1	134.5	135.2	134.9	134.9	134.7	135.5	134.6
Processed dairy products (12/77 = 100)	141.1	143.3	143.5	143.9	144.4	144.8	144.9	141.8	143.6	144.0	144.2	144.7	145.1	145.3
Butter	243.0	247.2	248.0	248.7	249.3	248.9	250.1	246.4	249.7	250.2	251.3	252.0	251.4	252.7
Cheese (12/77 = 100)	139.8	140.9	141.1	141.0	142.0	142.8	143.3	140.0	140.7	141.1	141.3	142.3	143.1	143.6
Ice cream and related products (12/77 = 100)	145.3	149.9	149.3	150.3	150.8	150.0	149.5	146.1	149.9	149.4	149.4	149.9	149.1	148.9
Other dairy products (12/77 = 100)	135.1	137.0	138.7	139.7	138.4	140.0	139.5	136.1	138.1	140.2	140.5	139.1	140.8	140.3
Fruits and vegetables	278.2	275.2	272.0	276.4	294.7	301.5	293.1	275.0	270.8	268.1	272.6	291.3	297.4	289.1
Fresh fruits and vegetables	293.9	273.5	267.8	274.9	308.0	319.6	302.1	289.4	267.2	261.9	269.4	303.1	313.4	296.1
Fresh fruits	265.2	291.4	276.1	269.6	276.7	291.2	297.8	259.0	279.5	266.0	260.5	267.0	280.1	287.3
Apples	227.9	237.0	248.7	261.2	273.0	279.5	288.7	225.7	236.5	249.1	261.2	272.6	279.9	288.5
Bananas	264.1	254.9	249.4	254.9	253.5	251.0	263.0	258.8	253.3	248.3	252.8	251.1	247.9	261.1
Oranges	287.4	328.5	314.0	280.6	283.1	313.1	316.3	268.4	299.9	286.0	252.8	255.1	281.1	285.9
Other fresh fruits (12/77 = 100)	141.1	160.9	144.7	141.0	145.9	154.5	157.2	139.9	154.7	139.7	136.7	141.0	149.0	151.8
Fresh vegetables	320.8	256.8	260.1	279.8	337.3	346.2	306.1	316.9	256.1	258.2	277.6	335.8	343.5	304.2
Potatoes	363.9	290.4	286.3	286.8	288.8	297.4	301.0	359.6	287.7	281.5	280.0	282.7	291.5	294.8
Lettuce	225.2	258.3	257.1	343.1	514.4	408.9	270.9	219.3	257.2	247.4	342.7	515.8	408.0	271.3
Tomatoes	367.8	207.3	206.9	204.6	245.6	288.5	258.1	354.0	206.4	209.7	207.8	248.8	293.2	261.8
Other fresh vegetables (12/77 = 100														

20. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981				1982		1981				1982			
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	128.4	137.7	138.3	138.9	139.9	140.7	141.2	126.3	135.5	136.0	136.5	137.5	138.3	138.8
Other canned and dried vegetables (12/77=100)	126.4	134.6	133.1	134.8	135.0	134.1	134.8	125.3	133.3	131.8	133.2	133.5	132.6	133.3
Other foods at home	324.1	326.4	326.0	325.6	328.7	330.7	331.7	325.2	327.1	327.0	326.4	329.6	331.5	332.6
Sugar and sweets	383.2	359.9	359.1	359.3	361.6	364.2	365.5	384.6	360.2	359.0	359.3	361.6	364.1	365.4
Candy and chewing gum (12/77=100)	142.8	148.8	149.3	149.9	150.1	150.0	150.3	143.6	148.7	148.9	149.9	150.0	149.8	150.1
Sugar and artificial sweeteners (12/77=100)	209.7	157.1	155.2	153.4	155.6	160.0	161.0	209.6	158.4	157.0	154.6	157.0	161.3	162.4
Other sweets (12/77=100)	139.3	145.2	144.9	146.1	147.1	146.9	147.4	138.2	144.0	143.1	144.2	145.2	145.1	145.5
Fats and oils (12/77=100)	268.9	268.5	262.2	261.1	261.6	260.5	259.6	270.5	268.1	263.1	261.0	261.5	260.6	259.7
Margarine	255.7	256.6	255.2	255.7	257.8	256.7	256.7	257.7	255.9	254.9	254.9	257.2	256.1	256.1
Nondairy substitutes and peanut butter (12/77=100)	179.3	176.5	163.0	160.1	157.7	157.8	156.1	180.0	175.2	163.0	158.5	156.0	156.3	154.4
Other fats, oils, and salad dressings (12/77=100)	129.9	130.5	129.8	129.7	130.5	129.8	129.5	130.3	130.3	130.4	130.1	131.0	130.2	130.0
Nonalcoholic beverages	412.2	414.8	413.4	412.5	418.7	423.4	424.8	415.4	416.0	415.2	414.2	420.5	425.0	426.6
Cola drinks, excluding diet cola	295.9	301.1	298.8	298.1	302.4	304.6	306.6	295.4	297.7	296.1	295.7	300.0	302.0	303.8
Carbonated drinks, including diet cola (12/77=100)	140.5	142.3	141.4	139.3	141.9	143.8	143.4	138.7	139.6	139.3	137.2	139.7	141.7	141.4
Roasted coffee	359.4	343.1	341.0	344.4	353.3	364.4	366.6	355.0	338.9	337.3	340.1	348.8	359.9	362.2
Freeze dried and instant coffee	340.8	329.9	330.8	332.0	336.9	342.8	343.6	343.9	332.7	333.2	331.6	336.5	342.5	343.4
Other noncarbonated drinks (12/77=100)	132.4	135.6	136.4	137.0	138.0	138.4	138.9	132.7	135.5	136.4	137.1	138.2	138.6	139.1
Other prepared foods	249.4	260.5	262.7	262.8	264.6	265.3	266.5	250.0	262.3	264.5	264.4	266.3	266.9	268.1
Canned and packaged soup (12/77=100)	128.4	133.1	133.4	133.7	134.3	135.9	135.6	129.2	135.6	136.1	135.7	136.4	137.9	137.8
Frozen prepared foods (12/77=100)	142.3	144.1	146.5	145.9	147.8	146.2	147.0	139.6	142.8	145.1	145.3	147.4	145.6	146.5
Snacks (12/77=100)	143.9	152.0	152.5	152.2	152.6	153.4	153.4	145.5	155.3	155.6	154.2	154.6	155.2	155.4
Seasonings, olives, pickles, and relish (12/77=100)	139.1	146.2	148.9	148.8	149.7	151.3	153.2	137.9	144.8	147.4	147.7	148.6	150.3	152.2
Other condiments (12/77=100)	138.1	143.5	145.0	144.6	146.4	146.9	148.2	140.0	145.5	146.5	146.2	148.0	148.4	149.9
Miscellaneous prepared foods (12/77=100)	135.9	144.5	144.8	145.8	146.9	147.0	147.7	136.2	143.9	145.2	145.8	147.0	147.1	147.9
Other canned and packaged prepared foods (12/77=100)	134.1	140.5	141.8	142.5	142.5	143.0	143.2	134.4	141.9	143.0	143.9	143.9	144.5	144.5
Food away from home	286.1	296.2	297.2	297.7	299.8	301.2	302.4	288.6	299.0	299.6	300.7	302.8	304.2	305.4
Lunch (12/77=100)	139.2	143.9	144.4	144.6	146.1	146.6	147.0	140.3	145.3	145.6	146.3	147.7	148.2	148.6
Dinner (12/77=100)	138.8	143.2	143.6	144.0	144.8	145.2	145.7	140.1	144.8	145.1	145.6	146.4	146.8	147.3
Other meals and snacks (12/77=100)	137.9	143.9	144.6	144.7	145.4	146.9	147.9	139.3	144.8	145.1	145.4	146.2	147.6	148.7
Alcoholic beverages	197.1	201.4	202.3	202.7	204.0	205.6	206.6	198.7	204.3	204.6	204.9	206.0	207.6	208.8
Alcoholic beverages at home (12/77=100)	128.1	130.5	131.2	131.4	132.2	133.3	134.0	129.6	132.5	132.8	132.8	133.4	134.6	135.4
Beer and ale	198.2	202.5	204.0	204.1	205.0	207.4	209.2	198.5	203.1	203.6	203.5	204.3	205.6	208.3
Whiskey	141.6	144.0	144.8	145.0	145.9	146.8	147.0	142.3	146.4	146.2	145.9	146.8	147.7	147.8
Wine	224.3	228.2	227.5	230.0	232.2	234.2	235.3	233.6	238.1	237.4	238.0	239.8	241.6	243.3
Other alcoholic beverages (12/77=100)	115.0	116.3	117.3	117.3	117.5	117.8	118.1	114.0	115.7	116.8	117.4	117.5	117.8	118.0
Alcoholic beverages away from home (12/77=100)	131.1	135.5	135.7	135.8	137.0	137.6	138.2	129.9	136.4	136.6	137.3	138.6	139.1	139.7
HOUSING	282.6	303.5	304.2	305.2	306.1	307.3	306.7	282.2	303.3	303.8	304.7	305.6	306.7	306.2
Shelter	301.6	326.6	327.2	328.0	328.3	329.5	327.6	302.6	328.1	328.5	329.3	329.4	330.3	328.5
Rent, residential	203.0	213.6	215.0	216.5	217.8	218.6	219.6	202.7	213.2	214.5	216.0	217.4	218.1	219.1
Other rental costs	283.6	308.7	305.3	306.3	313.6	316.9	320.1	283.5	308.4	305.0	305.3	312.3	315.6	318.9
Lodging while out of town	304.8	324.2	318.6	319.9	331.1	335.9	340.9	303.2	323.3	317.9	318.0	328.4	333.0	337.9
Tenants' insurance (12/77=100)	130.1	140.0	140.4	140.7	141.8	143.5	144.1	130.8	140.1	140.3	140.6	142.0	143.6	144.3
Homeownership	336.8	366.7	367.2	367.8	367.5	368.7	365.7	338.8	369.7	369.8	370.4	369.9	370.8	367.9
Home purchase	261.1	272.5	270.2	270.5	269.3	270.4	269.2	260.2	271.4	268.6	268.7	267.4	268.3	267.1
Financing, taxes, and insurance	441.1	501.8	505.6	506.3	506.0	507.2	500.9	446.4	508.3	511.9	512.9	512.2	513.2	507.0
Property insurance	375.6	392.5	393.3	394.1	393.0	393.7	394.1	379.9	394.7	395.5	396.5	396.6	396.0	396.5
Property taxes	199.0	207.4	208.0	210.7	212.9	215.1	216.6	201.0	209.2	210.0	212.5	214.5	217.2	218.5
Contracted mortgage interest cost	570.9	661.3	666.8	666.6	665.2	666.1	655.5	572.0	662.5	667.7	668.1	668.3	666.6	656.4
Mortgage interest rates	216.0	239.5	244.1	243.9	244.4	243.9	240.7	216.7	240.5	245.3	245.3	245.7	245.4	242.3
Maintenance and repairs	306.1	320.8	322.8	324.1	326.7	328.2	327.2	302.7	319.2	319.8	321.0	323.3	324.6	323.7
Maintenance and repair services	332.6	351.1	353.8	355.4	358.2	359.4	357.8	331.3	354.2	354.9	356.5	359.2	360.1	358.6
Maintenance and repair commodities	243.9	249.3	249.7	250.3	252.5	254.6	255.0	239.9	244.0	244.5	244.9	246.4	248.2	248.6
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	143.7	146.7	146.5	147.3	149.4	150.9	151.8	138.5	139.9	140.0	140.5	142.3	143.7	144.7
Lumber, awnings, glass, and masonry (12/77=100)	123.3	124.4	124.1	124.3	124.6	124.6	123.9	122.4	122.3	121.8	121.6	121.9	121.7	121.2
Plumbing, electrical, heating, and cooling supplies (12/77=100)	127.6	132.4	133.1	131.5	131.9	133.8	133.4	127.8	132.1	132.4	131.6	131.8	133.4	133.1
Miscellaneous supplies and equipment (12/77=100)	125.9	131.7	131.6	132.5	133.6	134.8	135.1	128.8	133.7	134.2	134.7	135.7	136.9	137.1
Fuel and other utilities	308.4	330.1	329.8	331.8	336.2	337.1	339.3	309.4	330.9	330.9	332.7	337.0	337.9	340.2
Fuels	393.7	419.0	417.6	420.0	426.9	427.6	430.5	393.4	418.4	417.4	419.6	426.2	426.8	429.9
Fuel oil, coal, and bottled gas	693.4	672.7	676.1	682.5	686.0	683.1	664.0	696.3	675.9	679.3	685.5	688.9	686.0	666.7
Fuel oil	730.9	704.3	706.8	713.5	716.8	713.8	692.3	733.2	707.1	709.6	716.0	719.3	716.3	694.4
Other fuels (6/78=100)	161.5	165.0	167.7	169.4	170.9	170.0	168.0	162.9	166.4	169.1	170.8	172.1	171.4	169.5
Gas (piped) and electricity	326.7	360.6	358.3	359.9	367.4	368.7	375.9	325.9	359.3	357.5	358.8	355.0	367.3	374.8
Electricity	273.9	303.0	298.6	300.3	306.6	306.8	313.3	273.5	302.7	297.7	299.3	305.3	305.5	312.3
Utility (piped) gas	395.2	434.5	437.0	438.2	447.2	450.8	458.6	392.8	430.8	436.0	436.4	445.2	448.7	456.6

