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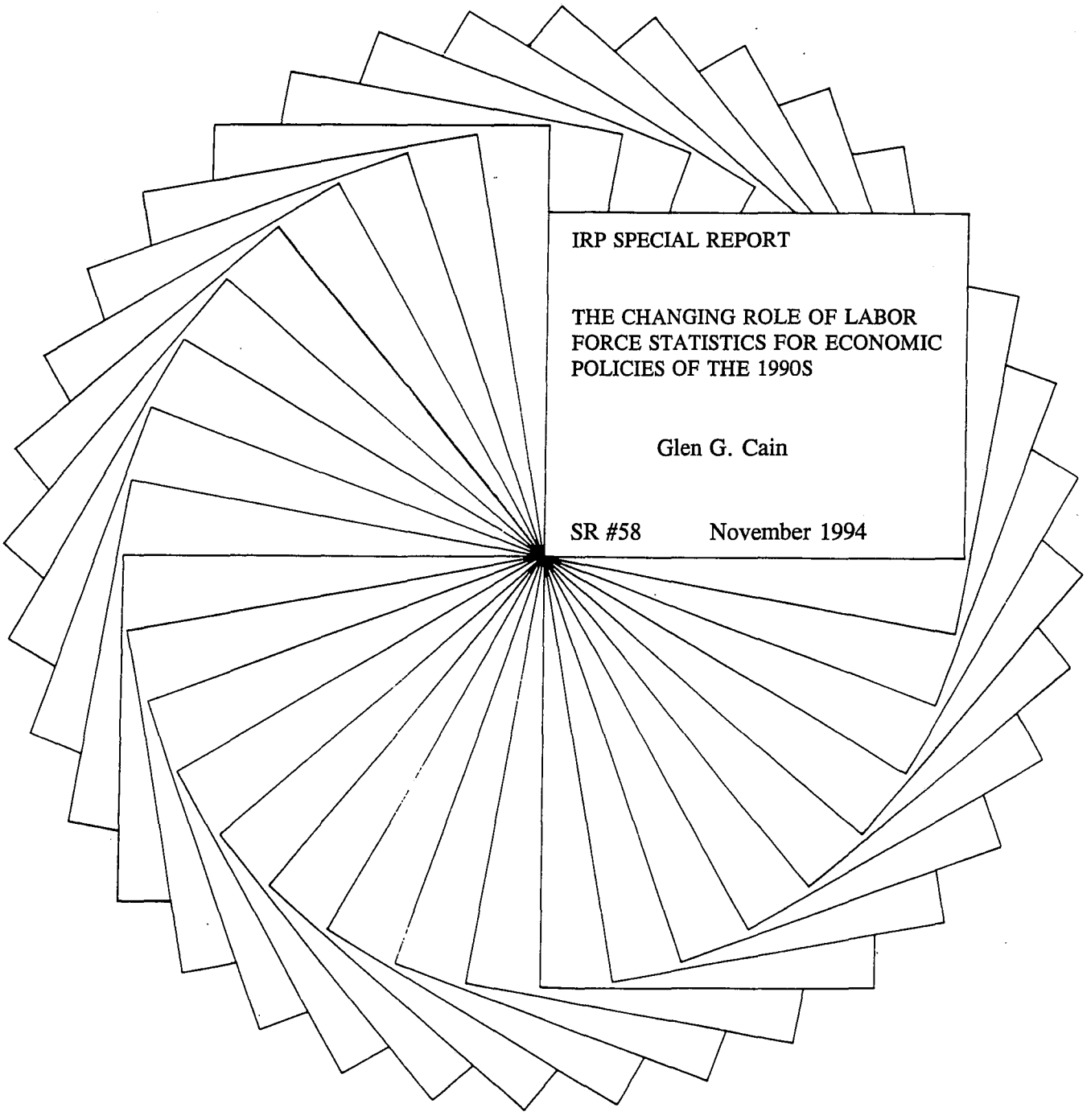

IRP SPECIAL REPORT

THE CHANGING ROLE OF LABOR FORCE STATISTICS FOR ECONOMIC POLICIES OF THE 1990S

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Executive Summary

The 1994 revision of the nation's most important source of labor force statistics, the Current Population Survey, marks an opportune time to examine how well this survey and other sources of data about the labor market enable us to measure and explain various social and economic problems that affect the economic well-being of the population. One theme of this report is that the opportunities to accomplish these tasks are unprecedented. Data, computing facilities, and econometric methods are abundant and more effective than ever before, and further gains in all three areas are forthcoming. The report begins with a description of the sources of data and a discussion of the methodology of their use in light of how the data and research have evolved in the last sixty years. Special attention is given to the new revisions in the CPS and how they will affect research and labor market policies. Three types of research tasks are discussed: describing important outcomes in the labor market, predicting "natural" market processes and outcomes, and predicting outcomes that are results of government policies and interventions.