MONTHLY LABOR REVIEW June 1982 • Current Labor Statistics: Consumer Prices

20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981				1982		1981				1982			
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	174.0	189.4	190.7	191.9	192.7	193.9	195.0	174.4	189.8	191.0	192.2	193.1	194.3	195.4
Telephone services	142.5	154.3	155.6	156.8	157.2	157.9	158.5	142.6	154.5	155.8	156.9	157.3	158.0	158.6
Local charges (12/77 = 100)	113.6	121.5	123.5	124.4	124.0	125.3	125.6	113.7	121.8	123.8	124.6	124.2	125.4	125.7
Interstate toll calls (12/77 = 100)	101.8	116.6	116.7	116.7	116.8	116.6	117.7	101.9	116.6	116.8	116.8	116.9	116.7	117.8
Intrastate toll calls (12/77 = 100)	101.2	105.5	105.3	107.1	109.2	109.1	109.0	101.0	105.3	105.0	106.9	109.0	108.8	108.7
Water and sewerage maintenance	277.1	305.2	306.1	307.4	309.8	313.3	316.9	279.0	307.3	307.9		312.2	315.7	319.7
Household furnishings and operations	216.9	225.6	227.2	227.7	228.4	230.2	231.6	213.7	222.2	223.6	224.2	224.9	226.7	228.0
Housefurnishings	182.6	188.7	189.4	189.2	189.8	191.4	192.7	180.2	186.6	187.3	187.1	187.7	189.3	190.4
Textile housefurnishings	199.8	210.4	211.7	211.2	210.1	216.0	217.7	201.4	214.1	213.9	212.5	218.5	219.9	
Household linens (12/77 = 100)	123.1	130.1	130.8	128.8	127.3	131.0	134.7	124.1	132.0	131.9	129.9	128.6	132.1	135.6
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	126.1	132.2	133.1	134.7	134.8	138.5	136.7	127.2	135.2	136.1	137.4	137.0	141.0	138.7
Furniture and bedding	201.6	207.9	209.2	209.7	209.5	209.4	212.1	198.0	203.8	205.3	206.0	205.9	205.5	208.2
Bedroom furniture (12/77 = 100)	133.2	137.4	139.6	138.6	139.7	140.5	140.8	129.4	132.3	135.2	136.5	137.1	137.2	
Sofas (12/77 = 100)	115.8	119.3	118.7	119.4	117.3	116.4	118.0	114.1	119.0	118.8	119.5	117.6	116.5	118.2
Living room chairs and tables (12/77 = 100)	116.5	117.0	118.8	119.0	118.9	118.6	121.6	116.7	118.5	118.9	119.1	119.0	118.8	121.8
Other furniture (12/77 = 100)	130.8	137.3	137.1	138.4	138.5	138.1	140.5	128.3	133.0	133.1	134.0	133.9	133.4	135.8
Appliances including TV and sound equipment	144.2	147.8	148.2	147.9	148.8	149.9	150.1	143.4	147.2	147.7	147.5	148.5	149.6	149.7
Television and sound equipment (12/77 = 100)	108.0	109.1	109.0	108.9	108.8	109.2	109.1	106.4	108.1	108.3	108.0	107.9	108.4	108.2
Television	105.6	105.0	104.8	104.7	104.4	104.5	104.7	104.3	103.8	103.6	103.3	103.1	103.3	103.5
Sound equipment (12/77 = 100)	111.2	113.8	113.9	113.7	113.8	114.5	114.0	109.3	112.8	113.4	112.9	113.0	113.8	113.2
Household appliances	168.9	175.3	176.1	175.9	178.0	179.7	180.3	169.0	175.1	175.9	176.0	178.1	179.9	180.4
Refrigerators and home freezers	168.5	177.0	178.7	179.9	180.8	182.6	183.7	172.7	181.6	182.7	185.3	186.1	187.9	189.3
Laundry equipment (12/77 = 100)	124.5	130.5	130.7	130.5	132.2	133.5	133.3	124.3	129.8	130.8	130.3	132.4	133.8	133.5
Other household appliances (12/77 = 100)	115.9	118.9	119.4	118.7	120.6	121.6	122.2	114.5	117.1	117.4	116.8	118.5	119.7	120.0
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	115.1	118.2	118.7	117.9	119.4	121.0	121.9	115.2	115.9	116.8	116.2	117.4	118.9	119.3
Office machines, small electric appliances, and air conditioners (12/77 = 100)	116.9	119.8	120.1	119.6	121.9	122.4	122.5	113.7	118.4	118.1	117.3	119.7	120.5	120.7
Other household equipment (12/77 = 100)	129.1	134.2	134.4	134.0	134.9	136.7	137.3	126.9	132.4	132.4	131.9	132.9	134.7	135.3
Floor and window coverings, infants', laundry, cleaning, and outdoor equipment (12/77 = 100)	130.7	135.4	136.1	135.9	136.3	139.1	140.9	123.2	129.6	129.7	128.3	128.6	131.0	133.3
Clocks, lamps, and decor items (12/77 = 100)	125.7	128.7	129.5	128.4	128.6	129.8	129.0	121.7	124.5	125.2	124.7	124.8	126.0	125.4
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	135.6	141.1	141.2	141.0	142.3	143.3	143.1	132.1	137.9	137.5	137.1	138.2	139.5	139.0
Lawn equipment, power tools, and other hardware (12/77 = 100)	120.8	127.2	126.9	126.3	127.8	130.3	132.1	125.1	131.2	131.6	131.5	132.2	135.5	137.3
Housekeeping supplies	264.2	274.3	275.4	277.4	279.1	282.4	284.2	261.2	271.2	271.9	274.1	275.7	278.8	280.4
Soaps and detergents	255.3	269.3	269.7	271.6	275.5	278.0	279.5	253.8	265.3	265.2	268.0	272.0	274.4	275.7
Other laundry and cleaning products (12/77 = 100)	129.7	136.7	137.3	138.8	139.6	141.0	142.1	130.3	136.6	137.0	137.5	138.4	139.8	140.9
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	137.9	141.8	143.6	144.5	145.1	145.7	145.7	138.1	142.4	143.9	144.4	145.1	145.6	145.4
Stationery, stationery supplies, and gift wrap (12/77 = 100)	122.3	128.1	128.5	128.8	128.8	130.4	130.7	123.7	130.8	131.3	131.6	131.7	133.4	133.8
Miscellaneous household products (12/77 = 100)	137.3	142.8	143.0	145.4	146.2	146.9	147.5	133.2	137.8	137.4	140.4	141.2	141.8	142.4
Lawn and garden supplies (12/77 = 100)	136.6	136.6	136.8	136.7	137.1	141.8	144.7	128.5	129.0	129.6	129.4	129.2	134.1	136.7
Housekeeping services	284.8	300.5	305.2	306.9	307.4	308.1	309.9	283.3	298.9	303.9	305.4	305.9	306.8	308.2
Postage	274.3	308.0	337.5	337.5	337.5	337.5	337.5	274.2	308.1	337.5	337.5	337.5	337.5	337.5
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	139.0	145.5	147.0	147.8	148.4	149.4	150.8	139.0	145.2	146.7	147.6	148.0	149.1	150.6
Appliance and furniture repair (12/77 = 100)	124.5	131.3	132.2	133.0	133.6	134.2	135.0	123.8	130.5	131.2	131.6	132.2	132.8	133.5
APPAREL AND UPKEEP	185.1	191.5	191.3	190.5	187.3	188.0	191.1	184.3	190.6	190.5	189.4	186.5	187.3	190.5
Apparel commodities	176.3	182.1	181.8	180.7	177.0	177.6	180.8	175.8	181.5	181.5	180.1	176.7	177.4	180.8
Apparel commodities less footwear	172.7	178.4	177.9	176.6	172.8	173.4	176.8	172.3	177.7	177.3	175.6	172.2	173.0	176.6
Men's and boys'	175.0	183.6	183.6	181.6	178.7	179.3	181.7	174.9	182.9	183.2	181.7	178.6	179.4	181.6
Men's (12/77 = 100)	110.2	115.9	115.9	114.5	112.9	113.0	114.5	110.1	115.8	115.9	115.0	113.3	113.5	114.7
Suits, sport coats, and jackets (12/77 = 100)	103.2	109.8	109.9	106.4	104.3	104.8	107.2	98.5	102.0	102.0	99.5	97.8	98.2	100.4
Coats and jackets (12/77 = 100)	97.9	102.4	102.8	101.4	96.4	95.8	98.1	98.9	104.9	105.1	104.1	97.6	97.2	99.7
Furnishings and special clothing (12/77 = 100)	127.2	134.3	133.6	134.2	133.6	134.7	136.8	121.5	130.0	129.8	130.6	129.8	131.1	133.1
Shirts (12/77 = 100)	118.0	123.0	123.0	122.7	120.7	119.3	119.9	119.2	125.5	125.4	125.3	123.3	121.8	122.3
Dungarees, jeans, and trousers (12/77 = 100)	104.7	109.2	109.8	108.5	108.2	108.6	108.6	110.0	114.7	115.5	114.1	113.6	114.1	114.2
Boys' (12/77 = 100)	113.7	118.1	118.0	117.2	114.6	116.0	117.8	112.9	116.4	116.5	115.4	112.9	114.3	116.1
Coats, jackets, sweaters, and shirts (12/77 = 100)	106.5	111.9	111.6	109.9	104.7	105.9	109.4	109.5	113.5	112.8	110.9	105.3	106.3	109.7
Furnishings (12/77 = 100)	121.2	125.6	127.0	127.5	127.3	128.2	128.7	117.4	121.8	123.3	123.5	123.3	124.2	124.7
Suits, trousers, sport coats, and jackets (12/77 = 100)	116.5	119.9	119.3	118.8	117.2	119.1	120.1	113.9	116.6	116.9	115.9	114.7	116.7	117.8
Women's and girls'	157.5	161.2	160.6	159.6	154.3	154.7	160.3	158.9	162.7	162.1	160.7	156.4	157.1	163.0
Women's (12/77 = 100)	104.4	106.8	106.3	105.8	102.3	102.9	106.8	105.5	108.1	107.6	107.1	103.9	104.8	109.0
Coats and jackets	157.9	167.3	164.0	161.8	158.4	156.4	162.0	156.9	171.4	166.3	167.3	161.6	163.1	173.1
Dresses	166.4	166.9	165.0	164.0	153.1	152.8	163.1	154.3	151.5	151.9	149.5	140.7	140.9	148.1
Separates and sportswear (12/77 = 100)	99.3	100.4	101.1	100.7	96.7	96.3	100.3	101.6	102.3	101.9	101.3	97.3	96.8	101.2
Underwear, nightwear, and hosiery (12/77 = 100)	117.8	123.0	124.1	124.8	124.0	126.2	127.1	117.7	123.4	124.0	124.5	123.7	126.0	126.9
Suits (12/77 = 100)	93.0	92.4	89.5	87.7	84.2	87.0	92.7	109.5	110.2	108.5	106.0	104.0	105.6	114.1
Girls' (12/77 = 100)	106.4	109.2	109.2	107.7	104.4	102.7	105.6	106.4	108.4	108.4	106.0	104.2	103.1	106.0
Coats, jackets, dresses, and suits (12/77 = 100)	101.2	99.8	100.3	98.4	93.4	92.6	98.2	98.4	99.9	99.9	96.1	91.2	91.5	97.2
Separates and sportswear (12/77 = 100)	106.2	112.0	111.3	108.9	106.3	103.4	104.6	109.1	110.6	110.2	107.5	108.2	106.0	106.9
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	115.6	119.6	120.0	120.7	119.2	118.0	119.6	114.6	118.5	119.0	119.5	118.2	117.0	118.7

20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981				1982		1981				1982			
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	255.3	268.5	264.9	259.4	259.6	262.2	264.7	266.4	281.6	274.1	270.6	270.1	271.4	275.4
Other apparel commodities	212.2	216.2	214.8	214.5	212.9	214.3	212.7	204.5	206.2	206.1	203.2	201.4	202.8	201.6
Sewing materials and notions (12/77 = 100)	113.3	118.1	118.6	118.3	116.2	117.6	118.1	113.3	116.3	116.4	116.2	114.3	115.9	116.5
Jewelry and luggage (12/77 = 100)	147.3	149.0	147.5	147.4	146.7	147.4	145.7	140.9	141.1	141.0	138.4	137.5	138.1	136.7
Footwear	197.4	204.2	205.4	205.7	202.8	202.8	204.9	195.9	204.1	206.2	205.9	203.1	203.3	205.2
Men's (12/77 = 100)	125.2	129.3	130.3	130.7	130.3	130.7	132.5	125.4	130.3	132.3	132.5	132.2	132.6	134.5
Boys' and girls' (12/77 = 100)	127.6	131.1	132.1	132.1	130.1	129.5	129.2	127.3	132.2	134.0	134.8	132.5	132.3	132.1
Women's (12/77 = 100)	120.0	124.9	125.2	125.4	122.6	122.7	124.7	117.0	122.5	122.9	121.6	118.9	119.0	120.8
Apparel services	252.4	263.2	264.6	266.4	267.6	269.4	271.3	251.5	262.1	262.3	264.4	265.5	267.2	269.0
Laundry and drycleaning other than coin operated (12/77 = 100)	149.6	157.1	158.2	159.2	160.0	161.4	162.4	149.3	156.4	156.3	157.8	158.5	159.9	160.9
Other apparel services (12/77 = 100)	133.7	137.5	137.9	139.1	139.4	139.8	141.1	133.9	138.3	138.6	139.6	139.9	140.3	141.5
TRANSPORTATION	273.5	287.2	289.1	289.8	289.9	288.0	285.1	274.4	288.9	290.8	291.5	291.6	289.6	286.6
Private	271.7	283.9	285.8	286.5	286.6	284.5	281.3	273.2	286.4	288.3	289.0	289.0	286.9	283.7
New cars	182.9	192.5	195.3	197.0	197.4	195.5	194.4	182.7	192.7	195.2	196.9	197.3	195.3	194.2
Used cars	235.4	278.2	281.4	281.9	280.5	279.7	280.9	235.4	278.2	281.4	281.9	280.5	279.7	280.9
Gasoline	420.7	409.9	409.5	408.4	406.0	399.1	383.9	422.3	411.3	410.9	409.8	407.5	400.6	385.4
Automobile maintenance and repair	287.7	301.3	302.8	304.1	305.5	307.7	310.2	288.2	301.8	303.4	304.8	306.2	308.4	311.1
Body work (12/77 = 100)	140.3	148.7	149.9	150.6	151.5	153.7	154.5	140.2	147.2	148.3	148.9	149.8	152.1	152.7
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	137.7	144.0	144.2	144.7	145.7	146.5	148.7	140.2	146.5	147.3	148.5	149.5	150.2	152.8
Maintenance and servicing (12/77 = 100)	134.8	140.3	140.9	141.5	142.0	142.7	143.9	134.7	140.3	140.5	141.0	141.5	142.3	143.4
Power plant repair (12/77 = 100)	137.0	144.0	144.9	145.6	146.2	147.3	148.0	135.9	143.5	144.7	145.1	145.7	146.8	147.5
Other private transportation	234.7	247.5	249.5	250.6	253.3	253.4	254.5	237.3	250.6	253.0	254.2	256.9	256.8	257.8
Other private transportation commodities	206.2	212.7	213.4	214.5	215.5	214.8	215.6	208.0	216.1	216.8	216.9	218.0	217.3	218.2
Motor oil, coolant, and other products (12/77 = 100)	141.6	148.0	148.5	148.7	148.2	149.3	150.2	139.8	144.8	146.7	147.2	146.9	147.8	148.7
Automobile parts and equipment (12/77 = 100)	132.1	136.0	136.4	137.2	138.1	137.4	137.9	133.7	138.9	139.2	139.2	140.0	139.4	139.9
Tires	184.1	189.4	189.7	191.5	192.8	191.3	191.7	186.9	194.6	195.1	195.2	196.5	195.1	195.5
Other parts and equipment (12/77 = 100)	129.2	133.4	134.1	133.9	134.3	134.6	135.7	129.5	134.3	134.1	133.9	134.5	134.9	135.9
Other private transportation services	244.6	259.1	261.5	262.6	265.8	266.1	267.2	247.4	262.2	265.1	266.6	269.7	269.8	270.8
Automobile insurance	254.4	264.6	265.4	266.0	266.8	268.1	269.8	253.9	264.3	265.0	265.6	266.6	268.0	269.6
Automobile finance charges (12/77 = 100)	164.3	184.4	188.7	190.5	190.9	188.9	188.9	163.4	183.1	187.6	189.9	190.3	188.3	188.2
Automobile rental, registration, and other fees (12/77 = 100)	118.2	120.2	120.7	120.8	127.6	128.9	129.7	119.9	120.0	121.1	121.4	128.4	129.5	130.1
State registration	146.9	147.9	149.0	149.0	166.9	167.1	168.5	147.0	148.0	149.0	149.0	166.2	166.5	167.8
Drivers' licenses (12/77 = 100)	105.4	109.9	110.4	111.9	117.3	121.7	122.9	105.1	109.8	110.3	111.9	117.1	121.7	123.0
Vehicle inspection (12/77 = 100)	126.1	(¹)	(¹)	128.3	129.2	129.3	129.3	126.7	(¹)	(¹)	129.0	130.5	130.6	130.6
Other vehicle-related fees (12/77 = 100)	138.4	141.2	141.3	141.6	142.5	144.8	145.3	148.9	146.5	148.6	149.2	150.4	152.4	152.5
Public	293.9	330.8	333.2	333.8	334.9	336.8	336.7	285.1	326.6	328.2	328.6	329.4	331.0	331.0
Airline fare	343.7	372.0	374.5	374.7	375.5	379.3	379.0	342.3	372.9	373.1	372.8	372.7	376.3	373.3
Intercity bus fare	323.2	361.3	362.2	365.2	367.3	365.7	365.6	323.9	362.1	362.9	366.1	368.9	367.4	367.0
Intracity mass transit	250.8	301.7	304.4	304.6	305.9	306.7	306.6	249.1	301.3	303.6	303.9	305.1	305.8	305.7
Taxi fare	273.8	289.3	291.3	294.7	296.3	296.7	297.2	280.5	298.1	300.4	304.1	305.6	306.1	306.6
Intercity train fare	276.7	315.0	319.2	319.2	318.1	314.0	314.1	277.1	314.9	318.9	318.9	317.9	314.5	314.5
MEDICAL CARE	284.7	304.8	308.2	310.2	313.4	316.2	318.8	287.0	304.0	307.1	309.1	312.0	314.9	317.4
Medical care commodities	180.7	192.1	193.1	194.9	195.9	197.7	200.0	181.2	192.9	193.8	195.4	196.4	198.3	200.6
Prescription drugs	166.5	178.6	179.6	181.0	181.9	183.7	186.1	166.8	179.4	180.3	181.9	182.8	184.7	187.0
Anti-infective drugs (12/77 = 100)	130.5	136.8	136.3	137.8	138.2	138.4	139.3	131.0	139.6	138.9	139.7	140.1	140.4	141.1
Tranquilizers and sedatives (12/77 = 100)	132.8	141.9	143.6	144.8	145.4	146.8	146.8	131.5	141.3	143.3	144.4	144.9	146.5	148.3
Circulatories and diuretics (12/77 = 100)	122.2	129.5	130.4	131.9	132.2	134.0	135.7	123.7	130.5	131.0	131.8	132.1	134.0	135.6
Hormones, diabetic drugs, biologicals, and prescription medical supplies (12/77 = 100)	148.2	161.9	163.3	164.6	165.6	168.4	170.8	147.8	162.8	164.1	165.9	166.9	169.7	172.0
Pain and symptom control drugs (12/77 = 100)	132.7	144.1	144.9	145.9	147.3	148.8	150.8	134.1	144.2	145.4	147.3	148.7	150.3	152.3
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	126.3	136.8	137.5	138.1	138.8	139.9	142.7	126.5	136.1	136.8	138.0	138.8	139.9	142.7
Nonprescription drugs and medical supplies (12/77 = 100)	129.9	137.0	137.8	139.2	139.9	141.1	142.5	130.5	137.9	138.5	139.7	140.4	141.6	143.2
Eyeglasses (12/77 = 100)	124.6	127.4	127.8	128.4	128.3	128.9	129.5	122.6	126.0	126.7	127.1	127.1	127.6	128.1
Internal and respiratory over-the-counter drugs	204.2	217.3	218.6	221.6	222.8	225.1	228.1	205.5	219.5	220.2	222.8	223.9	226.4	229.6
Nonprescription medical equipment and supplies (12/77 = 100)	125.0	132.7	133.7	134.6	135.9	137.1	138.1	127.1	133.8	134.7	135.2	136.6	137.7	138.8
Medical care services	307.5	329.7	333.7	335.7	339.4	342.4	345.1	310.2	328.3	332.0	334.0	337.5	340.6	343.0
Professional services	269.6	286.4	288.4	290.0	292.0	294.2	295.8	274.2	286.2	288.2	290.3	292.2	294.3	295.9
Physicians' services	290.3	307.9	311.3	313.0	315.5	318.8	320.3	296.3	310.9	314.1	316.0	318.6	321.7	323.2
Dental services	254.9	271.6	272.3	273.9	275.8	276.8	278.6	259.8	269.5	270.1	272.3	274.1	274.9	276.6
Other professional services (12/77 = 100)	131.5	138.9	139.5	140.3	140.3	141.5	142.4	129.9	134.9	136.2	137.2	137.2	138.5	139.4
Other medical care services	353.4	382.1	388.4	390.9	396.8	400.8	404.7	354.4	380.3	386.2	388.1	393.8	398.0	401.6
Hospital and other medical services (12/77 = 100)	147.1	159.0	161.9	162.7	165.6	167.1	168.5	146.7	157.9	160.6	161.1	164.0	165.7	166.9
Hospital room	460.9	503.0	515.4	519.3	529.4	533.8	538.5	498.9	509.6	512.6	512.6	522.0	527.0	531.0
Other hospital and medical care services (12/77 = 100)	146.7	157.2	159.2	159.6	162.2	163.8	165.2	146.3	156.1	158.3	158.4	161.2	163.0	164.2

20. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1981				1982		1981				1982			
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
ENTERTAINMENT	218.2	225.5	226.8	227.3	229.2	231.2	232.8	216.1	223.4	224.3	224.4	226.1	228.1	229.5
Entertainment commodities	222.1	228.9	230.3	230.6	232.0	234.3	236.6	218.0	224.2	225.5	225.4	226.7	228.9	230.8
Reading materials (12/77 = 100)	133.2	138.7	139.8	139.6	142.9	144.1	146.1	133.0	138.3	139.3	139.1	142.1	143.3	145.3
Newspapers	256.6	267.1	267.6	267.7	270.5	273.1	276.4	256.7	266.9	267.5	267.6	270.1	272.8	276.0
Magazines, periodicals, and books (12/77 = 100)	136.2	141.9	143.9	143.5	149.0	149.9	152.4	136.3	141.9	143.7	143.4	148.8	149.7	152.2
Sporting goods and equipment (12/77 = 100)	126.1	128.3	130.2	130.0	129.5	131.5	132.3	120.3	121.4	122.8	122.4	122.4	123.9	124.3
Sport vehicles (12/77 = 100)	128.5	129.4	(¹)	132.1	(¹)	133.9	135.4	119.5	118.6	(¹)	120.2	(¹)	121.9	122.5
Indoor and warm weather sport equipment (12/77 = 100)	116.2	119.2	119.6	119.9	120.1	119.6	119.9	115.2	117.3	118.2	117.9	118.2	117.7	118.1
Bicycles	188.4	194.4	194.3	193.9	194.8	197.3	197.6	189.4	195.9	196.3	195.2	196.2	198.9	198.9
Other sporting goods and equipment (12/77 = 100)	121.2	126.6	126.7	126.2	125.3	127.0	125.6	119.3	126.2	126.9	126.3	125.2	127.4	126.0
Toys, hobbies, and other entertainment (12/77 = 100)	127.2	131.3	131.3	132.0	132.2	133.2	134.5	126.3	130.5	130.8	130.9	131.2	132.3	133.5
Toys, hobbies, and music equipment (12/77 = 100)	125.6	129.6	129.7	130.1	130.8	131.7	133.4	123.1	126.2	126.7	126.9	127.7	128.6	130.2
Photographic supplies and equipment (12/77 = 100)	124.0	126.0	125.5	125.2	125.2	126.9	128.3	125.5	127.8	127.5	126.3	126.3	127.9	129.5
Pet supplies and expenses (12/77 = 100)	132.3	138.3	138.3	140.2	139.7	140.6	140.8	132.8	139.9	140.1	140.9	140.5	141.6	141.7
Entertainment services	213.0	221.0	222.3	223.0	225.5	227.1	227.8	213.8	223.3	223.4	223.9	226.1	227.8	228.4
Fees for participant sports (12/77 = 100)	129.8	136.4	137.3	137.6	139.6	140.9	141.9	129.6	138.9	139.1	139.3	141.2	142.5	143.5
Admissions (12/77 = 100)	125.3	128.3	128.9	129.7	131.2	131.6	131.2	125.9	128.2	128.3	128.7	130.1	130.6	130.3
Other entertainment services (12/77 = 100)	121.0	123.1	123.4	123.7	124.2	125.0	125.1	121.7	124.2	124.1	124.3	124.7	125.9	125.9
OTHER GOODS AND SERVICES	228.7	245.2	245.9	246.7	248.4	250.3	252.2	226.8	241.4	242.5	243.5	245.0	247.1	249.3
Tobacco products	212.5	225.3	226.2	226.8	227.1	230.7	234.1	212.4	224.5	225.4	225.9	226.2	229.8	233.2
Cigarettes	214.8	228.1	228.9	229.7	230.0	233.6	237.3	214.9	227.2	228.1	228.7	229.1	232.7	236.3
Other tobacco products and smoking accessories (12/77 = 100)	128.0	134.0	134.7	134.4	134.7	136.8	138.1	128.1	134.7	135.0	134.7	135.0	136.9	138.2
Personal care	226.9	236.9	237.7	239.1	240.9	242.3	243.7	225.1	234.1	235.5	237.1	238.8	240.4	241.8
Toilet goods and personal care appliances	222.4	231.6	232.5	234.7	236.4	238.5	240.6	220.9	231.4	233.1	235.4	236.9	239.2	241.5
Products for the hair, hairpieces, and wigs (12/77 = 100)	131.4	134.9	135.4	136.5	137.2	138.4	140.8	128.4	131.8	133.3	135.8	136.4	137.8	140.0
Dental and shaving products (12/77 = 100)	135.3	139.8	140.5	141.2	144.0	145.6	148.0	133.3	138.0	139.3	139.8	142.6	144.2	146.6
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	123.9	131.2	131.8	133.2	134.1	135.0	135.1	123.4	131.6	132.2	133.7	134.5	135.8	136.1
Other toilet goods and small personal care appliances (12/77 = 100)	128.3	133.7	134.3	136.0	135.9	137.0	137.4	130.7	138.2	139.1	139.1	138.9	140.2	140.7
Personal care services	231.7	242.3	243.1	243.9	245.7	246.5	247.3	229.4	237.1	238.1	239.2	241.0	241.8	242.6
Beauty parlor services for women	233.6	243.9	244.8	245.2	246.9	247.7	248.9	230.8	236.7	237.8	238.8	240.5	241.3	242.5
Haircuts and other barber shop services for men (12/77 = 100)	129.2	135.6	135.9	136.8	138.0	138.4	138.4	128.4	134.5	134.9	135.7	136.8	137.2	137.2
Personal and educational expenses	255.2	284.6	284.9	285.1	288.1	289.2	290.4	256.0	284.8	285.6	285.9	288.9	290.2	291.7
Schoolbooks and supplies	230.5	254.5	254.6	254.5	260.7	262.9	263.3	234.4	258.3	258.3	258.5	264.8	267.1	267.5
Personal and educational services	261.2	291.7	292.1	292.3	294.8	295.8	297.1	261.6	291.6	292.5	292.8	295.2	296.3	298.0
Tuition and other school fees	132.8	149.0	149.1	149.1	150.5	150.6	151.1	133.0	149.3	149.4	149.4	150.7	150.9	151.7
College tuition (12/77 = 100)	132.3	148.2	148.3	148.3	149.9	150.1	150.7	132.3	148.1	148.1	148.1	148.6	149.8	150.9
Elementary and high school tuition (12/77 = 100)	134.4	151.6	152.0	152.0	152.1	152.2	152.2	134.4	152.2	152.7	152.7	152.8	152.9	152.9
Personal expenses (12/77 = 100)	138.7	152.3	152.8	153.4	154.3	156.1	157.4	138.1	150.4	152.1	152.7	153.7	155.3	156.7
Special indexes:														
Gasoline, motor oil, coolant, and other products	414.5	404.3	403.9	402.8	400.5	393.9	379.3	415.9	405.4	405.1	404.0	401.8	395.3	380.6
Insurance and finance	373.6	419.0	422.2	423.1	423.9	424.8	420.9	373.0	417.6	420.9	422.1	422.8	423.5	419.9
Utilities and public transportation	265.2	292.7	292.6	293.9	297.7	299.1	302.7	263.6	291.6	291.5	292.6	296.4	297.7	301.5
Housekeeping and home maintenance services	318.3	335.9	339.6	341.3	343.0	344.0	344.0	317.2	337.3	339.9	341.5	343.3	344.2	344.0

¹ Not available.

21. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000-1.250 million)			Size class C (75,000-385,000)			Size class D (75,000 or less)		
	1981			1981			1981			1981		
	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.
Northeast												
EXPENDITURE CATEGORY												
All items	143.8	144.2	144.2	152.3	152.9	150.7	156.2	159.2	158.1	149.2	150.7	151.4
Food and beverages	139.7	139.6	143.3	139.9	139.6	142.7	142.6	142.8	145.7	137.4	137.0	140.4
Housing	147.8	148.0	146.0	161.4	161.9	155.7	170.1	176.3	172.5	156.6	159.3	159.5
Apparel and upkeep	118.9	117.5	117.0	124.8	123.1	120.5	124.8	125.9	123.1	126.5	125.4	119.9
Transportation	156.3	157.9	156.5	164.0	165.4	164.2	162.0	162.7	161.6	159.7	161.8	161.7
Medical care	140.0	142.0	145.1	143.6	146.6	147.0	146.5	146.3	148.7	142.3	143.0	144.8
Entertainment	131.8	131.9	133.3	129.6	131.0	132.4	129.5	133.7	136.1	133.2	134.3	137.6
Other goods and services	134.6	135.4	136.9	138.0	138.7	140.6	141.5	142.0	142.9	137.5	138.5	140.6
COMMODITY AND SERVICE GROUP												
Commodities	142.1	141.8	142.1	149.6	149.6	147.9	149.8	151.1	150.1	146.4	147.2	147.6
Commodities less food and beverages	143.7	143.2	141.4	154.3	154.5	150.5	153.1	154.9	152.2	150.7	152.1	151.0
Services	146.0	147.3	146.9	156.5	158.0	155.1	166.7	172.5	171.0	153.5	156.1	157.3
North Central region												
EXPENDITURE CATEGORY												
All items	152.6	152.6	153.6	148.8	149.2	151.9	145.9	147.4	149.1	146.7	147.6	151.0
Food and beverages	139.7	139.8	141.6	139.3	139.3	140.8	140.3	140.7	143.1	143.3	143.4	144.7
Housing	164.4	163.3	164.9	153.6	153.8	159.9	147.5	150.0	152.7	148.3	149.1	155.5
Apparel and upkeep	115.5	113.7	112.7	127.2	128.0	121.1	123.4	122.4	121.8	123.1	123.6	119.5
Transportation	161.2	162.9	161.1	159.5	160.8	159.7	161.2	162.3	161.0	158.6	160.1	160.3
Medical care	142.8	144.6	148.4	145.6	146.8	150.8	145.3	147.7	150.3	147.7	151.2	154.5
Entertainment	132.2	134.1	137.1	123.8	124.4	126.4	131.3	132.6	136.1	128.4	129.2	132.5
Other goods and services	136.0	137.0	138.8	142.4	142.9	145.1	135.1	135.6	137.3	140.4	141.7	144.6
COMMODITY AND SERVICE GROUP												
Commodities	145.7	145.1	145.2	142.9	142.9	145.4	141.4	142.2	143.5	140.7	140.7	142.1
Commodities less food and beverages	148.5	147.6	146.9	144.4	144.4	147.3	141.9	142.8	143.6	139.6	139.5	141.0
Services	162.9	163.7	166.1	158.3	159.5	162.6	153.3	156.1	158.4	156.2	158.7	165.0
South												
EXPENDITURE CATEGORY												
All items	150.9	152.0	152.6	153.4	155.9	157.2	149.2	152.3	154.0	149.4	150.8	152.3
Food and beverages	141.2	141.4	144.2	141.1	141.3	144.8	141.2	141.9	144.1	144.0	143.4	146.1
Housing	158.6	160.3	160.2	162.5	166.7	168.3	154.7	159.7	162.7	153.5	156.2	158.8
Apparel and upkeep	124.4	123.5	122.6	122.6	123.7	121.1	118.3	118.2	117.0	111.8	110.4	105.7
Transportation	160.6	161.9	161.5	162.3	164.1	162.8	160.2	162.3	160.7	160.6	161.6	159.9
Medical care	141.6	143.2	145.9	145.9	147.6	150.5	148.8	153.0	155.4	156.3	160.1	162.5
Entertainment	127.1	127.4	129.3	133.4	137.1	140.0	134.8	136.4	140.4	138.8	138.4	140.4
Other goods and services	139.2	139.7	141.2	139.5	139.5	140.7	138.5	139.9	142.0	139.5	140.5	147.9
COMMODITY AND SERVICE GROUP												
Commodities	145.0	145.9	146.8	145.7	147.5	148.4	143.6	145.3	146.0	144.1	145.1	145.0
Commodities less food and beverages	146.6	147.9	148.0	147.7	150.1	149.9	144.6	146.7	146.8	144.2	145.8	144.6
Services	159.3	160.5	160.7	164.9	168.6	170.4	157.9	163.1	166.3	157.4	159.5	163.3
West												
EXPENDITURE CATEGORY												
All items	156.3	156.1	157.9	155.0	155.1	157.1	149.2	149.4	150.2	152.1	149.1	153.3
Food and beverages	140.3	140.8	143.9	144.9	145.4	147.9	141.4	140.1	143.4	145.5	145.8	148.1
Housing	167.1	165.5	167.2	162.6	161.6	164.9	153.5	153.8	154.4	153.9	146.1	153.9
Apparel and upkeep	121.8	121.9	121.7	127.6	127.1	126.4	116.5	117.1	118.8	135.9	135.6	131.9
Transportation	161.8	162.9	164.2	163.5	165.0	163.6	162.1	162.8	160.9	162.5	164.6	164.5
Medical care	150.5	155.7	157.8	148.1	151.3	153.7	149.4	151.1	154.8	150.4	152.8	157.9
Entertainment	133.0	133.6	135.1	132.5	133.9	135.5	131.4	129.4	130.4	144.4	145.6	147.8
Other goods and services	140.1	141.0	144.5	141.4	142.8	145.3	136.1	136.8	137.1	145.5	148.0	147.6
COMMODITY AND SERVICE GROUP												
Commodities	145.1	144.9	146.0	147.0	147.2	148.4	144.4	143.7	145.2	146.2	145.5	147.5
Commodities less food and beverages	147.1	146.6	146.9	147.8	148.0	148.6	145.6	145.1	145.9	146.5	145.4	147.3
Services	171.2	170.9	173.7	166.0	166.0	169.1	156.1	157.5	157.3	160.9	154.6	161.8

22. Consumer Price Index—U.S. city average, and selected areas

[1967=100 unless otherwise specified]

Area ¹	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1981				1982			1981				1982		
	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	h.a.r.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
U.S. city average ²	265.1	279.9	280.7	281.5	282.5	283.4	283.1	265.2	279.7	280.4	281.1	282.1	282.9	282.5
Anchorage, Alaska (10/67=100)	241.1	...	253.7	...	253.0	...	260.0	236.2	...	249.3	...	248.6	...	254.5
Atlanta, Ga.	...	281.5	...	282.2	...	279.8	...	...	283.0	...	284.1	...	282.7	...
Baltimore, Md.	270.3	...	280.7	...	282.1	...	281.9	269.6	...	280.9	...	282.3	...	282.2
Boston, Mass.	262.3	...	274.2	...	274.0	...	269.8	261.8	...	274.3	...	273.4	...	269.8
Buffalo, N.Y.	...	262.5	...	264.3	...	259.9	...	...	261.2	...	262.7	...	258.0	...
Chicago, Ill.-Northwestern Ind.	259.7	276.1	277.0	273.9	275.4	274.9	276.4	258.9	276.3	277.3	274.4	275.9	275.4	276.5
Cincinnati, Ohio-Ky.-Ind.	266.1	...	276.6	...	285.7	...	284.9	267.7	...	279.0	...	288.4	...	287.2
Cleveland, Ohio	...	282.8	...	281.6	...	285.9	...	...	282.3	...	281.2	...	285.0	...
Dallas-Ft. Worth, Tex.	...	292.5	...	295.1	...	293.6	...	...	288.8	...	291.0	...	289.8	...
Denver-Boulder, Colo.	281.4	...	297.8	...	305.4	...	309.2	285.8	...	302.8	...	310.5	...	315.0
Detroit, Mich.	268.2	281.5	279.6	278.3	280.8	277.8	278.2	263.6	278.2	276.4	275.1	277.8	274.8	275.1
Honolulu, Hawaii	...	259.3	...	258.3	...	262.2	...	...	259.1	...	259.3	...	263.2	...
Houston, Tex.	...	300.0	...	302.7	...	304.1	...	...	295.9	...	298.8	...	300.3	...
Kansas City, Mo.-Kansas	...	272.6	...	273.5	...	276.0	...	...	271.3	...	272.0	...	274.1	...
Los Angeles-Long Beach, Anaheim, Calif.	263.3	281.3	281.8	282.3	285.8	285.6	286.6	266.5	284.9	285.5	286.1	289.8	289.4	290.4
Miami, Fla. (11/77=100)	140.0	...	153.6	...	155.2	...	155.1	141.7	...	154.7	...	156.4	...	156.4
Milwaukee, Wis.	269.9	...	287.5	...	291.3	...	289.3	274.6	...	291.5	...	295.3	...	292.5
Minneapolis-St. Paul, Minn.-Wis.	...	291.6	...	298.7	...	306.0	...	...	291.6	...	298.3	...	305.3	...
New York, N.Y.-Northeastern N.J.	253.9	268.0	267.8	267.9	268.5	269.0	267.4	253.7	267.0	266.9	266.9	267.5	267.8	265.9
Northeast, Pa. (Scranton)	257.6	...	272.2	...	272.5	...	267.2	260.6	...	275.2	...	274.5	...	268.4
Philadelphia, Pa.-N.J.	258.3	274.7	274.1	274.9	275.7	275.5	274.7	259.5	275.2	274.5	274.1	275.1	275.1	274.3
Pittsburgh, Pa.	...	277.7	...	281.8	...	278.6	...	...	278.4	...	282.6	...	280.0	...
Portland, Oreg.-Wash.	268.1	...	278.7	...	288.4	...	286.7	267.0	...	276.3	...	285.5	...	283.9
St. Louis, Mo.-Ill.	259.3	...	273.8	...	278.4	...	280.7	259.4	...	273.0	...	277.1	...	279.3
San Diego, Calif.	293.1	...	321.3	...	323.1	...	319.0	288.0	...	315.1	...	317.4	...	313.9
San Francisco-Oakland, Calif.	...	297.0	...	294.0	...	295.8	...	...	295.6	...	292.7	...	294.9	...
Seattle-Everett, Wash.	271.1	...	289.2	...	295.9	...	293.4	267.9	...	285.7	...	291.9	...	289.6
Washington, D.C.-Md.-Va.	262.3	...	275.5	...	278.0	...	278.8	264.2	...	279.3	...	281.8	...	283.8

¹The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated

Area is used for New York and Chicago.
² Average of 85 cities.

23. Producer Price Indexes, by stage of processing

[1967=100]