A second theme of the report is that the labor force and the economy of the United States are undergoing profound changes, some continuations of past trends and others that are the result of revolutionary developments in the economies and politics of other nations. The largest part of the report attempts to define the most important problems in the labor market and how they are shaped by changes in the economy, in the legal and institutional setting of the economy, and in the population. The major economic changes are the stagnation in real wages and their widening inequality during the last twenty years, the growth in part-time and "contingent" workers, the long-run increase in national unemployment rates, increases in international trade, the continued growth of the service sector of the economy, and technological change. Declines in the percentage of workers covered by collective bargaining contracts and certain legal changes are related to the increase in the number of workers with insecure job attachments. The demographic changes discussed deal with the sex and age

composition of the labor force and with the population increases of older persons, immigrants, and families headed by a mother with no father present.

The final part of the report has three sections. First, the allocation of time and labor in the nonmarket sector places the topics of leisure, housework, volunteer work, and education in a lifetime context. Attention to these topics serves both to explain labor market behavior and to expand the concept of economic well-being beyond the subject of income. The special roles of time-use studies, panel surveys, and data from decennial censuses in the analysis of these topics are examined. Second, the political setting of labor market statistics, particularly those produced by the Labor Department, is briefly discussed. The report ends with recommendations for changes and research priorities in the collection and use of labor force statistics.

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The Changing Role of Labor Force Statistics for Economic Policies of the 1990s

I. INTRODUCTION AND STATEMENT OF PURPOSES

In 1994 the Bureau of Labor Statistics of the U.S. Department of Labor and the Bureau of the Census of the U.S. Department of Commerce began reporting monthly statistics on the labor force and other aspects of the economy with a revised version of the Current Population Survey (CPS). The new survey is the product of seven years of extensive development, testing, and field trials. It uses a new technology of surveying, called computer-assisted telephone and personal interviewing, which promises more information and greater accuracy.

These new procedures for data collection come at a time when the labor force and the economy of the United States are undergoing profound changes. The changes are partly continuations of past trends and partly a result of revolutionary developments in the world economy and in the international community of nations. This report concerns the problems and challenges of obtaining information about the labor force and the labor market during this transitional period.

The broad purpose of the report is to address those aspects of labor force statistics that reveal, measure, and explain social and economic problems that affect the economic well-being of the population. What are these problems, and how can public and private agencies and organizations collect and use labor force data to address them?

A challenging characteristic of labor force statistics is that most of the widely used concepts—labor force participation, employment-to-population ratios, unemployment, part-time employment, and others—are ambiguous indicators of economic well-being. A rise in labor force participation or in the employment-to-population ratio, for example, can signal the "good" of increased employment opportunities. This is how we interpret the rise in these two statistics when the economy shifts out of a recession and into prosperity. Similarly, the long-run increase in employment by

women is usually viewed as an indication of greater equality between the sexes in economic opportunity and a source of social and economic independence of women.

It is also true, however, that declines in employment and labor force participation have reflected the increase in schooling among young people and the increase in retirement among older people. These increases are part of the more general long-run increase in men's consumption of leisure. A reversal of the declining trend in men's labor force participation rates might indicate the "bads" of a decline in education if teenagers took jobs instead of continuing their schooling, or a decline in leisure consumption if older workers postponed their retirement. Unless the increases in income from more hours worked offset the value of the reduction in education and leisure, economic well-being in the inclusive sense of the quality of life would decline.

Unemployment comes closest to representing an unambiguous bad, because at face value it is a measure of the failure of the labor market to provide jobs for those who are seeking jobs. It is an indicator of the economy's performance precisely because of the negative correlation between the state of the business cycle and the level and change of unemployment. Unemployment also has a causal relation to personal distress or hardship. To be sure, the latter relationship has diminished during the past fifty years because of programs of transfer payments for the unemployed and because more families have multiple earners, among other reasons, but it has not disappeared, and the higher is the unemployment rate, the stronger is its causal relation to hardship.

Nevertheless, even unemployment is not always a self-evident and unambiguous indicator of a poorly performing economy. Its increase may be benign if it is a response to an increase in the generosity of Unemployment Insurance or some other transfer payment program for unemployed persons. We should expect, for example, that unemployed workers will lengthen the duration of their job search to improve their chances of finding a better job match.

As a final example, one which has received media attention and will be further discussed below, consider the increases in part-time jobs, part-year jobs, temporary jobs, and other unconventional working arrangements. These types of jobs are referred to by a variety of names, such as contingent jobs and market-mediated jobs. Is this development good or bad?

Part-time jobs may offer the good of flexible arrangements for those who want to work less than full time, perhaps to facilitate further schooling or child care and housework responsibilities. For others such jobs may be accepted reluctantly because a full-time job is not available. There is evidence that some companies are shifting to more part-time jobs to avoid paying fringe benefits and assuming other costly commitments to employees who have full-time status. Other companies have "contracted out" certain jobs to avoid dealing with a union in their firm, and the jobs that are contracted out may (or may not) involve part-time or part-year workers.

In summary, the labor force is changing in composition regarding many categories of its standard classifications, such as labor force participation, unemployment, and part-time and full-time jobs. We need to examine these changes to understand their causes and determine their relation to the performance of the economy and to the well-being of the population. These are the ultimate goals of the Bureau of Labor Statistics and the Bureau of the Census. A basic question of this report is, how well do the existing data sources allow researchers and policymakers to understand and evaluate the changes?