Commodity grouping	Annual average 1981	1981									1982			
		Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. ¹	Jan.	Feb.	Mar.	Apr.
FINISHED GOODS														
Finished goods	269.8	268.5	269.6	270.5	271.8	271.5	271.5	274.3	274.7	275.4	277.4	277.4	276.9	276.9
Finished consumer goods	271.2	270.6	271.5	272.3	273.5	273.0	273.1	275.1	275.2	275.8	277.4	278.1	277.2	276.9
Finished consumer foods	253.5	251.9	252.8	253.8	257.6	256.3	256.2	254.0	252.7	252.9	256.4	258.2	257.1	259.8
Crude	263.6	279.3	263.1	258.9	262.7	256.9	253.5	253.8	260.0	273.9	280.1	282.0	262.9	266.1
Processed	250.6	247.4	248.8	251.3	255.0	254.2	254.4	252.0	249.9	249.0	252.2	253.9	254.4	257.1
Nondurable goods less foods	319.4	320.4	321.0	322.0	322.5	322.1	324.2	324.3	325.4	326.3	328.1	329.3	328.0	324.9
Durable goods	218.5	216.6	218.1	218.2	218.1	218.3	215.8	224.5	224.7	225.4	225.8	223.5	223.5	223.8
Consumer nondurable goods less food and energy	208.6	207.3	207.7	208.4	209.5	210.4	211.8	212.6	213.6	213.9	216.2	218.8	219.6	221.4
Capital equipment	264.3	260.8	262.5	263.8	265.4	265.8	265.3	271.5	273.0	274.1	276.1	274.8	275.7	277.1
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	306.0	305.8	306.7	307.2	308.5	310.1	309.7	309.4	309.0	309.4	311.3	311.3	310.9	310.1
Materials and components for manufacturing	286.2	284.1	285.1	285.8	287.9	289.8	290.2	290.2	289.5	289.3	290.8	291.3	290.8	290.9
Materials for food manufacturing	260.9	263.1	259.0	262.4	260.5	261.0	254.6	250.9	246.8	245.6	252.9	254.3	252.0	254.3
Materials for nondurable manufacturing	285.9	284.3	287.0	287.7	289.2	291.0	291.2	290.9	289.4	288.8	289.4	289.5	289.5	288.1
Materials for durable manufacturing	312.2	310.6	311.2	310.7	314.4	316.0	317.1	316.7	314.9	314.0	314.2	313.5	311.2	311.2
Components for manufacturing	259.2	255.4	256.3	257.3	259.5	261.8	263.8	265.1	266.9	267.8	269.7	271.1	272.0	272.9
Materials and components for construction	287.5	288.0	288.5	289.6	290.4	290.7	290.0	290.1	290.2	291.1	291.9	292.8	293.3	293.8
Processed fuels and lubricants	595.0	608.5	608.7	605.7	602.0	607.8	601.4	596.9	595.1	598.1	605.7	597.1	593.5	579.8
Manufacturing industries	498.2	509.0	510.7	505.4	500.3	508.3	500.5	497.5	496.4	499.0	507.7	498.7	497.1	487.6
Nonmanufacturing industries	680.5	696.2	695.2	694.3	692.0	695.6	690.5	684.7	682.2	685.6	692.0	683.9	678.4	660.9
Containers	276.2	274.3	276.4	277.2	278.8	280.3	280.6	280.9	280.6	280.2	282.2	285.2	286.5	287.4
Supplies	263.9	262.4	264.0	264.6	266.0	266.1	266.1	266.6	267.2	268.3	269.8	270.7	270.9	272.3
Manufacturing industries	253.2	250.6	252.3	253.4	255.0	256.0	256.8	258.2	259.2	261.0	262.5	263.5	264.8	265.6
Nonmanufacturing industries	269.6	268.7	270.2	270.5	272.0	271.6	271.1	271.2	271.6	272.4	273.9	274.8	274.4	276.0
Feeds	230.4	239.2	242.9	235.4	232.8	229.1	221.3	215.9	212.0	214.6	215.2	212.7	208.8	212.9
Other supplies	276.4	272.9	273.8	276.3	278.7	279.3	280.7	282.3	283.7	284.1	285.8	287.6	288.1	289.1
CRUDE MATERIALS														
Crude materials for further processing	329.1	336.3	334.4	335.4	337.3	333.0	327.4	319.9	313.9	311.5	318.2	321.5	319.9	322.8
Foodstuffs and feedstuffs	257.4	263.5	260.6	264.3	267.2	261.8	253.4	245.7	238.3	233.7	242.5	248.3	247.9	254.3
Nonfood materials	481.6	492.1	492.4	487.4	487.2	485.3	486.0	479.2	476.3	478.6	481.1	479.3	475.0	470.4
Nonfood materials except fuel	413.9	432.5	428.3	418.1	413.1	413.9	410.2	404.1	397.8	396.2	399.7	395.1	387.4	379.0
Manufacturing industries	429.6	450.2	445.5	434.2	428.7	429.6	425.4	418.6	411.7	409.8	413.2	407.6	398.5	389.0
Construction	262.4	261.5	261.7	262.6	262.6	263.1	263.6	264.7	264.8	265.2	269.6	272.1	275.1	275.3
Crude fuel	676.5	716.6	738.4	759.2	781.2	766.7	788.7	779.0	792.5	813.0	810.0	823.5	837.7	853.7
Manufacturing industries	865.4	821.9	850.6	877.2	902.6	883.0	911.4	898.4	915.8	942.5	936.3	953.4	972.8	992.4
Nonmanufacturing industries	674.3	645.8	662.2	678.5	698.1	687.8	704.8	697.8	708.2	724.0	723.6	734.4	744.5	757.6
SPECIAL GROUPINGS														
Finished goods excluding foods	273.2	272.1	273.3	274.1	274.7	274.6	274.7	279.1	280.0	280.9	282.3	281.8	281.5	280.6
Finished consumer goods excluding foods	276.3	276.1	277.0	277.7	277.9	277.7	277.9	281.6	282.4	283.2	284.4	284.1	283.3	281.7
Finished consumer goods less energy	233.9	231.8	232.8	233.4	235.0	235.0	234.9	237.2	237.2	237.6	239.8	240.8	240.7	242.4
Intermediate materials less foods and feeds	310.1	309.5	310.7	311.2	312.7	314.5	314.6	314.6	314.5	314.9	316.6	316.6	316.3	315.3
Intermediate materials less energy	285.2	283.7	284.7	285.5	287.2	288.5	288.7	288.8	288.5	288.7	290.1	290.9	290.7	291.2
Intermediate foods and feeds	250.7	254.9	253.1	253.2	251.1	250.2	243.5	239.3	235.2	235.2	240.4	240.6	237.8	240.7
Crude materials less agricultural products	545.8	556.0	557.5	551.3	550.6	549.1	551.4	543.4	540.7	543.5	545.7	543.9	538.2	532.2
Crude materials less energy	254.0	261.1	257.9	259.7	261.8	258.0	250.4	243.2	235.8	231.6	239.2	243.4	242.8	247.3

¹ Data for December 1981 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r=revised.

24. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1981	1981									1982			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. 1	Jan.	Feb.	Mar.	Apr.
	All commodities	293.4	293.4	294.1	294.8	296.2	296.4	295.7	296.1	295.5	295.8	298.2	298.5	297.9	297.9
	All commodities (1957-59 = 100)	311.3	311.3	312.0	312.8	314.3	314.5	313.7	314.2	313.5	313.8	316.4	316.7	316.1	316.1
	Farm products and processed foods and feeds	251.5	253.8	252.9	254.3	256.8	254.2	250.3	246.0	242.5	241.0	246.2	248.5	247.5	251.4
	Industrial commodities	304.1	303.5	304.7	305.1	306.2	307.2	307.4	309.0	309.3	310.0	311.7	311.4	311.0	309.9
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	254.9	263.3	259.6	260.7	263.3	257.9	251.1	243.1	237.4	234.6	242.1	247.1	244.6	250.6
01-1	Fresh and dried fruits and vegetables	267.0	286.1	275.3	263.3	265.6	258.1	252.8	248.8	254.0	280.5	288.3	289.3	256.4	266.7
01-2	Grains	248.4	264.7	257.7	257.1	257.4	242.7	227.0	227.6	226.5	213.6	225.2	232.2	220.9	226.0
01-3	Livestock	248.0	246.6	251.8	263.0	266.5	262.0	257.3	244.5	231.1	225.0	236.8	251.2	255.6	267.6
01-4	Live poultry	201.2	195.4	207.2	210.0	215.3	210.3	196.7	185.7	175.0	171.4	186.8	197.3	197.7	186.2
01-5	Plant and animal fibers	242.0	274.2	258.3	259.6	251.3	232.5	206.5	211.7	198.5	188.4	198.2	193.6	199.7	207.4
01-6	Fluid milk	287.4	287.2	283.6	285.0	284.3	285.0	287.3	294.3	288.2	286.7	287.6	285.8	282.5	280.3
01-7	Eggs	187.1	196.2	165.0	174.6	185.1	180.7	193.2	193.8	209.7	195.5	187.0	200.6	204.0	192.1
01-8	Hay, hayseeds, and oilseeds	274.1	296.3	299.0	285.3	290.0	284.3	267.2	230.4	221.1	218.8	218.4	217.6	213.7	222.8
01-9	Other farm products	274.3	295.9	259.7	242.7	250.2	263.9	268.9	263.3	273.1	280.2	280.1	273.7	273.0	274.2
02	Processed foods and feeds	248.7	247.6	248.2	249.9	252.2	251.2	248.9	246.6	244.3	243.6	247.4	248.3	248.1	250.8
02-1	Cereal and bakery products	255.5	253.9	256.3	256.4	258.3	257.7	258.5	256.9	256.5	255.1	256.6	255.3	254.2	253.8
02-2	Meats, poultry, and fish	246.2	239.1	245.2	248.6	257.1	254.4	253.3	246.6	240.0	236.1	244.2	247.4	249.7	257.1
02-3	Dairy products	245.7	245.4	244.6	245.2	245.1	245.3	245.5	246.8	246.9	247.2	247.7	248.0	248.0	248.4
02-4	Processed fruits and vegetables	261.1	258.0	259.4	262.5	265.9	267.3	270.0	271.7	270.5	271.8	272.8	274.7	275.7	274.5
02-5	Sugar and confectionery	276.8	284.5	262.8	274.8	266.0	267.3	246.8	246.7	244.1	247.6	260.8	260.3	255.0	256.4
02-6	Beverages and beverage materials	247.5	246.0	247.6	248.1	249.0	249.4	249.1	250.0	251.4	251.9	253.5	254.2	255.7	256.6
02-7	Fats and oils	227.5	232.4	228.2	227.3	234.8	229.5	224.3	223.4	221.5	219.1	217.0	218.1	214.1	218.6
02-8	Miscellaneous processed foods	250.1	249.9	251.1	251.5	252.2	252.1	253.0	249.9	250.1	249.9	250.5	250.9	249.6	249.5
02-9	Prepared animal feeds	230.3	237.7	241.0	234.3	232.2	228.9	222.9	218.1	214.7	217.2	217.7	215.4	212.0	216.1
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	199.6	197.6	199.2	200.1	201.3	202.4	202.9	204.0	203.6	203.4	203.7	204.2	205.0	204.7
03-1	Synthetic fibers (12/75 = 100)	156.7	151.5	156.4	157.9	159.7	161.2	161.0	162.7	161.6	161.5	163.7	164.1	163.8	162.1
03-2	Processed yarns and threads (12/75 = 100)	137.8	135.0	138.6	139.3	140.3	142.0	142.3	144.4	140.3	139.6	135.3	134.9	140.8	140.4
03-3	Gray fabrics (12/75 = 100)	146.7	146.6	145.8	147.4	148.2	149.0	149.1	148.0	147.4	147.2	148.3	147.4	147.1	145.8
03-4	Finished fabrics (12/75 = 100)	125.2	124.9	125.7	125.6	126.0	126.8	126.8	126.7	126.5	125.6	126.7	126.9	125.7	125.5
03-81	Apparel	185.5	184.3	185.2	186.2	187.2	187.8	188.0	189.9	190.8	191.0	190.1	191.0	191.7	192.2
03-82	Textile housefurnishings	228.2	222.1	224.0	223.9	227.1	228.8	232.2	233.0	233.4	233.6	241.9	245.5	246.2	246.5
04	Hides, skins, leather, and related products	261.5	263.5	263.7	261.6	261.1	261.3	261.7	260.0	259.8	260.7	264.5	263.3	262.7	264.4
04-2	Leather	319.5	337.8	330.0	321.0	319.0	313.7	313.2	313.7	311.3	312.3	320.3	317.8	315.5	313.2
04-3	Footwear	241.2	241.1	241.4	241.5	242.4	242.5	242.9	239.6	239.8	240.1	241.4	239.2	240.6	243.7
04-4	Other leather and related products	243.5	238.5	244.2	244.3	242.9	245.1	245.0	245.0	245.4	245.4	252.7	253.3	253.3	253.2
05	Fuels and related products and power	694.4	707.2	709.0	707.6	704.9	704.3	703.5	698.1	698.1	702.5	705.8	697.6	690.1	671.2
05-1	Coal	497.3	486.1	487.3	491.7	505.5	507.0	510.2	510.8	512.7	515.2	526.1	529.1	527.0	532.5
05-2	Coke	456.5	430.1	467.9	469.7	469.7	469.7	469.7	469.7	469.7	469.7	470.3	470.3	468.1	468.1
05-3	Gas fuels ²	939.8	907.8	933.9	954.6	969.4	949.3	976.6	965.6	983.0	1,003.7	990.2	987.9	993.8	996.6
05-4	Electric power	366.8	355.5	360.4	366.6	374.6	385.8	383.8	378.4	378.3	384.2	392.5	392.6	404.1	406.7
05-61	Crude petroleum ³	803.6	842.5	839.9	815.9	798.9	796.8	796.8	788.2	785.9	787.2	787.4	770.4	745.0	718.0
05-7	Petroleum products, refined ⁴	805.8	840.9	835.3	828.1	816.3	813.4	806.1	802.3	798.3	798.6	802.9	789.4	770.5	733.4
06	Chemicals and allied products	287.8	286.0	288.6	290.5	291.3	293.3	293.3	292.4	292.0	291.8	293.4	294.5	294.6	294.5
06-1	Industrial chemicals ⁵	363.8	362.4	368.5	369.7	370.4	371.5	371.8	367.9	363.7	362.8	363.8	362.8	362.6	359.6
06-21	Prepared paint	249.9	248.1	250.0	250.0	250.7	250.7	250.7	250.7	254.5	256.4	259.3	259.3	259.3	259.3
06-22	Paint materials	300.2	295.4	300.3	300.8	304.5	308.5	308.0	308.1	308.3	305.8	308.7	308.6	306.8	306.8
06-3	Drugs and pharmaceuticals	193.4	191.0	192.4	193.2	195.5	195.0	197.8	198.5	198.2	198.9	200.9	203.0	204.8	208.6
06-4	Fats and oils, inedible	295.6	312.7	312.1	303.1	290.9	305.6	285.6	277.7	282.5	280.4	272.8	274.2	290.1	282.6
06-5	Agricultural chemicals and chemical products	284.8	277.8	279.1	288.9	288.9	293.4	292.6	293.1	295.7	294.9	295.8	297.9	297.0	296.3
06-6	Plastic resins and materials	289.2	285.1	287.9	290.0	295.9	297.5	296.8	299.5	293.2	294.2	293.8	295.9	286.8	286.1
06-7	Other chemicals and allied products	254.4	255.3	254.8	256.3	254.8	257.3	257.4	256.9	259.9	260.0	262.8	265.0	267.7	269.0
07	Rubber and plastic products	232.8	230.8	231.8	233.4	232.1	234.1	235.7	237.3	238.0	238.3	239.5	241.0	241.8	241.9
07-1	Rubber and rubber products	256.7	253.0	254.4	256.8	254.7	256.9	260.3	262.9	264.4	264.6	267.3	269.7	269.3	268.7
07-11	Crude rubber	281.7	279.8	283.2	285.2	284.2	284.7	283.1	279.8	279.0	280.8	281.8	282.1	282.8	283.2
07-12	Tires and tubes	250.9	250.7	251.2	251.2	246.8	249.9	256.5	257.1	255.9	255.4	256.6	259.6	256.3	254.4
07-13	Miscellaneous rubber products	252.4	243.8	245.7	250.9	251.4	253.1	253.9	261.1	266.7	267.2	272.6	274.9	278.1	278.8
07-2	Plastic products (6/78 = 100)	128.4	128.2	128.6	129.1	128.7	129.8	129.9	130.3	130.3	130.6	130.5	130.9	132.0	132.4
08	Lumber and wood products	292.8	299.4	298.4	298.1	296.5	294.5	289.3	284.3	282.1	285.4	285.7	285.4	285.4	286.1
08-1	Lumber	325.2	333.6	336.3	335.8	332.4	329.9	320.2	311.7	306.6	309.9	310.6	308.3	308.1	311.5
08-2	Millwork	273.4	276.5	274.8	272.2	273.6	272.3	271.4	271.3	271.8	273.7	276.8	278.4	276.4	276.4
08-3	Plywood	245.7	256.0	248.3	251.5	247.8	245.6	240.8	234.3	233.5	239.7	236.8	235.7	237.1	234.1
08-4	Other wood products	239.2	238.3	238.2	239.8	240.7	239.8	240.5	239.9	239.3	239.4	239.4	239.8	239.6	237.7

See footnotes at end of table.

24. Continued—Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1980	1981									1982			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. ¹	Jan.	Feb.	Mar.	Apr.
INDUSTRIAL COMMODITIES—Continued															
09	Pulp, paper, and allied products	273.7	271.4	272.1	272.9	274.9	275.9	277.8	279.2	280.4	281.0	283.9	285.4	286.3	287.9
09-1	Pulp, paper, and products, excluding building paper and board	271.0	268.6	269.9	271.2	272.3	273.7	274.8	275.7	275.8	275.6	276.1	277.0	277.3	276.4
09-11	Woodpulp	398.1	394.1	394.2	394.2	394.2	394.2	394.2	402.3	413.7	413.7	412.8	412.8	414.1	392.3
09-12	Wastepaper	175.7	184.2	182.7	182.9	182.1	182.1	178.5	165.1	144.5	143.4	135.2	128.8	129.2	128.1
09-13	Paper	280.0	275.2	275.9	278.5	279.7	282.1	285.9	287.8	287.4	287.2	288.8	289.5	289.5	291.7
09-14	Paperboard	258.2	257.3	258.8	259.2	259.4	260.6	261.6	261.7	261.6	260.0	259.7	261.4	261.1	261.2
09-15	Converted paper and paperboard products	259.0	257.3	258.9	259.9	261.2	262.4	262.8	263.2	263.1	263.2	263.9	264.9	265.5	265.0
09-2	Building paper and board	231.3	232.5	237.3	237.4	235.5	234.2	234.2	233.3	232.1	230.3	233.2	231.1	237.5	235.5
10	Metals and metal products	300.4	298.8	299.1	298.4	302.0	304.1	304.9	305.3	304.2	303.3	305.1	305.0	303.6	303.8
10-1	Iron and steel	333.8	331.0	330.4	330.1	338.8	339.9	339.8	341.3	340.0	339.9	343.1	343.0	342.4	342.6
10-13	Steel mill products	337.6	331.8	331.8	332.2	344.9	344.9	345.3	348.7	348.6	348.9	350.8	350.5	350.5	352.2
10-2	Nonferrous metals	286.0	288.4	287.7	284.5	282.8	287.3	289.4	285.4	281.1	277.1	275.4	274.2	267.6	266.1
10-3	Metal containers	315.9	314.1	314.1	314.1	315.2	318.7	318.8	318.2	318.1	316.8	323.4	325.4	326.1	329.7
10-4	Hardware	262.4	258.5	259.4	259.7	263.8	265.3	267.8	269.5	271.5	272.0	271.3	272.5	275.7	276.2
10-5	Plumbing fixtures and brass fittings	267.4	265.3	266.2	268.9	270.9	271.2	271.6	272.9	273.1	274.0	274.4	276.1	278.9	280.3
10-6	Heating equipment	223.9	219.8	222.3	223.5	226.4	227.9	228.5	229.0	228.8	229.9	232.2	231.9	233.5	235.8
10-7	Fabricated structural metal products	295.4	93.1	294.0	295.0	297.9	299.3	300.0	302.6	303.2	303.0	303.1	303.5	304.5	305.0
10-8	Miscellaneous metal products	270.8	267.2	269.7	269.4	272.0	272.9	273.7	276.1	278.0	278.3	284.3	284.0	284.6	285.3
11	Machinery and equipment	263.1	259.6	260.7	262.1	264.8	266.2	268.1	269.3	270.4	272.0	273.5	274.9	275.7	277.3
11-1	Agricultural machinery and equipment	287.7	282.5	285.7	286.8	288.1	290.3	292.8	295.5	300.8	302.8	302.2	303.7	304.6	306.1
11-2	Construction machinery and equipment	320.8	317.0	318.4	320.1	323.8	325.0	326.5	328.3	329.6	332.0	337.0	338.1	337.4	341.4
11-3	Metalworking machinery and equipment	301.2	298.7	299.9	301.3	302.9	303.5	305.3	306.6	307.9	312.9	313.7	315.8	317.0	318.7
11-4	General purpose machinery and equipment	288.5	284.4	285.9	287.0	290.6	292.3	293.9	295.1	296.2	297.9	299.6	300.8	301.5	302.9
11-6	Special industry machinery and equipment	308.0	303.2	307.2	308.8	311.0	310.3	312.8	314.6	315.0	316.4	319.5	320.3	320.6	323.1
11-7	Electrical machinery and equipment	220.1	217.4	217.5	219.2	221.1	222.8	224.2	225.3	226.0	229.0	228.3	229.4	230.5	231.6
11-9	Miscellaneous machinery	252.3	248.5	248.8	250.1	254.0	256.0	258.5	259.0	259.8	260.4	261.3	263.4	264.1	265.4
12	Furniture and household durables	198.4	196.4	197.4	197.3	199.5	199.6	201.0	201.3	202.1	202.9	202.7	203.9	204.7	205.6
12-1	Household furniture	219.4	216.5	216.4	218.6	220.0	220.7	222.2	222.8	225.1	226.6	228.2	228.3	228.5	230.6
12-2	Commercial furniture	257.6	254.5	257.7	257.9	258.7	259.1	261.6	262.1	263.3	263.9	266.6	271.6	273.9	274.5
12-3	Floor coverings	178.6	175.3	179.5	180.7	182.8	181.9	181.7	180.9	182.3	181.4	179.6	179.8	179.8	180.3
12-4	Household appliances	186.9	185.1	185.5	186.1	188.8	189.1	190.1	190.8	190.9	191.3	192.0	193.8	195.9	196.3
12-5	Home electronic equipment	89.1	90.9	90.8	86.7	87.4	87.6	87.8	88.1	88.0	89.6	87.5	87.5	86.8	88.2
12-6	Other household durable goods	280.8	275.3	276.7	276.4	282.1	280.9	285.8	285.8	285.3	286.2	282.8	283.0	284.3	283.5
13	Nonmetallic mineral products	309.5	310.8	312.0	313.6	314.3	314.1	313.2	313.3	313.7	313.5	315.1	318.4	319.7	320.0
13-11	Flat glass	212.9	210.2	210.2	210.3	218.3	218.3	218.5	218.5	218.5	216.1	216.0	216.1	216.2	216.2
13-2	Concrete ingredients	296.3	297.4	297.5	297.5	297.7	298.0	298.5	298.4	298.5	298.7	305.9	308.1	309.5	309.2
13-3	Concrete products	291.2	289.9	291.2	293.5	293.4	293.4	292.9	293.3	293.4	293.6	294.8	295.6	296.0	297.3
13-4	Structural clay products, excluding refractories	249.7	246.0	250.1	250.7	250.9	250.9	255.3	256.2	256.5	257.5	257.1	257.4	257.4	260.7
13-5	Refractories	302.5	296.4	304.0	307.1	307.1	307.1	307.1	307.8	308.9	311.3	315.4	330.9	338.4	339.7
13-6	Asphalt roofing	407.0	415.9	407.4	428.5	421.9	420.9	401.6	402.9	410.2	405.6	399.7	398.8	392.8	385.2
13-7	Gypsum products	256.2	256.8	261.1	260.7	259.7	255.3	252.9	252.4	251.3	249.7	250.4	255.0	260.7	262.8
13-8	Glass containers	328.5	326.7	335.3	335.3	335.5	335.5	335.5	335.5	335.5	335.5	334.7	349.6	355.2	357.4
13-9	Other nonmetallic minerals	463.9	479.1	477.6	476.8	476.2	475.3	474.3	473.3	473.5	474.7	474.9	479.0	480.1	478.8
14	Transportation equipment (12/68 = 100)	235.4	231.9	233.6	234.3	235.0	235.9	231.8	244.5	246.3	246.8	248.3	244.7	244.9	245.6
14-1	Motor vehicles and equipment	237.5	233.9	236.0	236.7	237.4	238.4	232.8	247.8	248.9	249.5	250.4	246.1	246.4	246.6
14-4	Railroad equipment	338.2	335.7	331.2	331.4	338.1	338.7	338.7	338.7	341.3	340.1	352.4	352.4	352.8	353.9
15	Miscellaneous products	265.6	266.0	266.9	266.3	263.2	262.6	267.0	268.5	269.5	267.6	268.4	273.7	272.9	273.3
15-1	Toys, sporting goods, small arms, ammunition	212.2	211.3	211.4	211.2	213.2	212.7	213.6	213.0	212.7	213.3	219.3	221.0	221.6	221.9
15-2	Tobacco products	268.3	268.7	268.7	268.7	268.8	268.8	274.5	278.2	278.2	278.2	277.9	306.4	306.4	306.5
15-3	Notions	259.6	248.4	267.8	268.0	267.5	267.7	267.8	269.7	269.7	269.7	270.5	270.7	271.8	271.8
15-4	Photographic equipment and supplies	210.1	212.4	212.5	212.5	211.4	207.1	208.7	209.0	209.0	209.1	210.3	210.8	212.5	214.6
15-5	Mobile homes (12/74 = 100)	(6)	(6)	(6)	(6)	158.1	158.3	158.7	159.1	159.3	159.3	159.1	159.6	161.6	162.0
15-9	Other miscellaneous products	346.9	349.0	349.4	346.9	333.1	334.6	345.5	348.5	344.8	344.6	341.9	340.9	334.3	333.5