This document is, of course, but a brief treatment of the role of labor force data in seeking these goals. The report is selective in its coverage of topics and cautious in its recommendations. Part II discusses the principal sources of data and new technology in acquiring and using the data. Part III deals with structural changes in the labor market, the population, and economic institutions. Part IV examines the nonmarket sector of the economy; specifically the allocation of time and labor to

housework, unpaid volunteer work, and leisure. Part V briefly discusses the political setting of the uses of labor force statistics. Part VI provides a summary and offers recommendations.

II. SOURCES OF DATA AND NEW TECHNOLOGY IN ACQUIRING AND USING THE DATA

A. Historical Background

Quantitative research in economics has flourished only in the last sixty years, beginning with simple statistical procedures and small numbers of observations. Today's huge sample sizes and, especially, powerful computational procedures and technology were scarcely imaginable in the 1930s, when economists struggled to analyze the macroeconomics of the Great Depression and the microeconomics of such matters as consumer expenditures and job search.

One aspect of quantitative analysis that has remained the same over this span of time is the taxonomy of data sources. There are four basic types: (1) aggregative time series, such as the time series of national unemployment rates, (2) aggregative cross sections, such as unemployment rates for cities in a given year, (3) disaggregated (or individual) cross-sectional observations, such as data for households from the CPS, and (4) panel (or longitudinal) observations in which individuals or other micro units, such as firms, are followed over time. The computational revolution of the last thirty years has been associated with the last two sources of data. Sample sizes of cross-sectional data can be immense. The 1-in-100 public use samples from the 1980 and 1990 decennial censuses provide records from over a million households.

These data sources serve three general research purposes: description, prediction in the context of market processes without the intervention of new or specific government policies, and prediction of outcomes from government policies. To illustrate a useful descriptive purpose, consider the time series of labor force participation rates of different demographic groups. On the basis of

aggregative decennial census data, beginning with the 1890 census, and annual observations from the CPS since the 1940s, we observe momentous changes in the composition of the labor force. Over the span of decades the labor force participation and hours of market work of women, especially married women, have greatly increased, while the time spent in market work by men has greatly decreased. These descriptive statistics are essential to an understanding of long-term changes in the standard of living and in the structure of families, to name just two major economic and social issues.

The time series of labor force statistics also illustrates the purpose of prediction, especially when combined with economic theory. The trends over time in the changes described above are sufficiently consistent to suggest a naive forecast of continuations of the trends, but the forecasts are made more convincing in light of economic models of labor supply that explain the trends along the following lines. Personal and family incomes have substantially increased over the long run, mainly as a consequence of increases in wages for both men's and women's market work. The decline in work by men is a corollary of their increased leisure consumption in response to their increased income. In the conventional and admittedly simple economic model, labor earnings constitute the whole of family income, and the explanation for men's decrease in work time is that the increased income from a higher wage exerts a stronger force to reduce work time (and increase leisure time) than does the counterforce of the incentive to work more because of the increased wage rate.

The same conventional, and again simplified, model of labor supply explains women's increase in market work by postulating a large positive incentive effect on labor supply from the rise in their wages, and economic theory has an explanation for why women's labor force behavior has differed from that of men. The reason why the positive incentive effect of the wage increase is relatively large for women is that women, but not men, reallocated their time from housework to market work in response to the increased market wage. Increased income permits women to consume more leisure by working less in the home sector, even though they work more in the market sector.

Of course, other changes in society have contributed to the trends in work, but the point emphasized here is the consistency between economic theoretical explanations and the empirical outcomes.

We may view the time series of trends in labor supply, income, and wages as suggesting the economic hypotheses about income and wage effects described above. In the last fifty years, beginning with a classic study of labor supply by Schoenberg and Douglas (1937), research with all four types of data sources has tested these hypotheses and found a qualitative agreement (an agreement in sign) between the time-series trends and the economic explanations.

The purpose of predicting outcomes of government policies is illustrated by the extensive research since the 1960s on work responses to tax and transfer programs. Another area of policy research has been the evaluation of government regulations in the labor market and of employment and training programs. To evaluate programs and to choose among program alternatives, simply estimating the signs of the relationship between, say, a training program and a change in employment and earnings is seldom sufficient. Quantitative magnitudes are required for the benefit-cost analysis of these programs, which is much more demanding of the validity and reliability of the data and the econometric methods used in the research.

B. Current Appraisal

It is useful to view the evolution of government surveys in light of the three general purposes of empirical research described above. Clearly, the expanded role of government in the operation of the economy has increased the demand for data and research, and the impressive advances in the technology of obtaining and manipulating data have increased the supply of data for research.

Since 1940 the CPS has been the federal government's basic source of monthly labor force statistics. Currently it is a cross-section survey of some 60,000 households, and it provides a monthly report of official statistics to estimate employment, unemployment, and related outcomes in the labor market. These estimates are essential for policy decisions that deal with the business cycle. The CPS

also collects income and demographic information that, in conjunction with the employment and unemployment data, measure the economic well-being of families, and these statistics also have direct and indirect implications for government policies. The last major evaluation of the CPS was carried out in 1977–79 by the National Commission on Employment and Unemployment Statistics, which produced a series of research studies and a final report.