¹ Data for December 1981 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

² Prices for natural gas are lagged 1 month.

³ Includes only domestic production.

⁴ Most prices for refined petroleum products are lagged 1 month.

⁵ Some prices for industrial chemicals are lagged 1 month.

⁶ Not available.

r = revised.

25. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1981	1981										1982			
		Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. ¹	Jan.	Feb.	Mar.	Apr.	
All commodities — less farm products	295.7	295.0	296.1	296.7	298.0	298.7	298.5	299.5	299.4	300.0	301.9	301.8	301.4	300.9	
All foods	251.9	251.4	250.3	252.2	255.2	253.7	251.7	249.1	247.4	247.6	252.0	253.5	251.5	254.4	
Processed foods	252.2	250.3	250.5	253.1	256.0	255.0	252.8	250.0	247.6	246.5	251.0	252.2	252.1	254.9	
Industrial commodities less fuels	261.8	262.9	263.5	265.0	266.1	266.4	268.7	269.0	269.0	266.5	270.9	271.4	271.6	272.2	
Selected textile mill products (Dec. 1975 = 100)	135.9	134.5	135.7	135.9	136.8	137.2	138.1	138.2	138.4	137.9	139.3	140.0	139.0	138.9	
Hosiery	134.3	134.2	134.6	135.7	135.8	135.3	135.5	136.5	136.5	136.7	137.0	137.0	137.5	138.1	
Underwear and nightwear	203.5	202.1	202.3	203.5	204.7	204.7	204.7	204.7	205.7	206.3	212.4	216.0	216.4	216.4	
Chemicals and allied products, including synthetic rubber and fibers and yarns	278.6	276.1	279.0	281.2	282.3	284.0	284.4	283.8	283.2	283.1	284.9	286.0	285.8	285.7	
Pharmaceutical preparations	186.8	184.0	185.7	186.6	189.0	188.4	191.6	192.8	192.5	193.3	195.5	198.0	200.0	204.4	
Lumber and wood products, excluding millwork	303.1	312.3	311.5	312.2	308.7	306.2	298.0	290.1	286.4	290.7	290.2	288.3	288.6	289.9	
Special metals and metal products	279.4	276.8	277.9	277.9	280.2	281.9	280.1	286.7	286.8	286.6	288.0	286.1	285.5	285.7	
Fabricated metal products	280.0	277.0	278.5	279.0	281.7	283.1	283.9	286.0	287.0	287.1	290.0	290.4	291.5	292.5	
Copper and copper products	204.0	207.7	206.6	203.7	202.5	206.2	205.1	201.9	198.9	195.4	195.1	194.1	191.0	190.5	
Machinery and motive products	256.7	253.1	254.4	255.6	257.4	258.6	257.7	264.3	265.8	266.9	268.5	267.6	268.2	269.3	
Machinery and equipment, except electrical	288.3	284.3	285.9	287.3	290.4	291.7	293.8	295.0	296.4	298.4	300.1	301.6	302.2	304.1	
Agricultural machinery, including tractors	296.2	289.6	293.7	294.8	295.6	298.2	301.6	305.7	312.5	314.7	313.7	314.6	315.5	317.7	
Metalworking machinery	329.4	325.9	327.1	328.3	330.1	331.4	333.9	336.7	338.3	341.2	342.1	343.3	346.4	348.8	
Numerically controlled machine tools (Dec. 1971 = 100)	239.4	235.7	237.3	241.4	241.7	241.8	241.8	242.2	242.0	242.0	240.5	240.1	240.3	240.2	
Total tractors	324.0	316.8	322.0	322.5	325.5	327.8	330.7	338.3	342.2	342.3	346.2	346.2	346.4	351.7	
Agricultural machinery and equipment less parts	289.0	283.2	286.7	287.9	288.6	291.1	294.0	297.6	303.5	305.8	305.3	306.3	307.3	309.2	
Farm and garden tractors less parts	298.9	289.3	297.7	298.0	298.0	301.4	305.5	313.0	319.6	319.7	318.5	318.5	318.8	322.3	
Agricultural machinery, excluding tractors less parts	294.4	290.2	290.8	292.5	293.9	295.8	298.7	299.9	303.5	310.9	310.0	311.6	307.3	314.3	
Industrial valves	314.8	314.0	314.3	315.3	317.5	319.8	322.7	322.4	323.4	325.3	325.2	326.8	327.1	327.7	
Industrial fittings	302.1	302.7	303.0	303.0	303.0	303.0	304.3	304.1	304.1	304.1	304.1	304.1	304.1	309.1	
Construction materials	283.0	283.9	284.2	285.0	285.7	285.5	284.4	284.6	284.1	285.2	286.4	286.9	287.4	288.1	

¹ Data for December 1981 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication. r = revised.

26. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1981	1981										1982			
		Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. ¹	Jan.	Feb.	Mar.	Apr.	
Total durable goods	269.8	267.8	268.6	269.1	270.8	271.9	271.8	275.0	275.4	276.0	277.4	277.3	277.3	278.1	
Total nondurable goods	312.4	314.2	314.8	315.7	316.8	316.2	315.0	312.8	311.4	311.4	314.7	315.3	314.2	313.5	
Total manufactures	285.9	285.3	286.2	286.9	288.0	288.6	288.3	289.8	289.7	289.9	291.8	291.9	291.9	290.9	
Durable	269.6	267.2	268.2	268.9	270.6	271.7	271.7	275.1	275.8	276.5	277.8	277.7	277.8	278.7	
Nondurable	303.6	304.9	305.7	306.4	306.9	306.9	306.3	305.5	304.5	304.3	306.8	307.2	305.8	303.9	
Total raw or slightly processed goods	330.7	334.6	334.2	335.4	337.9	335.8	332.7	326.4	323.3	323.6	329.0	330.6	329.9	332.2	
Durable	271.4	286.0	280.4	272.4	271.2	275.9	270.4	263.7	253.4	247.8	254.4	254.4	250.7	245.9	
Nondurable	334.0	337.1	337.1	338.9	341.8	339.1	336.3	330.0	327.4	328.2	333.4	335.1	334.7	337.5	

¹ Data for December 1981 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication. r = revised.

27. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981										1982			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. ¹	Jan.	Feb.	Mar.	Apr.	
MINING																
1011	Iron ores (12/75 = 100)	167.3	168.1	168.1	168.1	168.1	168.1	168.1	168.1	171.3	171.3	171.3	171.3	171.3		
1092	Mercury ores (12/75 = 100)	346.0	354.1	347.9	352.0	358.3	365.4	364.5	354.1	354.1	343.7	347.9	313.7	325.0		
1211	Bituminous coal and lignite	493.9	483.5	484.5	488.4	502.1	503.4	506.0	506.2	507.8	510.3	521.3	524.7	521.9		
1311	Crude petroleum and natural gas	898.8	908.6	919.7	913.7	911.5	900.3	913.6	900.8	907.5	921.7	917.6	913.5	904.7		
1442	Construction sand and gravel	277.3	278.0	278.4	278.4	278.4	278.2	279.2	279.7	279.8	280.7	287.0	289.5	292.7		
1455	Kaolin and ball clay (6/76 = 100)	138.7	137.1	137.1	137.1	137.1	137.1	137.1	143.4	143.4	143.4	147.1	149.6	151.7		
MANUFACTURING																
2011	Meatpacking plants	243.1	237.8	243.6	245.9	252.6	250.9	252.7	244.1	237.0	234.1	236.6	243.8	247.0		
2013	Sausages and other prepared meats	241.3	227.5	230.4	238.1	246.0	254.0	253.9	252.2	248.9	247.0	245.7	250.5	248.2		
2016	Poultry dressing plants	192.0	186.7	196.2	198.3	203.6	201.2	188.8	175.5	172.8	166.7	(²)	(²)	(²)		
2021	Creamery butter	274.8	273.4	273.4	273.5	273.8	273.7	275.0	279.2	279.5	275.0	275.0	276.4	276.8		

See footnotes at end of table.

27. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981									1982			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. 1	Jan.	Feb.	Mar.	Apr.
MANUFACTURING—Continued															
2022	Cheese, natural and processed (12/72 = 100)	215.8	216.2	216.2	216.1	213.8	214.5	215.0	215.4	215.9	218.4	217.9	216.8	216.6	
2024	Ice cream and frozen desserts (12/72 = 100)	211.9	211.4	212.4	212.4	212.7	212.7	212.7	212.5	212.5	212.7	212.8	210.9	214.2	
2033	Canned fruits and vegetables	248.5	244.0	245.9	248.9	251.6	252.9	254.3	257.0	256.4	258.9	256.6	262.2	261.5	
2034	Dehydrated food products (12/73 = 100)	177.6	174.2	175.3	175.0	180.5	178.7	183.4	182.1	181.4	182.1	184.0	181.5	181.5	
2041	Flour mills (12/71 = 100)	195.9	201.5	199.4	199.3	196.5	191.0	195.3	191.1	191.5	189.2	191.4	187.4	192.5	
2044	Rice milling	277.2	300.9	300.3	300.3	297.4	284.3	268.2	247.3	235.4	215.1	205.9	192.2	183.5	
2048	Prepared foods, n.e.c. (12/75 = 100)	124.6	128.5	129.8	127.5	125.9	124.8	119.6	117.3	116.4	116.0	116.6	116.5	114.8	
2061	Raw cane sugar	273.5	275.7	224.8	263.3	272.2	254.6	212.3	219.9	224.3	230.8	247.6	245.1	233.0	
2063	Beet sugar	320.6	350.5	334.4	339.7	274.1	287.5	270.7	250.3	230.4	250.5	292.5	292.6	272.4	
2067	Chewing gum	309.8	323.1	303.1	303.1	303.1	303.2	303.2	303.2	303.2	303.2	303.3	303.3	303.4	
2074	Cottonseed oil mills	199.0	218.4	216.6	212.3	212.0	206.0	182.3	172.0	167.2	182.4	184.9	170.6	158.2	
2075	Soybean oil mills	245.8	259.1	258.1	248.4	253.7	245.8	234.2	229.7	221.2	221.9	222.6	219.9	217.8	
2077	Animal and marine fats and oils	288.1	301.7	304.3	291.3	288.8	294.1	281.2	274.0	272.3	266.6	260.3	262.6	271.8	
2083	Malt	282.5	286.1	286.1	286.1	286.1	286.1	275.4	275.4	275.4	275.4	267.1	267.1	259.1	
2085	Distilled liquor, except brandy (12/75 = 100)	134.7	133.9	134.3	134.6	134.6	135.5	135.5	135.5	137.9	137.9	140.1	137.9	140.2	
2091	Canned and cured seafoods (12/73 = 100)	187.8	187.7	187.3	187.5	187.4	188.4	188.8	188.2	188.3	188.5	187.2	187.0	188.2	
2092	Fresh or frozen packaged fish	369.6	393.5	378.2	375.5	367.6	347.1	353.5	356.9	360.8	369.5	398.3	390.8	420.7	
2095	Roasted coffee (12/72 = 100)	238.0	238.5	238.6	238.6	236.4	235.7	237.3	238.2	239.2	240.4	245.0	247.1	248.7	
2098	Macaroni and spaghetti	252.0	243.6	246.6	246.6	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	
2111	Cigarettes	277.7	278.3	278.3	278.3	278.3	278.3	284.2	288.4	288.4	288.4	288.4	319.7	319.7	
2121	Cigars	169.1	168.5	168.5	168.5	169.7	169.7	174.5	174.5	174.5	174.5	171.6	175.6	176.8	
2131	Chewing and smoking tobacco	320.9	320.8	320.8	320.8	321.0	321.3	325.3	326.1	326.1	326.1	326.1	349.4	349.4	
2211	Weaving mills, cotton (12/72 = 100)	234.1	235.3	233.5	234.3	234.7	237.4	236.0	233.2	229.8	227.6	227.5	226.9	226.1	
2221	Weaving mills, synthetic (12/77 = 100)	136.6	134.9	135.7	137.1	138.0	139.3	139.5	139.4	139.8	139.5	139.8	139.8	139.2	
2251	Women's hosiery, except socks (12/75 = 100)	113.5	114.1	114.2	115.6	115.5	115.0	115.0	115.2	115.1	115.2	115.6	115.6	116.3	
2254	Knit underwear mills	210.2	209.8	210.0	210.0	210.7	210.8	210.9	210.9	212.8	213.0	228.7	234.7	235.5	
2257	Circular knit fabric mills (6/76 = 100)	110.8	110.8	110.5	110.4	111.0	112.0	111.9	112.0	112.4	111.8	111.8	112.3	110.6	
2261	Finishing plants, cotton (6/76 = 100)	144.9	146.9	147.0	146.2	146.3	146.2	145.4	144.9	143.5	141.4	140.5	140.3	140.8	
2262	Finishing plants, synthetics, silk (6/76 = 100)	126.5	125.2	126.6	126.6	127.1	127.8	129.0	129.1	129.1	128.6	129.3	129.7	128.3	
2272	Tufted carpets and rugs	154.3	151.5	154.5	155.6	158.3	157.4	157.3	155.7	157.0	156.7	155.1	155.3	155.7	
2281	Yarn mills, except wool (12/71 = 100)	221.8	220.9	224.1	225.8	225.1	225.4	223.8	222.4	219.9	217.2	216.0	215.3	215.6	
2282	Throwing and winding mills (6/76 = 100)	138.6	131.5	139.1	139.3	142.7	146.8	148.0	154.5	145.6	146.0	135.3	135.2	150.9	
2284	Thread mills (6/76 = 100)	151.4	150.8	150.9	151.1	151.1	151.1	154.8	157.0	157.0	156.8	156.8	156.8	156.7	
2298	Cordage and twine (12/77 = 100)	134.8	132.7	134.3	134.3	134.3	134.3	139.3	139.3	139.3	140.7	141.0	141.0	141.0	
2311	Men's and boys' suits and coats	223.9	220.3	220.4	224.6	225.9	226.2	226.5	227.4	228.4	230.5	230.7	232.1	233.9	
2321	Men's and boys' shirts and nightwear	208.8	207.6	207.1	207.5	210.5	210.6	211.5	212.4	212.6	213.4	190.9	191.7	192.7	
2322	Men's and boys' underwear	230.6	231.0	231.0	230.7	230.8	230.8	230.8	230.8	233.0	233.0	237.6	246.9	247.4	
2323	Men's and boys' neckwear (12/75 = 100)	114.6	115.4	115.4	115.4	113.9	113.9	113.9	113.9	113.9	113.9	115.3	117.3	117.3	
2327	Men's and boys' separate trousers	186.1	186.0	186.1	186.1	186.4	186.4	186.4	186.8	186.9	187.1	187.0	188.2	193.0	
2328	Men's and boys' work clothing	248.4	247.0	248.2	248.3	250.8	251.1	251.2	253.1	253.2	253.3	251.9	251.8	252.9	
2331	Women's and misses' blouses and waists (6/78 = 100)	119.8	118.3	118.4	118.5	121.0	121.2	121.3	126.4	126.7	126.7	123.8	123.8	123.8	
2335	Women's and misses' dresses (12/77 = 100)	121.1	118.4	122.3	122.5	123.0	124.3	123.5	123.4	124.1	122.7	122.6	122.9	123.6	
2341	Women's and children's underwear (12/72 = 100)	169.9	169.0	169.2	170.5	170.6	170.6	170.6	170.6	171.6	171.6	175.3	175.4	175.7	
2342	Brassieres and allied garments (12/75 = 100)	136.8	135.0	135.0	136.9	138.8	138.8	138.8	138.8	138.9	140.1	145.5	149.2	149.2	
2361	Children's dresses and blouses (12/77 = 100)	120.3	120.7	120.5	120.5	121.6	121.7	121.7	122.0	122.5	123.2	122.0	122.0	121.0	
2381	Fabric dress and work gloves	289.3	289.1	292.1	292.1	289.2	289.2	289.2	289.2	289.2	289.2	293.8	297.4	295.5	
2394	Canvas and related products (12/77 = 100)	132.1	129.3	130.0	130.1	130.1	133.1	134.6	137.6	137.6	139.7	145.5	145.5	147.8	
2396	Automotive and apparel trimmings (12/77 = 100)	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	
2421	Sawmills and planing mills (12/71 = 100)	228.2	233.3	234.8	234.8	233.5	231.2	225.2	219.5	216.5	218.6	218.5	217.6	218.4	
2436	Softwood veneer and plywood (12/75 = 100)	142.0	152.6	145.7	148.1	143.8	139.6	135.4	129.3	129.0	134.5	132.0	131.1	132.3	
2439	Structural wood members, n.e.c. (12/75 = 100)	156.6	158.3	158.2	158.2	157.6	156.9	156.6	154.8	154.2	153.2	153.2	152.3	152.9	
2448	Wood pallets and skids (12/75 = 100)	152.5	153.1	153.1	153.0	153.1	152.9	152.8	152.0	150.4	149.9	149.8	148.9	145.8	
2451	Mobile homes (12/74 = 100)	156.8	155.8	155.9	156.1	158.1	158.3	158.7	159.2	159.3	160.3	160.2	160.7	162.9	
2492	Particleboard (12/75 = 100)	172.8	180.9	184.5	182.3	179.6	173.6	170.5	168.0	166.9	170.3	171.3	170.2	173.4	
2511	Wood household furniture (12/71 = 100)	197.4	195.4	196.2	197.5	198.6	199.2	200.1	201.0	202.0	202.8	203.3	204.2	204.8	
2512	Upholstered household furniture (12/71 = 100)	174.9	171.8	169.7	173.9	175.1	175.1	175.3	175.6	179.5	182.1	184.1	182.0	184.6	
2515	Mattresses and bedsprings	193.7	190.5	190.4	190.5	191.3	194.6	195.2	195.2	195.5	198.0	207.5	210.0	210.0	
2521	Wood office furniture	254.6	254.5	255.4	254.6	254.7	254.7	257.1	257.0	257.0	257.6	262.9	271.8	271.9	
2611	Pulp mills (12/73 = 100)	253.2	251.2	251.3	251.3	251.3	251.3	251.3	251.3	255.0	262.5	260.9	260.9	255.8	
2621	Paper mills, except building (12/74 = 100)	156.3	153.9	154.3	155.7	157.0	157.4	158.8	159.8	159.7	159.6	161.8	162.0	161.9	
2631	Paperboard mills (12/74 = 100)	151.8	151.0	152.1	152.3	151.7	152.4	153.7	153.6	153.5	152.7	152.6	153.6	153.0	
2647	Sanitary paper products	343.8	343.2	344.3	344.4	344.2	344.3	344.3	344.0	344.1	344.6	345.6	345.6	345.5	
2654	Sanitary food containers	245.3	239.2	242.2	242.2	246.0	252.9	253.2	253.4	253.3	253.3	255.3	258.3	261.4	
2655	Fiber cans, drums, and similar products (12/75 = 100)	163.0	160.8	160.9	160.9	163.2	163.2	163.2	167.6	167.6	170.0	175.3	176.5	176.5	
2812	Alkalies and chlorine (12/73 = 100)	305.3	294.4	302.2	309.3	306.2	310.4	316.0	317.7	317.0	324.8	329.3	333.7	335.0	
2821	Plastics materials and resins (6/76 = 100)	150.8	148.1	149.7	150.7	155.0	155.6	156.0	156.3	153.7	154.3	154.2	156.4	151.7	
2822	Synthetic rubber	292.9	288.1	293.3	296.3	297.3	299.4	299.3	301.0	301.4	302.7	304.0	306.2	305.6	
2824	Organic fiber, noncellulosic	155.7	149.9	156.2	156.8	159.2	160.3	160.6	164.2	162.5	161.9				

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27. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1981	1981										1982			
			Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. ¹	Jan.	Feb.	Mar.	Apr.	
3021	Rubber and plastic footwear (12/71 = 100)	184.4	183.6	184.0	184.1	185.0	185.4	185.3	185.0	185.0	185.2	186.1	186.5	189.1	189.0	
3031	Reclaimed rubber (12/73 = 100)	193.4	187.7	187.7	187.7	192.9	200.3	200.3	200.3	200.3	200.3	198.1	198.1	204.9	206.9	
3079	Miscellaneous plastic products (6/78 = 100)	128.8	128.7	129.1	129.6	129.2	130.2	130.3	130.8	130.8	131.0	130.9	131.3	132.5	132.9	
3111	Leather tanning and finishing (12/77 = 100)	150.6	158.6	154.7	150.7	151.3	148.5	148.3	148.2	146.8	147.5	150.7	149.2	148.2	147.5	
3143	Men's footwear, except athletic (12/75 = 100)	169.1	168.7	168.9	169.6	170.7	171.4	170.9	170.5	170.6	171.3	172.6	171.6	173.6	174.9	
3144	Women's footwear, except athletic	217.8	218.7	219.3	218.5	218.9	217.8	218.2	212.5	212.7	212.4	213.8	211.3	211.6	215.6	
3171	Women's handbags and purses (12/75 = 100)	155.5	149.7	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	158.4	
3211	Flat glass (12/71 = 100)	175.6	174.5	174.5	174.6	180.0	180.0	180.0	180.1	180.1	177.4	177.3	177.4	177.5	177.5	
3221	Glass containers	328.4	326.6	335.2	335.2	335.4	335.4	335.4	335.4	335.4	335.4	334.7	349.5	355.1	357.3	
3241	Cement, hydraulic	328.5	332.4	332.3	331.0	331.6	331.6	332.0	330.3	330.3	330.3	336.4	338.2	338.3	337.9	
3251	Brick and structural clay tile	296.9	296.0	297.4	298.5	298.9	299.9	299.9	300.5	300.5	300.5	291.4	291.8	291.8	295.9	
3253	Ceramic wall and floor tile (12/75 = 100)	132.5	129.6	132.1	132.1	132.1	132.1	140.4	140.4	140.4	140.4	136.8	136.8	136.8	137.1	
3255	Clay refractories	310.4	308.6	311.0	312.2	312.3	312.3	312.5	313.9	315.2	319.9	327.0	346.5	357.5	357.0	
3259	Structural clay products, n.e.c.	222.7	212.7	223.9	223.9	223.9	223.9	227.5	231.7	231.7	236.6	196.4	196.7	196.8	202.4	
3261	Vitreous plumbing fixtures	254.9	252.0	252.5	255.8	258.7	259.6	259.0	259.0	259.3	260.1	261.1	260.6	260.7	261.9	
3262	Vitreous china food utensils	335.0	328.2	336.6	336.6	336.6	336.6	336.8	336.8	336.8	344.7	347.7	347.7	347.3	336.2	
3263	Fine earthenware food utensils	308.9	308.2	309.6	309.6	309.6	309.6	313.8	313.8	315.0	315.0	314.5	314.5	314.4	312.8	
3269	Pottery products, n.e.c. (12/75 = 100)	160.1	158.6	160.6	160.7	160.7	160.7	161.8	161.8	163.7	163.7	164.2	164.2	164.1	161.4	
3271	Concrete block and brick	270.4	267.4	271.2	271.2	271.2	274.0	274.2	274.3	274.3	275.1	274.8	276.0	276.3	276.4	
3273	Ready-mixed concrete	298.7	298.5	299.4	301.7	300.7	300.0	299.2	299.5	299.4	299.6	301.1	301.4	302.0	303.3	
3274	Lime (12/75 = 100)	172.5	172.4	172.6	173.0	173.1	173.9	173.7	173.7	173.5	173.8	179.1	184.0	186.0	186.6	
3275	Gypsum products	257.3	257.1	261.4	260.9	261.8	258.9	252.9	251.5	252.5	250.6	250.9	260.5	262.2	262.2	
3291	Abrasive products (12/71 = 100)	232.5	232.7	233.2	234.1	235.0	235.1	237.3	237.6	241.0	241.0	239.9	245.0	247.8	248.9	
3297	Nonclay refractories (12/74 = 100)	185.3	178.9	186.6	189.7	189.7	189.7	189.7	190.2	190.3	191.1	191.1	198.1	200.5	202.4	
3312	Blast furnaces and steel mills	342.8	336.7	337.3	338.2	350.1	350.0	350.3	353.1	353.0	353.3	354.9	354.6	354.5	356.1	
3313	Electrometallurgical products (12/75 = 100)	121.8	120.8	120.6	120.7	121.2	121.5	121.4	125.4	125.4	125.3	125.3	123.4	120.3	120.3	
3316	Cold finishing of steel shapes	316.2	308.2	308.2	309.5	325.0	325.7	326.2	326.4	326.4	326.7	327.0	327.0	327.0	327.6	
3317	Steel pipes and tubes	341.5	333.1	334.1	336.3	348.2	350.6	350.5	362.0	362.3	363.0	363.8	364.2	366.0	365.8	
3321	Gray iron foundries (12/68 = 100)	299.5	297.0	298.4	298.4	298.8	299.9	302.0	303.3	305.2	306.1	308.0	310.4	310.6	310.4	
3333	Primary zinc	326.5	311.9	332.7	335.1	335.4	353.8	355.9	337.0	337.5	315.7	308.0	308.9	298.6	273.4	
3334	Primary aluminum	333.5	332.8	334.2	332.5	334.2	334.4	333.6	333.5	332.5	332.8	332.4	327.9	320.7	316.5	
3351	Copper rolling and drawing	212.4	213.1	212.6	210.6	209.4	212.9	214.1	212.3	209.2	207.1	205.6	204.1	199.6	196.6	
3353	Aluminum sheet, plate, and foil (12/75 = 100)	175.9	173.8	174.4	176.1	177.3	177.4	178.0	179.9	180.2	180.8	181.5	181.6	181.4	180.1	
3354	Aluminum extruded products (12/75 = 100)	180.1	180.6	180.7	180.8	181.2	181.3	181.2	181.3	181.4	181.1	180.7	180.8	180.5	179.9	
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	159.1	157.3	157.4	157.3	157.2	157.2	163.0	166.2	166.2	166.1	166.1	166.6	165.9	162.9	
3411	Metal cans	305.3	304.7	304.7	304.7	305.5	306.7	306.8	307.0	306.0	304.9	310.3	314.4	315.1	319.6	
3425	Hand saws and saw blades (12/72 = 100)	201.3	198.1	200.2	200.2	204.1	204.2	206.8	204.8	205.0	206.0	211.0	214.2	214.3	214.9	
3431	Metal sanitary ware	265.0	262.8	264.8	265.2	269.2	269.7	270.2	270.3	271.6	271.8	270.9	271.8	273.8	275.8	
3465	Automotive stampings (12/75 = 100)	146.4	145.0	145.0	145.2	146.2	146.4	146.9	147.4	149.7	149.1	154.6	152.5	152.6	152.7	
3482	Small arms ammunition (12/75 = 100)	160.5	157.8	157.8	157.8	157.8	159.9	159.9	159.9	159.9	163.9	173.2	173.2	173.2	171.9	
3493	Steel springs, except wire	245.1	241.2	241.7	241.9	243.7	248.9	252.4	253.9	254.1	256.1	256.2	257.2	256.6	256.0	
3494	Valves and pipe fittings (12/71 = 100)	248.4	247.6	247.9	248.5	250.0	251.0	252.7	252.9	253.5	255.7	255.8	257.1	257.4	258.6	
3498	Fabricated pipe and fittings	361.4	358.8	359.9	361.6	364.6	370.0	375.1	377.7	378.6	379.3	378.6	377.7	376.5	385.5	
3519	Internal combustion engines, n.e.c.	311.0	306.0	306.2	307.2	312.0	314.2	322.1	323.2	326.4	325.4	327.3	330.0	330.7	332.6	
3531	Construction machinery (12/76 = 100)	157.0	154.4	155.3	156.9	159.0	159.5	160.1	161.0	161.6	159.7	164.8	163.1	163.2	164.1	
3532	Mining machinery (12/72 = 100)	282.3	279.5	280.0	280.8	282.7	285.3	286.9	288.5	290.8	292.9	293.9	297.5	298.6	301.4	
3533	Oilfield machinery and equipment	395.4	382.2	384.6	390.3	401.3	406.5	411.3	415.6	418.2	420.3	427.1	429.1	433.7	436.2	
3534	Elevators and moving stairways	253.5	251.2	251.2	251.2	252.8	252.8	254.6	257.0	260.7	265.6	268.0	268.9	269.9	270.8	
3542	Machine tools, metal forming types (12/71 = 100)	306.4	303.0	304.5	305.7	307.6	309.5	312.0	311.7	312.3	319.3	313.5	316.9	324.5	325.5	
3546	Power driven hand tools (12/76 = 100)	147.1	146.4	147.0	147.1	148.2	148.4	148.6	149.5	149.5	150.0	153.3	153.4	153.4	154.0	
3552	Textile machinery (12/69 = 100)	243.4	240.4	241.2	244.4	246.2	245.4	248.2	248.0	247.9	249.9	249.8	250.7	254.3	256.2	
3553	Woodworking machinery (12/72 = 100)	224.5	225.5	219.1	219.7	224.0	225.4	228.9	228.9	229.1	229.1	229.4	229.2	229.6	235.0	
3576	Scales and balances, excluding laboratory	226.2	230.2	230.2	230.3	226.6	226.6	226.1	226.2	226.3	226.5	228.2	228.9	229.8	229.6	
3592	Carburetors, pistons, rings, valves (6/76 = 100)	177.9	172.0	172.0	176.5	180.8	181.3	182.1	185.4	187.2	187.3	185.0	189.4	190.2	192.6	
3612	Transformers	209.7	206.0	207.8	209.6	210.7	212.8	214.5	217.3	222.0	222.0	220.3	221.9	222.4	223.2	
3623	Welding apparatus, electric (12/72 = 100)	227.2	224.3	225.9	227.2	228.3	229.6	231.6	232.5	233.2	235.8	235.9	236.0	231.5	232.9	
3631	Household cooking equipment (12/75 = 100)	141.1	140.5	140.7	141.0	140.5	141.5	141.6	141.6	141.9	142.6	144.6	146.3	146.9	146.2	
3632	Household refrigerators, freezers (6/76 = 100)	132.3	129.4	129.5	130.8	135.5	135.5	136.4	137.8	137.9	137.9	138.6	139.6	140.8	142.5	
3633	Household laundry equipment (12/73 = 100)	174.2	173.5	173.9	173.6	174.1	174.6	177.2	177.0	178.4	178.8	179.8	180.4	186.2	186.9	
3635	Household vacuum cleaners	156.8	158.4	158.5	158.6	158.6	158.8	158.8	161.3	161.0	160.8	158.7	158.3	158.8	158.2	
3636	Sewing machines (12/75 = 100)	146.6	131.8	153.8	153.8	153.8	153.8	153.8	156.0	156.0	156.0	155.4	155.2	155.2	153.7	
3641	Electric lamps	277.5	275.5	275.1	276.5	275.2	280.0	283.1	285.9	284.8	281.3	282.0	286.2	283.5	290.7	
3644	Noncurrent-carrying wiring devices (12/72 = 100)	250.4	242.6	242.8	251.5	253.3	253.8	258.5	258.7	262.1	262.1	261.5	261.5	261.5	259.5	
3646	Commercial lighting fixtures (12/75 = 100)	154.4	156.1	156.2	156.2	154.4	155.5	157.6	158.9	159.3	159.2	159.9	161.1	162.2	163.6	
3648	Lighting equipment, n.e.c. (12/75 = 100)	155.7	153.2	153.3	153.7	153.8	161.3	161.7	162.0	162.4	163.1	162.7	167.8	168.8	170.2	
3671	Electron tubes receiving type	309.7	285.0	285.1	312.5	327.4	327.5	327.5	327.5	327.8	342.2	371.8	374.9	375.1	375.2	
3674	Semiconductors and related devices	90.4	91.2	90.6	90.3	89.2	89.2	91.4	91.6	92.0	91.7	90.9	90.8	91.2	90.1	
3675	Electronic capacitors (12/75 = 100)	170.3	168.7	168.5	171.2	171.4	178.8	172.4	171.5	168.1	166.6	166.4	169.3	168.6	167.8	
3676	Electronic resistors (12/75 = 100)	141.3	140.0	140.8	141.2	142.1	142.5	142.7	142.7	143.0	142.8	142.9	143.9	144.0	144.7	
3678	Electronic connectors (12/75 = 100)	154.8	154.4	153.7	154.3	155.0	155.8	156.5	156.8	155.8	155.8	157.2	156.9	157.1	156.7	
3692	Primary batteries, dry and wet	182.2	182.6	181.0	181.0	181.6	182.7	182.7	182.7	182.7	182.7	182.1	185.			

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input**, or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from the current dollar gross domestic product and dividing by output. In these tables, **unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man hours" to identify the labor component of productivity and costs, in tables 28 through 31, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review*, the productivity tables were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40-42.

28. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years, 1950-81

[1977=100]

Item	1950	1955	1960	1965	1970	1974	1975	1976	1977	1978	1979	1980	1981
Private business sector:													
Output per hour of all persons	50.3	58.2	65.1	78.2	86.1	92.7	94.8	97.9	100.0	99.8	99.5	99.3	100.4
Compensation per hour	20.0	26.3	33.9	41.7	58.2	78.0	85.5	92.9	100.0	108.4	119.3	131.5	144.6
Real compensation per hour	50.4	59.6	69.4	80.0	90.8	95.9	96.3	98.8	100.0	100.7	99.6	96.7	96.3
Unit labor cost	39.8	45.2	52.1	53.3	67.6	84.2	90.2	94.8	100.0	108.6	119.9	132.4	144.0
Unit nonlabor payments	43.5	47.8	50.8	57.8	63.4	78.9	90.7	94.4	100.0	105.1	110.9	118.3	130.6
Implicit price deflator	41.0	46.1	51.7	54.8	66.2	82.4	90.4	94.7	100.0	107.4	116.9	127.6	139.4
Nonfarm business sector:													
Output per hour of all persons	56.2	62.7	68.2	80.4	86.7	93.1	95.0	98.1	100.0	99.8	99.1	98.8	99.7
Compensation per hour	21.8	28.3	35.6	42.8	58.6	78.4	86.0	93.0	100.0	108.5	119.0	130.8	143.9
Real compensation per hour	55.0	63.9	73.0	82.2	91.5	96.4	96.8	99.0	100.0	100.7	99.3	96.2	95.9
Unit labor cost	38.8	45.1	52.3	53.2	67.6	84.3	90.5	94.8	100.0	108.7	120.0	132.4	144.3
Unit nonlabor payments	42.8	47.9	50.5	58.2	64.0	76.1	88.9	94.0	100.0	103.6	108.5	117.6	130.4
Implicit price deflator	40.2	46.0	51.7	54.9	66.4	81.6	89.9	94.5	100.0	107.0	116.2	127.4	139.7
Nonfinancial corporations:													
Output per hour of all employees	(¹)	(¹)	66.3	79.9	85.4	91.3	94.4	97.4	100.0	100.4	100.4	101.0	103.5
Compensation per hour	(¹)	(¹)	36.3	43.0	58.3	77.6	85.5	92.5	100.0	108.2	118.7	130.7	143.9
Real compensation per hour	(¹)	(¹)	74.2	82.6	91.0	95.4	96.3	98.5	100.0	100.5	99.1	96.2	95.9
Unit labor cost	(¹)	(¹)	54.7	53.8	68.3	85.1	90.6	95.0	100.0	107.8	118.2	129.4	139.0
Unit nonlabor payments	(¹)	(¹)	54.6	60.8	63.1	75.7	90.9	95.0	100.0	103.8	108.3	117.3	132.3
Implicit price deflator	(¹)	(¹)	54.7	56.2	66.5	81.8	90.7	95.0	100.0	106.4	114.8	125.2	136.7
Manufacturing:													
Output per hour of all persons	49.5	56.5	60.1	74.6	79.2	90.9	93.5	97.7	100.0	100.9	102.0	101.7	104.0
Compensation per hour	21.5	28.8	36.7	42.9	57.6	76.4	85.5	92.4	100.0	108.2	118.8	131.6	146.2
Real compensation per hour	54.1	65.2	75.1	82.3	89.9	93.9	96.3	98.3	100.0	100.5	99.2	96.8	97.4
Unit labor cost	43.4	51.0	61.1	57.4	72.7	84.1	91.4	94.6	100.0	107.3	116.5	129.4	140.6
Unit nonlabor payments	55.1	59.4	62.0	70.3	66.0	70.4	88.5	95.1	100.0	104.7	105.7	108.7	122.6
Implicit price deflator	46.8	53.4	61.3	61.2	70.7	80.1	90.6	94.7	100.0	106.5	113.4	123.4	135.4

¹ Not available.

r = revised.

29. Annual changes in productivity, hourly compensation, unit costs, and prices, 1971-81

Item	Year											Annual rate of change	
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1950-81	1960-81
Private business sector:													
Output per hour of all persons	3.6	3.5	2.7	-2.3	2.3	3.3	2.1	-0.2	-0.3	-0.2	1.1	2.4	2.1
Compensation per hour	6.6	6.5	8.0	9.4	9.6	8.6	7.7	8.4	10.1	10.2	10.0	6.2	7.2
Real compensation per hour	2.2	3.1	1.7	-1.4	0.4	2.7	1.2	0.7	-1.1	-2.9	-0.3	2.3	1.7
Unit labor cost	2.9	2.9	5.2	11.9	7.2	5.1	5.5	8.6	10.4	10.4	8.8	3.6	5.0
Unit nonlabor payments	7.6	4.5	5.9	4.4	15.0	4.1	5.9	5.1	5.5	6.6	10.4	3.3	4.5
Implicit price deflator	4.4	3.4	5.4	9.4	9.7	4.7	5.6	7.4	8.8	9.2	9.3	3.5	4.9
Nonfarm business sector:													
Output per hour of all persons	3.3	3.7	2.5	-2.4	2.1	3.2	2.0	-0.2	-0.7	-0.3	0.9	2.1	1.8
Compensation per hour	6.6	6.7	7.6	9.4	9.6	8.1	7.6	8.5	9.7	9.9	10.0	5.9	7.0
Real compensation per hour	2.2	3.3	1.3	-1.4	0.4	2.2	1.0	0.7	-1.4	-3.2	-0.3	2.0	1.5
Unit labor cost	3.1	2.8	4.9	12.1	7.4	4.7	5.5	8.7	10.4	10.3	9.0	3.7	5.0
Unit nonlabor payments	7.4	3.2	1.3	5.9	16.7	5.7	6.4	3.6	4.8	8.4	10.9	3.3	4.4
Implicit price deflator	4.5	3.0	3.7	10.1	10.3	5.1	5.8	7.0	8.6	9.7	9.6	3.6	4.8
Nonfinancial corporations:													
Output per hour of all employees	4.8	3.0	2.6	-3.4	3.4	3.2	2.7	0.4	0.0	0.6	2.4	(¹)	2.0
Compensation per hour	6.5	5.8	7.7	9.7	10.1	8.2	8.1	8.2	9.7	10.1	10.0	(¹)	6.9
Real compensation per hour	2.1	2.5	1.4	-1.1	0.9	2.3	1.5	0.5	-1.4	-3.0	-0.3	(¹)	1.4
Unit labor cost	1.6	2.8	4.9	13.6	6.5	4.9	5.3	7.8	9.7	9.5	7.4	(¹)	4.8
Unit nonlabor payments	7.4	2.7	1.5	7.1	20.1	4.6	5.2	3.8	4.4	8.3	12.8	(¹)	4.0
Implicit price deflator	3.5	2.8	3.8	11.4	10.9	4.8	5.2	6.4	7.9	9.1	9.2	(¹)	4.5
Manufacturing:													
Output per hour of all persons	6.1	5.0	5.3	-2.4	2.9	4.4	2.4	0.9	1.1	-0.3	2.7	2.6	2.6
Compensation per hour	6.1	5.4	7.2	10.6	11.9	8.0	8.3	8.2	9.8	10.7	11.1	5.8	6.9
Real compensation per hour	1.8	2.0	0.9	-0.3	2.5	2.1	1.7	0.5	-1.3	-2.5	0.7	2.0	1.4
Unit labor cost	0.0	0.3	1.7	13.3	8.8	3.4	5.7	7.3	8.6	11.0	8.7	3.1	4.1
Unit nonlabor payments	11.2	0.8	-3.3	-1.8	25.9	7.4	5.2	4.7	0.9	2.9	12.7	P 2.9	P 4.3
Implicit price deflator	3.1	0.5	0.3	9.0	13.1	4.6	5.6	6.5	6.4	8.8	9.7	P 3.1	P 4.3

¹ Not available.

r = revised.

30. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1977 = 100]

Item	Annual average		Quarterly indexes										
			1979		1980				1981				1982
	1980	1981	III	IV	I	II	III	IV	I	II	III	IV	I
Private business sector:													
Output per hour of all persons	99.3	100.4	99.4	99.1	99.5	99.1	99.4	99.1	100.3	101.2	100.9	99.2	98.9
Compensation per hour	131.5	144.6	120.7	123.2	126.4	130.1	133.1	135.9	139.8	143.3	146.5	148.5	P 151.4
Real compensation per hour	96.7	96.3	99.2	98.0	96.7	96.6	96.9	96.0	96.1	96.9	96.3	95.8	P 96.9
Unit labor cost	132.4	144.0	121.4	124.3	127.0	131.3	133.9	137.1	139.4	141.6	145.2	149.7	P 153.0
Unit nonlabor payments	118.3	130.6	111.5	112.2	115.2	116.0	119.7	122.7	127.6	129.3	132.4	132.6	P 129.0
Implicit price deflator	127.6	139.4	118.1	120.2	123.0	126.1	129.1	132.2	135.4	137.5	140.9	143.9	P 144.9
Nonfarm business sector:													
Output per hour of all persons	98.8	99.7	98.9	98.8	98.9	98.2	99.0	99.0	100.0	100.4	99.9	98.2	P 98.3
Compensation per hour	130.8	143.9	120.2	123.0	126.0	129.4	132.3	135.4	139.2	142.4	145.7	147.9	P 150.9
Real compensation per hour	96.2	95.9	98.8	97.8	96.4	96.0	96.3	95.7	95.7	96.3	95.8	95.4	P 96.6
Unit labor cost	132.4	144.3	121.5	124.4	127.4	131.8	133.6	136.8	139.1	141.9	145.8	150.7	P 153.6
Unit nonlabor payments	117.6	130.4	109.2	110.1	113.9	115.1	119.2	122.0	127.8	128.7	132.2	132.8	P 129.2
Implicit price deflator	127.4	139.7	117.4	119.7	122.9	126.3	128.8	131.9	135.3	137.5	141.2	144.7	P 145.5
Nonfinancial corporations:													
Output per hour of all employees	101.0	103.5	100.5	99.9	100.2	100.1	101.8	101.8	103.4	104.0	103.8	102.4	(¹)
Compensation per hour	130.7	143.9	120.1	122.7	125.7	129.3	132.5	135.5	139.3	142.4	145.5	148.0	(¹)
Real compensation per hour	96.2	95.9	98.7	97.5	96.2	95.9	96.5	95.7	95.7	96.3	95.7	95.9	(¹)
Total unit costs	129.7	140.9	118.2	121.3	124.2	129.2	131.1	134.1	136.0	138.7	142.2	147.0	(¹)
Unit labor cost	129.4	139.0	119.5	122.8	125.4	129.1	130.2	133.1	134.7	137.0	140.2	144.6	(¹)
Unit nonlabor costs	130.2	146.1	114.6	117.2	120.9	129.3	133.8	136.9	139.5	143.6	147.7	153.8	(¹)
Unit profits	90.2	103.6	97.5	92.2	95.5	83.4	89.1	92.4	106.8	102.8	106.7	96.6	(¹)
Implicit price deflator	125.2	136.7	115.9	118.1	121.0	124.1	126.4	129.5	132.7	134.7	138.2	141.4	(¹)
Manufacturing:													
Output per hour of all persons	101.7	104.0	102.0	102.1	102.1	100.8	100.7	103.1	103.6	104.6	105.0	102.0	P 100.5
Compensation per hour	131.6	146.2	119.8	122.3	125.4	130.0	133.9	137.3	141.1	144.8	148.0	150.8	P 154.7
Real compensation per hour	96.8	97.4	98.5	97.2	96.0	96.5	97.5	97.0	97.1	97.9	97.3	97.3	P 99.0
Unit labor cost	129.4	140.6	117.5	119.8	122.8	129.0	133.0	133.2	136.2	138.4	141.0	147.8	P 154.0

¹ Not available.

r = revised.

31. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1977=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	III 1980 to IV 1980	IV 1980 to I 1981	I 1981 to II 1981	II 1981 to III 1981	III 1981 to IV 1981	IV 1981 to I 1982	IV 1979 to IV 1980	I 1980 to I 1981	II 1980 to II 1981	III 1980 to III 1981	IV 1980 to IV 1981	I 1981 to I 1982
Private business sector:												
Output per hour of all persons	-1.1	4.7	3.5	-1.1	-6.5	P -1.0	0.0	0.8	2.1	1.5	0.0	P -1.4
Compensation per hour	8.6	11.9	10.4	9.3	5.5	P 8.1	10.3	10.6	10.1	10.1	9.3	P 8.3
Real compensation per hour	-3.8	0.5	3.2	-2.3	-2.1	P 4.7	-2.0	-0.6	0.3	-0.6	-0.2	P 0.8
Unit labor costs	9.8	6.9	6.6	10.6	12.9	P 9.1	10.3	9.7	7.8	8.5	9.2	P 9.8
Unit nonlabor payments	10.2	17.1	5.3	10.1	0.0	P -10.3	9.3	10.8	11.5	10.6	8.1	P 1.1
Implicit price deflator	9.9	10.0	6.2	10.4	8.7	P 2.8	10.0	10.1	9.0	9.1	8.9	P 7.0
Nonfarm business sector:												
Output per hour of all persons	-0.2	4.4	1.4	-1.7	-6.8	P 0.3	0.2	1.2	2.3	0.9	-0.8	P -1.8
Compensation per hour	9.8	11.7	9.6	9.5	6.2	P 8.4	10.1	10.5	10.0	10.2	9.3	P 8.4
Real compensation per hour	-2.7	0.3	2.5	-2.2	-1.5	P 5.0	-2.2	-0.7	0.3	-0.6	-0.2	P 0.9
Unit labor costs	10.1	7.0	8.1	11.5	14.0	P 8.1	9.9	9.2	7.6	9.2	10.1	P 10.4
Unit nonlabor payments	9.9	20.2	3.0	11.3	-1.6	P -10.2	10.8	12.2	11.8	10.9	8.8	P 1.2
Implicit price deflator	10.0	11.0	6.5	11.4	10.0	P 2.2	10.2	10.1	8.9	9.7	9.7	P 7.5
Nonfinancial corporations:												
Output per hour of all employees	0.0	6.6	2.2	-0.5	P -5.5	(¹)	1.9	3.2	3.8	2.0	P 0.6	(¹)
Compensation per hour	9.4	11.7	9.3	9.1	P 6.9	(¹)	10.4	10.8	10.1	9.9	P 9.2	(¹)
Real compensation per hour	-3.1	0.3	2.1	-2.5	P 0.8	(¹)	-1.9	-0.4	0.4	-0.8	P -0.3	(¹)
Total unit costs	9.4	5.6	8.4	10.3	P 14.4	(¹)	10.5	9.5	7.4	8.4	P 9.6	(¹)
Unit labor costs	9.4	4.8	7.0	9.7	P 13.2	(¹)	8.4	7.4	6.1	7.7	P 8.6	(¹)
Unit nonlabor costs	9.5	7.9	12.3	11.8	P 17.6	(¹)	16.8	15.4	11.1	10.4	P 12.3	(¹)
Unit profits	15.7	77.9	-13.9	15.7	P -32.6	(¹)	0.3	11.8	23.3	19.7	P 4.5	(¹)
Implicit price deflator	9.9	10.4	6.2	10.7	P 9.6	(¹)	9.6	9.7	8.6	9.3	P 9.2	(¹)
Manufacturing:												
Output per hour of all persons	9.8	1.9	4.1	1.2	-0.8	P -5.8	1.0	1.5	3.8	4.2	-1.1	P -3.0
Compensation per hour	10.5	11.6	10.8	9.3	7.6	P 10.9	12.3	12.5	11.4	10.5	9.8	P 9.6
Real compensation per hour	-2.2	-0.2	3.5	-2.4	-0.2	P 7.4	-0.2	1.1	1.5	-0.2	0.3	P 2.0
Unit labor costs	0.6	9.5	6.4	7.9	20.7	P 17.8	11.2	10.9	7.3	6.0	1.0	P 13.0

¹ Not available.

r = revised.

WAGE AND COMPENSATION DATA

Data for the Employment Cost Index are reported to the Bureau of Labor Statistics by a sample of 2,000 private nonfarm establishments and 750 State and local government units selected to represent total employment in those sectors. The sample covers approximately 10,000 occupations in the private sector and about 3,700 in State and local governments.

Data on negotiated wage and benefit changes are obtained from contracts on file at the Bureau, direct contact with the parties, and secondary sources.

Definitions

The **Employment Cost Index (ECI)** is a quarterly measure of the average change in the cost of employing labor. The rate of total compensation, which comprises wages, salaries, and employer costs for employee benefits, is collected for workers performing specified tasks. Employment in each occupation is held constant over time for all series produced in the ECI, except those by region, bargaining status, and area. As a consequence, only changes in compensation are measured. Industry and occupational employment data from the 1970 Census of Population are used in deriving constant weights for the ECI. While holding total industry and occupational employment fixed, in the estimation of indexes by region, bargaining status, and area, the employment in those measures is allowed to vary over time in accord with changes in the sample. The rate of change (in percent) is available for wages and salaries, as well as for total compensation. Data are collected for the pay period including the 12th day of the survey months of March, June, September, and December. The statistics are neither annualized nor adjusted for seasonal influence.

Wages and salaries consist of earnings before payroll deductions, excluding premium pay for overtime, work on weekends and holidays, and shift differentials. Production bonuses, incentive earnings, commissions, and cost-of-living adjustments are included; nonproduction bonuses are included with other supplemental pay items in the benefits category; and payments-in-kind, free room and board, and tips are excluded. *Benefits* include supplemental pay, insurance, retirement and savings plans, and hours-related and legally required benefits.

Data on negotiated wage changes apply to private nonfarm industry collective bargaining agreements covering 1,000 workers or more. Data on compensation changes apply only to those agreements covering 5,000 workers or more. *First-year wage* or compensation changes refer to average negotiated changes for workers covered by settlements reached in the period and implemented within the first 12 months after the effective date of the agreement. *Changes over the life*

of the agreement refer to all adjustments specified in the contract, expressed as an average annual rate. These measures exclude wage changes that may occur under cost-of-living adjustment (COLA) clauses, that are triggered by movements in the Consumer Price Index. *Wage-rate changes* are expressed as a percent of straight-time hourly earnings; *compensation changes* are expressed as a percent of total wages and benefits.

Effective wage adjustments reflect all negotiated changes implemented in the reference period, regardless of the settlement date. They include changes from settlements reached during the period, changes deferred from contracts negotiated in an earlier period, and cost-of-living adjustments. The data also reflect contracts providing for no wage adjustment in the period. Effective adjustments and each of their components are prorated over all workers in bargaining units with at least 1,000 workers.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980, to produce a measure of the percent change in employers' cost for employees' total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the civilian nonfarm economy.

Data for the broad white-collar, blue-collar, and service worker groups, and the manufacturing, nonmanufacturing, and service industry groups are presented in the ECI. Additional occupation and industry detail are provided for the wages and salaries component of total compensation in the private nonfarm sector. For State and local government units, additional industry detail is shown for both total compensation and its wages and salaries component.

Historical indexes (June 1981 = 100) of the quarterly rates of changes presented in the ECI are also available.

For a more detailed discussion of the ECI, see chapter 25, "The Employment Cost Index," of the BLS *Handbook of Methods* (Bulletin 1910), and the *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; and "The Employment Cost Index: recent trends and expansion," May 1982.

Additional data for the ECI and other measures of wage and compensation changes appear in *Current Wage Developments*, a monthly periodical of the Bureau.