Macroeconomic changes in labor market conditions are well measured by the CPS. However, the CPS is not well suited to measure micro, or individual, changes in employment and earnings in relation to personal or residential characteristics of those individuals. Its main shortcoming for this purpose is that it is not a true longitudinal survey of households. It follows persons for a maximum of only one year. Moreover, the basic sampling unit is the dwelling unit, and households that move from a dwelling unit are not followed. Because movers are unlikely to be a random group in the sample (or population), micro-level changes based on the CPS will be biased.

C. Longitudinal (or Panel) Surveys

Several longitudinal surveys—the Survey of Income and Program Participation (SIPP), the National Longitudinal Survey (NLS), and the Panel Study of Income Dynamics (PSID)—are better than the CPS for analyzing changes in outcomes and in behavioral relations at the micro level. To illustrate, consider the following four subjects.

1. Statistics from the CPS on the duration of unemployment are useful but subject to several biases. Long spells of unemployment have a higher probability of being recorded at a point in time in a survey. Thus, the short panel-lengths of the CPS (four months in the panel, four months out, and four months in again) will overstate the proportion of long-duration spells relative to surveys with longer panels—32 months with SIPP and many years with the NLS and PSID. Another type of bias occurs if one attempts to measure completed spells that are observed in the survey, which would

necessarily be shorter in the CPS than those measured in the other panel surveys. These panel surveys also have the advantage of following people who change their residency.

2. The March survey of the CPS is the official source of government statistics on poverty and on the distribution of income, but there are several disadvantages of its income data relative to SIPP. The March survey asks questions about the household's income and work experience during the previous year. SIPP has three interviews each year that ask a more complete set of questions about a household's income receipts during the previous four months. Thus, the income questions are more closely linked to the time of receipt, and the income reported is more complete. Consider also that the measurement of poverty requires information about the size and composition of the family in addition to the family's annual income. In SIPP the year of reported income is linked to the family composition for that year. By contrast, the CPS report of last year's income is matched to the family composition in March of the current year. Perhaps the cases of mismatch between family composition and income in the CPS create offsetting biases, but the discrepancy is troublesome.

3. SIPP's advantages in income reports and its panel design enable it to be used to fulfill a recommendation by the National Commission on Employment and Unemployment Statistics (1979, p. 60) that "the Bureau of Labor Statistics prepare an annual report containing measures of the different types of labor market related economic hardship resulting from low wages, unemployment, and insufficient participation in the labor force. These data, which refer to individuals, would be presented in conjunction with the family relationships and the household income of the individual." This recommendation anticipated using the CPS, but, again, the inconsistency between last year's income accounting period and the current year's family composition is an obstacle to fulfilling the recommended task.

4. SIPP's advantages in measuring household income permit a more complete reporting of unemployment insurance and other sources of transfer payments. These data can be used to examine

the relation between the duration of unemployment and the receipt of income transfer payments from government insurance and assistance programs. The same information can also supplement the CPS in measuring economic hardship among unemployed persons.

D. The 1994 Changes in the CPS

The monthly surveys of the CPS began in 1940, although official publications of the Labor Department usually show 1947 as the first year in their various time series of labor force statistics. (Perhaps the statistics from 1940 to 1946 are not shown because the period was considered too unusual because of the war period and because the survey, being new and using smaller samples, was less reliable.) The CPS remained essentially unchanged until 1967, when major revisions were made, most of which followed recommendations of a Presidential commission that had issued its report in 1962. The revisions in 1994 are also major, but it is important to state that, like the 1967 revisions, they will not change the basic design and, most importantly, the basic labor force concepts used in the survey.

The continuity of the time series of labor force statistics was, with suitable adjustments, preserved after 1967. Preserving the continuity between the pre- and post-1994 revisions requires a careful examination of the sources of differences found in the pre- and post-versions of the survey during the trial periods of the new version in 1992 and 1993. Continuity in the time series of the labor force statistics is essential to policymakers and researchers.

Three types of changes occurred in 1994: a new questionnaire, computerized interview procedures, and a redesigned selection of sampling areas and households based on the 1990 decennial census. I will discuss only the first two.

The Questionnaire. Many changes in the questionnaire are designed to make minor improvements in reducing burdens on the interviewers and respondents and in obtaining greater precision in concepts, mainly by increasing the interviewer's and respondent's comprehension of the

questions. The changes in questions and procedures are believed to increase slightly the count of employed and unemployed persons. Additionally, four subgroups in the population may show certain changes in labor force statistics: part-time workers, retired and disabled persons, and discouraged workers. The results from the 1994 revisions for each group deserve a close examination because each group reflects a major problem or controversy in the labor force of the 1990s.

As mentioned in Part I, part-time work often carries the disadvantage of lower earnings, fewer fringe benefits, and reduced opportunities for promotion. But it also often provides more job opportunities and the advantage of flexibility in fitting one's schedule with these opportunities. The new questionnaire will add information about part-time work and its advantages and disadvantages.

In the old questionnaire a respondent who reported usually working less than 35 hours is asked, "What is the reason [you] usually work less than 35 hours?" The new questionnaire provides guidance to the respondent in eliciting an answer to that question. After respondents are asked their usual hours of work per week, and if they report less than 35 hours, they are asked if they "want to work a full-time workweek of 35 hours or more." If they answer "no," they are asked "What is the main reason you do not want to work full time?" If respondents answer yes to the question about wanting to work full time, they are then asked a question about reasons for working part time with the following lead in: "Some people work part-time because they cannot find full-time work or because business is poor. Others work part time because of family obligations or other personal reasons. What is your MAIN reason for working part time?" The answers to this question are expected to be classified into such categories as: "slack work/business conditions," "seasonal work," "child care problems," "health limitations," "school/training," "retired/Social Security limitations on earnings," "full-time workweek is less than 35 hours," and other responses. Finally, the number of hours the respondent actually worked last week is obtained, and the respondent is asked: "Could you have worked full time if the hours had been offered?" The additional questions and the changes in

wording in the old questions will sharpen the meaning of "working part time for economic reasons"—which has often been considered equivalent of "involuntary" part-time work. Involuntary part-time work will consist of part-timers who "want a full-time job" and are available for full-time work if the hours were offered.

Retired and disabled persons will be asked fewer questions. The old questionnaire followed a respondent's statement that he or she was retired or disabled by asking three basic questions. Did the respondent do "any work at all last week, not counting work around the house?" Did the respondent "have a job or business from which he or she was temporarily absent or on layoff last week?" Did the respondent "look for work during the past four weeks?" If all those questions are answered negatively, respondents are asked when they last worked for pay at a regular job or business, either full time or part time. If the answer is less than five years, other questions are asked. All respondents are asked whether they want a job now, either full time or part time, and whether they intend to look for work of any kind in the next 12 months.

The new questionnaire typically will ask only two questions of those who report being retired or disabled in answer to the lead question about whether they worked for pay last week. The first is "Do you currently want a job, either full time or part time?" If the answer is no, the respondent is asked: "When did you last work at a job or business?" If the answer is "more than 12 months ago," the questions end. By eliminating the three questions listed above, the new questionnaire reduces the response burden on persons who initially report being retired or disabled.

A cost of this reduced burden is less information about labor force attachment among these two groups. The issue is important because of the growing concern about the long-run increases in the proportion of the population that is retired and disabled and about the sharply reduced employment-to-population ratio of persons 55 years of age and older. Less employment and more retirement lowers national income and reduces tax revenues, and the tax burden on the employed

population rises because of disability and retirement payments from such programs as Supplemental Security Income (including Medicaid), Social Security retirement and disability benefits (including Medicare), veterans' benefits, and other programs. The Labor Department has reported that not much information is produced from the three questions that have been dropped from the CPS for those who report being retired and disabled, but there may be increasing interest in knowing whether all those who report being retired and disabled have done "any work at all ... (not counting work around the house)" and have "been looking for work during the past 4 weeks." These issues will be discussed in Part III.

The final change in the new questionnaire that deserves mention in this report involves discouraged workers. A long-standing controversy is about whether they should be classified as unemployed or continue to be classified as not in the labor force. There are two main technical (as distinct from political or ideological) arguments against expanding the current definition of unemployment to include discouraged workers. First, the response that defines discouragement is based on one's desire for a job. They are asked whether they "want a job now." In contrast, the response that defines unemployment is based on the objective criterion of job search activities. Second, the follow-up question to a yes answer to "wanting a job" asks why the person did not search for a job. Some answers define discouragement and others do not, but the basis for the classification appears rather arbitrary. For example, people who say that they have a physical handicap or care for children are not classified as discouraged, but those who say they face discrimination (perhaps because they have a physical handicap) or lack experience and believe employers will not hire them are classified as discouraged. It should be said that one may disagree with including discouraged workers in the official classification of unemployed and still believe that discouragement is a useful classification.

The new questionnaire will improve the statistics about discouragement by asking additional questions of those who are not in the labor force and say they "currently want a job": (1) more information will be obtained about the reasons for not looking for work during the last four weeks; (2) respondents will be asked about their job search activities and employment experiences during the last 12 months; and (3) respondents will be asked about their availability last week to accept a job if a job had been offered. As will be discussed below, the decline in labor force participation rates among men who are below customary retirement age and who do not report being disabled is one important reason for further investigation of discouraged workers.

Computer-Assisted Interviews. Computer-assisted telephone interviewing has the potential to lower the cost of the CPS by having staffs of phone interviewers in a few well-equipped locations and by the technology of "automatic" (random-access) phoning to households that are scheduled to be interviewed. Currently, cost reduction from this source will be limited, however, because most of the telephone interviewing will continue to be done from the homes of the interviewers assigned to specific localities and to the respondents living in these local areas. Although costs may not fall, other improvements seem assured. With computer-assisted telephone and personal interviewing the computer will select the questions in proper sequence, and the task of following the complicated skip patterns in the questionnaire will be easier for both interviewer and respondent. Also, the computer can recall information from past interviews with the respondent to prompt responses as well as to check on the accuracy of certain responses. It can calculate earnings from the respondent's reports of hours worked and the hourly wage rate, and it can calculate total family income from the sum of reports of components of income of the family members, and thereby provide internal checks to the respondent's reported amounts.