32. Employment Cost Index, total compensation

[June 1981 = 100]

Series	1979	1980				1981				Percent change			
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	12 months ended	3 months ended	12 months ended
											Dec. 1980	Dec. 1981	
Civilian nonfarm workers¹	-	-	-	-	-	-	100.0	102.6	104.5	-	1.9	-	
Workers, by occupational group													
White-collar workers	-	-	-	-	-	-	100.0	102.7	104.9	-	2.1	-	
Blue-collar workers	-	-	-	-	-	-	100.0	102.3	104.1	-	1.8	-	
Service workers	-	-	-	-	-	-	100.0	102.8	104.2	-	1.4	-	
Workers, by industry division													
Manufacturing	-	-	-	-	-	-	100.0	102.1	104.0	-	1.9	-	
Nonmanufacturing	-	-	-	-	-	-	100.0	102.8	104.8	-	1.9	-	
Services	-	-	-	-	-	-	100.0	104.4	107.1	-	2.6	-	
Public administration ²	-	-	-	-	-	-	100.0	104.3	106.0	-	1.6	-	
Private nonfarm workers³	86.3	88.6	90.7	92.8	94.7	98.1	100.0	102.0	104.0	9.8	2.0	9.8	
Workers, by occupational group													
White-collar workers	86.3	88.7	90.8	92.6	94.5	98.3	100.0	101.8	104.0	9.5	2.2	10.1	
Blue-collar workers	86.2	88.3	90.5	93.0	94.9	97.8	100.0	102.2	104.0	10.1	1.8	9.6	
Service workers	86.2	89.9	90.8	92.7	94.3	99.3	100.0	101.9	103.1	9.4	1.2	9.3	
Workers, by industry division													
Manufacturing	86.3	88.7	90.5	92.6	94.7	98.0	100.0	102.1	104.0	9.8	1.9	9.8	
Nonmanufacturing	86.3	88.6	90.8	92.9	94.7	98.2	100.0	102.0	103.9	9.8	1.9	9.7	
State and local government workers	-	-	-	-	-	-	100.0	105.3	107.4	-	2.0	-	
Workers, by occupational group													
White-collar workers	-	-	-	-	-	-	100.0	105.7	107.8	-	2.0	-	
Blue-collar workers	-	-	-	-	-	-	100.0	104.2	105.9	-	1.6	-	
Workers, by industry division													
Services	-	-	-	-	-	-	100.0	105.8	107.9	-	2.0	-	
Schools	-	-	-	-	-	-	100.0	106.0	107.9	-	1.8	-	
Elementary and secondary	-	-	-	-	-	-	100.0	106.3	108.3	-	1.9	-	
Hospitals and other services ⁴	-	-	-	-	-	-	100.0	105.0	107.8	-	2.7	-	
Public administration ²	-	-	-	-	-	-	100.0	104.3	106.0	-	1.6	-	

¹Excludes private household and Federal workers.

²Consists of legislative, judicial, administrative, and regulatory activities.

³Excludes private household workers.

⁴Includes, for example, library, social, and health services.

Note: Dashes indicate data not available.

33. Employment Cost Index, wages and salaries, by bargaining status, region, and area size

[June 1981 = 100]

Series	1979	1980				1981					Percent change		
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	12 months ended	3 months ended	12 months ended
											Dec. 1980	Dec. 1981	
Workers, by bargaining status¹													
Union	86.4	88.4	90.8	93.5	95.8	97.4	100.0	102.7	105.0	10.9	2.2	9.6	
Manufacturing	86.6	88.8	91.3	93.8	96.1	97.7	100.0	102.6	104.7	11.0	2.0	8.9	
Nonmanufacturing	86.2	88.0	90.4	93.1	95.5	97.1	100.0	102.8	105.2	10.8	2.3	10.2	
Nonunion	88.0	90.2	91.8	93.4	95.1	98.2	100.0	101.6	103.2	8.0	1.6	8.5	
Manufacturing	88.4	91.0	92.3	93.4	95.4	97.9	100.0	101.7	103.3	7.9	1.6	8.3	
Nonmanufacturing	87.9	89.9	91.5	93.4	95.0	98.4	100.0	101.6	103.2	8.1	1.6	8.6	
Workers, by region¹													
Northeast	88.4	90.6	92.5	94.2	96.0	98.3	100.0	101.7	104.4	8.6	2.7	8.8	
South	87.3	89.7	91.4	93.2	94.9	98.0	100.0	101.9	102.8	8.8	.9	8.3	
North Central	87.6	89.7	91.6	93.3	95.3	98.1	100.0	101.6	103.3	8.8	1.7	8.4	
West	86.0	88.2	90.4	93.5	95.3	97.9	100.0	103.2	105.1	10.8	1.8	10.3	
Workers, by area¹													
Metropolitan	87.6	89.4	91.4	93.5	95.4	97.9	100.0	102.1	104.0	9.0	1.9	9.0	
Other	87.0	90.1	91.5	92.9	95.1	98.3	100.0	101.8	103.1	9.4	1.3	8.4	

¹The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see BLS *Handbook of Methods*, Bulletin 1910.

34. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1981 = 100]

Series	1979	1980				1981					Percent change		
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	12 months ended	3 months ended	12 months ended
											Dec. 1980	Dec. 1981	
Civilian nonfarm workers¹	-	-	-	-	-	-	100.0	102.5	104.4	-	1.9	-	
Workers, by occupational group													
White-collar workers	-	-	-	-	-	-	100.0	102.6	104.7	-	2.0	-	
Blue-collar workers	-	-	-	-	-	-	100.0	102.4	104.0	-	1.6	-	
Service workers	-	-	-	-	-	-	100.0	102.5	103.6	-	1.1	-	
Workers, by industry division													
Manufacturing	-	-	-	-	-	-	100.0	102.1	104.0	-	1.9	-	
Nonmanufacturing	-	-	-	-	-	-	100.0	102.7	104.5	-	1.8	-	
Services	-	-	-	-	-	-	100.0	104.4	106.6	-	2.1	-	
Public administration ²	-	-	-	-	-	-	100.0	103.8	105.5	-	1.6	-	
All private nonfarm workers³	87.5	89.6	91.5	93.5	95.4	98.0	100.0	102.0	103.8	9.0	1.8	8.8	
Workers, by occupational group													
White-collar workers	87.6	89.7	91.4	93.3	95.2	98.1	100.0	101.8	103.9	6.7	2.1	9.1	
Professional and technical workers	86.3	89.2	90.8	93.2	95.3	98.2	100.0	103.3	105.5	10.5	2.1	10.7	
Managers and administrators	88.3	90.6	92.0	93.5	94.7	98.6	100.0	101.6	102.8	7.2	1.2	8.6	
Salesworkers	88.9	88.5	90.7	92.2	94.8	96.2	100.0	98.0	101.9	6.7	4.0	7.5	
Clerical workers	87.7	90.3	91.9	93.8	95.7	98.6	100.0	102.7	104.2	9.1	1.5	8.9	
Blue-collar workers	87.4	89.3	91.6	93.8	95.7	97.7	100.0	102.3	103.9	9.6	1.6	8.6	
Craft and kindred workers	87.8	89.3	91.4	94.0	96.1	97.8	100.0	102.9	104.3	9.4	1.4	8.5	
Operatives, except transport	86.6	89.4	91.5	93.6	95.5	97.8	100.0	102.1	104.1	10.2	2.0	9.0	
Transport equipment operatives	88.1	89.1	92.2	93.5	95.3	96.8	100.0	101.0	102.7	8.2	1.7	7.8	
Nonfarm laborers	87.4	89.6	91.8	93.9	95.7	97.5	100.0	101.5	103.3	9.5	1.8	7.9	
Service workers	87.7	90.8	91.9	93.4	94.8	99.2	100.0	101.8	102.7	8.1	.9	8.3	
Workers, by industry division													
Manufacturing	87.5	89.9	91.8	93.6	95.7	97.9	100.0	102.1	104.0	9.4	1.9	8.7	
Durables	87.1	89.3	91.2	93.5	95.7	97.9	100.0	102.1	104.5	9.8	2.4	9.2	
Nondurables	88.1	91.0	92.7	93.8	95.7	97.8	100.0	102.0	103.1	8.6	1.1	7.7	
Nonmanufacturing	87.5	89.5	91.3	93.4	95.2	98.1	100.0	102.0	103.8	8.8	1.8	9.0	
Construction	88.2	89.3	91.9	94.5	95.9	97.6	100.0	103.0	104.3	8.8	1.3	8.8	
Transportation and public utilities	86.0	88.2	90.2	93.1	95.6	97.7	100.0	102.0	103.6	11.1	1.6	8.4	
Wholesale and retail trade	88.2	90.5	92.2	93.6	95.1	98.2	100.0	101.3	102.3	7.8	1.0	7.6	
Wholesale trade	87.2	89.7	92.1	93.0	95.9	98.5	100.0	102.0	103.4	10.0	1.4	7.8	
Retail trade	88.6	90.8	92.2	93.8	94.8	98.1	100.0	101.0	101.9	7.0	.9	7.5	
Finance, insurance, and real estate	86.7	87.1	89.4	91.2	93.1	95.7	100.0	98.3	102.3	7.4	4.1	9.9	
Services	88.0	90.5	91.9	94.2	95.7	99.6	100.0	103.6	105.8	8.7	2.1	10.6	
State and local governments	-	-	-	-	-	-	100.0	105.0	107.0	-	1.9	-	
Workers, by occupational group													
White-collar workers	-	-	-	-	-	-	100.0	105.4	107.5	-	2.0	-	
Blue-collar workers	-	-	-	-	-	-	100.0	103.9	105.5	-	1.5	-	
Workers, by industry division													
Services	-	-	-	-	-	-	100.0	105.5	107.6	-	2.0	-	
Schools	-	-	-	-	-	-	100.0	105.7	107.7	-	1.9	-	
Elementary and secondary	-	-	-	-	-	-	100.0	106.0	107.9	-	1.8	-	
Hospitals and other services ⁴	-	-	-	-	-	-	100.0	104.6	107.3	-	2.6	-	
Public administration ²	-	-	-	-	-	-	100.0	103.3	105.5	-	1.6	-	

¹Excludes private household and Federal workers.

²Consists of legislative, judicial, administrative, and regulatory activities.

³Excludes private household workers.

⁴Includes for example, library, social, and health services.

NOTE: Dashes indicate data not available.

35. Wage and compensation change, major collective bargaining settlements, 1977 to date

[In percent]

Measure	Annual average				Quarterly average									
	1978	1979	1980	1981	1980				1981				1982	
					I	II	III	IV	I	II	III	IV	I ^P	
Total compensation changes covering 5,000 workers or more, all industries:														
First year of contract	8.3	9.0	10.4	10.2	8.8	10.2	11.4	8.5	7.7	11.6	10.5	11.0	1.8	
Annual rate over life of contract . . .	6.3	6.6	7.1	8.3	6.7	7.4	7.2	6.1	7.2	10.8	8.1	5.8	1.1	
Wage rate changes covering at least 1,000 workers, all industries:														
First year of contract	7.6	7.4	9.5	9.8	8.2	9.1	10.5	8.3	7.1	11.8	10.8	9.0	2.2	
Annual rate over life of contract . . .	6.4	6.0	7.1	7.9	6.5	7.3	7.4	6.5	6.2	9.7	8.7	5.7	2.0	
Manufacturing:														
First year of contract	8.3	6.9	7.4	7.2	7.2	6.7	8.4	7.8	6.4	8.2	9.0	6.6	1.9	
Annual rate over life of contract . . .	6.6	5.4	5.4	6.1	5.7	5.1	5.6	5.8	5.5	6.7	7.5	5.4	1.8	
Nonmanufacturing (excluding construction):														
First year of contract	8.0	7.6	9.5	9.8	9.4	10.3	9.5	8.2	8.0	11.8	8.6	9.6	1.8	
Annual rate over life of contract . . .	6.5	6.2	6.6	7.3	7.6	8.5	5.9	6.8	7.3	9.1	7.2	5.6	1.4	
Construction:														
First year of contract	6.5	8.8	13.6	13.5	10.8	12.2	15.4	14.3	11.4	12.9	16.4	11.4	9.3	
Annual rate over life of contract . . .	6.2	8.3	11.5	11.3	9.1	10.4	13.0	12.0	10.3	11.1	12.4	11.7	8.9	

36. Effective wage adjustments in collective bargaining units covering 1,000 workers or more, 1977 to date

Measure	Year					Year and quarter									
	1977	1978	1979	1980	1981	1980				1981				1982 ^P	
						I	II	III	IV	I	II	III	IV	I	
Average percent adjustment (including no change):															
All industries	8.0	8.2	9.1	9.9	9.5	1.6	3.3	3.5	1.3	1.7	3.2	3.3	1.5	.9	
Manufacturing	8.4	8.6	9.6	10.2	9.4	2.0	3.4	2.9	1.7	2.3	2.4	3.1	1.9	.8	
Nonmanufacturing	7.6	7.9	8.8	9.7	9.5	1.3	3.2	4.0	1.1	1.2	3.8	3.4	1.1	1.0	
From settlements reached in period	3.0	2.0	3.0	3.6	2.5	.4	1.0	1.7	.5	.4	1.1	.5	.4	.1	
Deferred from settlements reached in earlier period . . .	3.2	3.7	3.0	3.5	3.8	.5	1.4	1.2	.3	.5	1.4	1.5	.4	.5	
From cost-of-living clauses	1.7	2.4	3.1	2.8	3.2	.7	.8	.7	.6	.7	.7	1.2	.6	.2	
Total number of workers receiving wage change (in thousands) ¹	—	—	—	—	8,648	—	—	—	—	3,855	4,701	4,364	3,225	2,713	
From settlements reached in period	—	—	—	—	2,270	—	—	—	—	579	909	540	604	153	
Deferred from settlements reached in earlier period	—	—	—	—	6,267	—	—	—	—	888	2,055	3,023	882	1,033	
From cost-of-living clauses	—	—	—	—	4,593	—	—	—	—	2,639	2,669	2,934	2,179	1,750	
Number of workers receiving no adjustments (in thousands)	—	—	—	—	145	—	—	—	—	4,937	4,092	4,428	5,568	6,176	

¹ The total number of workers who received adjustments does not equal the sum of workers that received each type of adjustment, because some workers received more than one type of adjustment during the period.

WORK STOPPAGE DATA

WORK STOPPAGES include all known strikes or lockouts involving 1,000 workers or more and lasting a full shift or longer. Data are based largely on newspaper accounts and cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

Estimates of days idle as a percent of estimated working time measures only the impact of larger strikes (1,000 workers or more). Formerly, these estimates measured the impact of strikes involving 6 workers or more; that is, the impact of virtually *all* strikes. Due to budget stringencies, collection of data on strikes involving 6 workers or more was discontinued with the December 1981 data.

37. Work stoppages involving 1,000 workers or more, 1947 to date						
Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month or year	Beginning in month or year (in thousands)	In effect during month (in thousands)	Number (in thousands)	Percent of estimated working time
1947	270		1,629		25,720	
1948	245		1,435		26,127	.22
1949	262		2,537		43,420	.38
1950	424		1,698		30,390	.26
1951	415		1,462		15,070	.12
1952	470		2,746		48,820	.38
1953	437		1,623		18,130	.14
1954	265		1,075		16,630	.13
1955	363		2,055		21,180	.16
1956	287		1,370		26,840	.20
1957	279		887		10,340	.07
1958	332		1,587		17,900	.13
1959	245		1,381		60,850	.43
1960	222		896		13,260	.09
1961	195		1,031		10,140	.07
1962	211		793		11,760	.08
1963	181		512		10,020	.07
1964	246		1,183		16,220	.11
1965	268		999		15,140	.10
1966	321		1,300		16,000	.10
1967	381		2,192		31,320	.18
1968	392		1,855		35,567	.20
1969	412		1,576		29,397	.16
1970	381		2,468		52,761	.29
1971	298		2,516		35,538	.19
1972	250		975		16,764	.09
1973	317		1,400		16,260	.08
1974	424		1,796		31,809	.16
1975	235		965		17,563	.09
1976	231		1,519		23,962	.12
1977	298		1,212		21,258	.10
1978	219		1,006		23,774	.11
1979	235		1,021		20,409	.09
1980	187		795		20,844	.09
1981	145		729		16,908	.07
1981: January	6	12	12.0	29.6	257.9	.01
February	7	10	10.7	20.9	118.5	.01
March	16	20	201.6	207.8	861.8	.04
April	17	27	48.0	223.5	4,085.2	.20
1982 P: January	2	4	6.1	11.4	199.9	.01
February	2	6	2.5	13.9	236.9	.01
March	2	7	7.1	20.1	330.6	.02
April	8	14	34.7	53.1	451.9	.02

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SALES PUBLICATIONS

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- A Guide to Seasonal Adjustment of Labor Force Data. Bulletin 2114, 10 pp., \$2 (GPO Stock No. 029-001-02643-9).
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Area Wage Survey Bulletins

The annual series of 70 publications is available by subscription for \$90 per year. Individual area bulletins also are available separately. The following were published in April:

- Davenport-Rock Island-Moline, Iowa-Illinois, Metropolitan Area, February 1982. Bulletin 3015-7, 27 pp., \$2.50.
- Huntsville, Alabama, Metropolitan Area, February 1982. Bulletin 3015-3, 25 pp., \$2.50.
- Jackson, Mississippi, Metropolitan Area, January 1982. Bulletin 3015-1, 40 pp., \$2.75.
- Minneapolis-St. Paul, Minnesota-Wisconsin, Metropolitan Area, January 1982. Bulletin 3015-2, 41 pp., \$3.00.
- Newark, New Jersey, Metropolitan Area, January 1982. Bulletin 3015-4, 40 pp., \$2.75.
- Pittsburgh, Pennsylvania, Metropolitan Area, January 1982. Bulletin 3015-6, 56 pp., \$3.25.
- Sacramento, California, Metropolitan Area, December 1981. Bulletin 3010-71, 28 pp., \$2.50.
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- Selected Metropolitan Areas, 1980. Bulletin 3000-72, 128 pp., \$5.50.
- York, Pennsylvania, Metropolitan Area, February 1982. Bulletin 3015-5, 28 pp., \$2.50.

Periodicals

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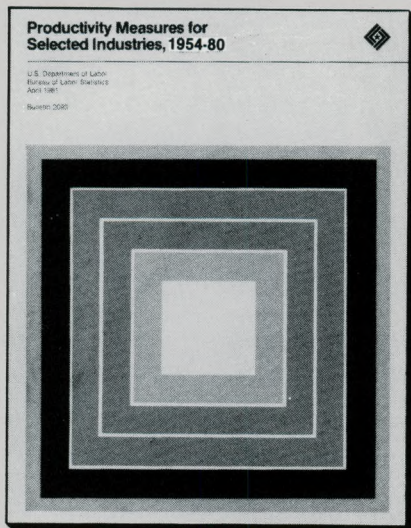
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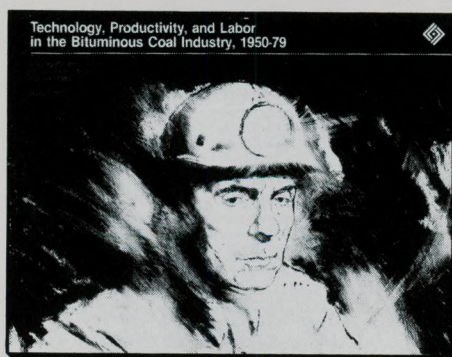
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