One of the important changes from the new questionnaire and the computer assistance will be a major reduction in the CPS reports of occupational and industrial mobility. The old procedure

asked the same questions about a respondent's occupation and industry at each monthly interview. Differences between the current and prior month's response were reported as a change in one's industry or occupation. The new procedures will reduce reported changes because the computer will recall a respondent's previous status, and the interviewer will use this as a prompt in asking about current status. Specifically, the respondent will be provided with the name of the employer reported in the prior month and will be asked if he or she still works for that employer. (Information about the employer is used to determine a worker's industry.) If the answer is yes, the respondent is asked if the job activities and duties have changed. (Job activities and duties are used to define a worker's occupation.) If the answer is no, a verification of the prior month's response is obtained.

Trial testing of the new procedures has confirmed the expected sharp reduction in industrial and occupational changes that are reported by the respondents. There has been general recognition that the old procedures greatly overstated change, because mere inconsistency in month-to-month reports of the employer or job will yield spurious changes. The new method, referred to as "dependent interviewing," is likely to understate occupational or industrial mobility, because of a respondent's tendency to accept passively the computer's prompt, but the understatement should be minor. In any case, the design of the CPS, with a dwelling unit as the basic sampling unit, does not permit following persons who move, so we should not rely on the CPS for accurate measures of occupational and industrial mobility. True panel surveys, like SIPP, are better for these and other measures of individual changes over time.

E. A Brief Discussion of Administrative, Census, and Time-Use Data

1. Administrative Data. Administrative data are collected by governmental agencies to administer programs and perform their day-to-day operations. The data are seldom intended for public use or for scholarly research, and these purposes have seldom been given a high priority. However, several developments in recent years have opened opportunities to facilitate research that

can be useful to the agency and to the public. Incentives in and pressures on the agencies for evaluating their programs have made them more receptive to scholarly research, and the supply of econometric researchers eager to respond is ever plentiful. Perhaps most important are the developments in data availability. Electronic data storage and their transmission by CD-ROMs and telephone connections to personal computers located anywhere in the nation have revolutionized the tasks of storage and access. Data transmission has become easy, inexpensive, and accurate, and the revolution is just beginning.

Several examples of administrative data that are particularly relevant to labor market research will be briefly discussed. Employers' reports on employment, hours, and earnings in their establishments illustrate three types of purposes and formats for administrative data and for research opportunities. (This paragraph draws upon Wolfbein, 1979.) Basic are the quarterly reports of employment and payrolls filed by all firms covered by Unemployment Insurance (UI). Over 95 percent of all wage and salaried employees in the nonagricultural economy are covered. The quarterly reports are used to administer the UI program, but they also provide a valuable series of employment counts, wages, and other data by industry and occupation. These data are published by the Labor Department in its monthly publication, Employment and Earnings. Popularly referred to as "establishment data" (which distinguishes the data from the household data of the CPS), the series actually extends back to 1909, when the Labor Department had reasons other than UI (which did not exist then) for collecting payroll data from firms. The establishment data appearing in Employment and Earnings are currently accessible electronically.

The establishment data stem from the system of collecting the UI tax. Another source of data is from the records for making UI payments. (This paragraph draws upon Blaustein, 1979.) These are data for individuals that begin with applications for UI benefits, include information about certain economic and demographic characteristics of the applicants, and continue with records of monthly

payments until eventual termination of the payments because of the worker's reemployment, exhausting one's eligibility, and other reasons. Samples of these data are available for research from the ambitious Continuous Wage and Benefit History data base. The CWBH is a longitudinal sample of individual UI claimants for research and descriptive purposes. The sample began during the 1970s and was intended to cover all states, but for mainly budgetary reasons, covers only thirteen states. It includes socioeconomic and demographic information from a special questionnaire used to supplement the information on the administrative files. For examples of high quality research with these data, see Meyer (1992 and the citations therein).

Finally, there are currently plans in the Bureau of Labor Statistics to construct archives of the wage record data from the UI files. A feasibility study is ongoing and a request for funding is before Congress this year.

There are other examples of administrative data that have been used for scholarly research. The Social Security Administration has been a pioneer in making such data available. The Internal Revenue Service has allowed limited and carefully controlled access to income tax records filed by employers for their employees, and these have been used to obtain employment and earnings records for before-and-after periods of government training programs. An example of the use of these records for evaluation research of a government training program is Cain et al. (1993).

2. Decennial Censuses. Because of its huge size, the decennial census is unique in supplying local area statistics for relatively small-sized areas and statistics for narrowly defined demographic groups—particularly valuable for obtaining information about smaller-sized ethnic groups. Also, because of its long history, census data provide a long-term time series of labor force statistics. Part IV uses the historical record from census data to examine the recent controversy about whether Americans are "overworked," as claimed by Schor (1991).

3. Time-Use Diaries. This rather unconventional data source, mainly developed by sociologists, has proven to be informative about a range of social issues and has been valuable to economists in measuring certain nonmarket activities that are relevant to understanding labor force behavior. Since 1965 the Institute for Social Research at the University of Michigan has carried out time-use surveys to measure the concept of "total work time," which includes housework and volunteer work in addition to market work. The surveys are also useful for measuring certain aspects of the education and training of young people.

III. STRUCTURAL CHANGES IN THE ECONOMY, POPULATION, AND ECONOMIC INSTITUTIONS

The uses of labor force data are largely determined by their role in describing, managing, and evaluating the performance of the economy. To fulfill these functions it is necessary to understand the main changes and problem issues in the economy, in its legal and institutional structure, and in the relation between the labor market and the demographic composition of the population.

A. Changes in the Economy

1. Stagnation in Real Wages, 1973–1993. The single statistic that is most central to measuring economic progress is the real (inflation-adjusted) wage, which may be thought of as the link between productivity and household income. Productivity per worker essentially determines workers' real wages, and real wages largely determine the standard of living of families, given an allowance for leisure consumption in the measure of the standard of living. Family income may rise even if wages do not, if family members work more hours. Historically, real wages have increased sufficiently to allow gains in both leisure and material goods. Thus, the trend in real wages since 1973, which has shown periods of slow growth, no growth, and actual declines is probably the single most important source of economic discontent in the United States in recent years.

The trends in wages and incomes discussed in this section are mainly based on the CPS, which excludes noncash compensation to workers, such as Social Security contributions and health insurance benefits paid by employers, and noncash sources of income, such as food stamps and Medicaid benefits. Obtaining information for individuals and households on fringe benefits and income in kind is difficult, and translating this information into money equivalence is also difficult. Many workers do not know the money value of their fringe benefits, not to mention their real value (adjusting health insurance for the price inflation in health services, for example), and transfer payments are notoriously underreported in household surveys. The absence of these forms of compensation is a serious gap in our knowledge about the levels and distribution of wages.

Evidence from the national income accounts suggests, however, that the aggregative trends in the levels of wages are not seriously distorted by the omission of fringe benefits. A component of national income is "supplements to wages and salaries," which mainly consists of employer contributions to Social Security, private pensions, and health benefits. The ratio of "supplements to wages and salaries" to "total compensation of employees" was fairly constant at around 16 to 17 percent in the 1980s, although the share grew from 11 percent to 16 percent from 1970 to 1980 (Economic Report of the President, 1992). Also, as shown below, in Table 2, the trend in "compensation per hour," which is based on total compensation, is similar to the trend in reported real wages during recent years.

Wage stagnation is the main reason why family incomes have barely increased over the past twenty years and why the incidence of poverty has actually increased. Nineteen seventy-three was, indeed, a landmark year, when a twenty-five-year period of strong economic growth was followed by a twenty-year period of economic sluggishness, with only a glimmer of a possible turnaround in sight as of 1994. By 1973 median family income had risen to $33,400 from a level of $22,400 in 1959. (Both figures are in 1990 dollars.) In 1973 11 percent of families were poor, compared to 22 percent

in 1959. The average annual growth rate in family income from 1948 to 1973 was 3 percent. Now consider that in 1990 average family income was $35,400, the poverty rate was 13.5 percent, and the average annual growth rate in family income from 1973 to 1990 was only 0.3 percent (Danziger and Weinberg, 1994). The recession of 1991–1993 shows even lower measures of economic performance.

Labor force and demographic statistics have already given us much information about these problems. We know, for examples, that flat and declining real wages, rather than declining numbers of workers per family—which have in fact risen—are the primary source of declining family incomes; that an increase in the number of single-parent families with absent fathers (discussed below) is another source of both declining family incomes and the increase in poverty; and that unemployment rates in the economic slowdown in the 1970–90 period were higher than in the 1950–70 period of growth (see item 4 below). But each proximate cause is itself an outcome (or effect) of other antecedent causes or perhaps reflects a relation of mutual causality.

A decline in aggregate demand, for example, will increase unemployment among young men, which is likely to cause fewer marriages and more marital breakups. Thus, the prevailing high unemployment rates of the 1980s have probably contributed to the increase in female-headed families and the rise in poverty. It is also likely that being raised in a female-headed family increases the likelihood of entering the labor market with low skills, low earnings, and, to complete the circle of causality, high rates of unemployment among young men. But mutual causality, or "simultaneity" in economic terms, should not be confused with "circularity."

Let us focus on the change in real wages and document its disappointing trend in the period after 1973. From 1979 to 1989, average real wages have shown a small increase for women and a small decrease for men. Card and Lemieux (1993) use both the May and March surveys from the CPS to provide careful computations for several measures of wage changes from 1979 to 1989, which

are shown in Table 1. Using the reported hourly wage from the May CPS, the authors show an 8 percent decline for white men and an 11 percent decline for black men over the 10-year period. White women show a gain of 2 percent and black women a decline of 1 percent. Using the March CPS to calculate an hourly wage for year-round, full-time workers (who worked 50–52 weeks for 35 or more hours per week), the authors show a 5 percent decline for both white and black men, and a 6 and 5 percent gain, respectively, for white and black women.

It is an open question as to which measure of wages best evaluates the economy's ability to reward a worker of given "quality," or productive capacity. We would like to decompose the change in average wages into a portion that is attributable to changes in the composition of the work force—a supply factor—and into a portion that is attributable to the demand side—how the economy, or more narrowly how employers, changes its (or their) wage offerings to workers of given skills. The two measures of wages provided by Card and Lemieux have strengths and weaknesses in measuring the demand source of the change in average wages. The wage for year-round, full-time workers, the March measure, may offer a more homogeneous sample, thereby controlling better for the average quality of the workers, which has, of course, changed somewhat from 1979 to 1989. Also, the March measure may offer a more "normal" measure of wages by virtue of its coverage of earnings over a full year. However, by selecting only fully employed workers, this measure misses the wage changes among those who are less than fully employed (for either voluntary or involuntary reasons).

The hourly wage from the May CPS applies to all workers who are employed in the week of the survey, but it also misses workers in that survey week who are unemployed or who have dropped out of the labor force. (For some purposes both groups should be considered, particularly if their current status is a reflection of, or caused by, changes in prevailing wages.) The May measure covers more workers than the March measure, and it also has the advantage of being a direct measure of the wage, whereas the March measure is calculated by dividing annual earnings by a rather crude

TABLE 1

U.S. Wage Levels, 1979–1989, by Race and Gender (constant 1989 Dollars)[a]

	Men				Women			
	Reported Wage (May)[b]		Constructed Wage, FTFY (March)[c]		Reported Wage (May)[b]		Constructed Wage, FTFY (March)[c]	
Year	White	Black	White	Black	White	Black	White	Black
1979[d]	$11.08	$8.98	$12.86	$9.94	$7.45	$7.09	$8.32	$7.79
1989	$10.14	$7.96	$12.17	$9.45	$7.58	$6.99	$8.82	$8.20
Ratio '89/'79	.92	.89	.95	.95	1.02	.99	1.06	1.05
GNP def.-adj. Ratio[e] '89/'79	.97	.94	1.01	1.01	1.08	1.05	1.13	1.12

[a]Source: David Card and Thomas Lemieux, "Wage Dispersion, Returns to Skill, and Black-White Differentials," NBER Working Paper no. 4365, Cambridge, Mass., May 1993.
[b]Reported hourly wage in the May survey of the Current Population Survey.
[c]Calculated hourly wage-equivalent of the average weekly earnings for full-time, full-year (FTFY) workers from the March survey of the Current Population Survey.
[d]CPI-adjusted, using a 1.71 factor for the price rise from 1979 to 1989.
[e]GNP-deflator adjustment, using a 1.61 factor from 1979 to 1989.

estimate of annual hours worked. (Indeed, all users of the March measure find that they must exclude observations with a calculated wage that is "too" high or low. Card and Lemieux, for example, discard observations with hourly wages that are below $2.01 and above $60.00 in 1989 dollars.)

Stagnant wage growth in the last ten to twenty years stands in sharp contrast to most preceding periods of comparable length in American history. Freeman (1980) uses census statistics to calculate the average rate of growth in annual earnings and hourly compensation for selected periods from 1900 to 1978. See Table 2. The growth rate in annual earnings was 2.1 percent from 1900 to 1966 and 2.9 percent from 1947 to 1966. The annual growth rate in hourly compensation was 3.3 percent from 1947 to 1966 and 2.3 percent from 1966 to 1978. Extending the hourly compensation series to 1991, we see the sharp decline to a 0.5 percent growth rate from 1978 to 1991.

The contrast between the growth rates from 1900 to 1978 shown in Table 2 and the flat and negative growth rates shown in Tables 1 and 2 for the period from 1978 to 1991 are stunning. The flat wage trends during the decade of the 1980s are comparable only to the depression decade of the 1930s in twentieth-century American experience, although I hasten to add that those two decades are very dissimilar in other measures of economic performance. The 1980s witnessed growth in the employment-to-population ratio, quite unlike the 1930s. The high unemployment rate in the 1980s, averaging over 7 percent, was less than half of the average level (18 percent) during the 1930s (Lebergott, 1964, p. 512); and per capita consumption in the 1980s was three times as large as it was in the 1930s (Economic Report of the President, 1990, p. 325).

2. Increasing Inequality in Wages and Income, 1973–1990. The slow growth of wages and incomes from 1973 to 1990 indicates an inefficient economic performance, and the rise in inequality signals an inequitable outcome. The widening gap in white-black earnings, shown in Table 1, is one indication of increased inequality, although the racial gap had narrowed substantially from, say, 1940 to 1980 (Smith and Welch, 1989). Burtless (1989), Katz and Murphy (1992), and Levy and Murnane

TABLE 2

Annual Growth Rates (Percentages) in Real Wage and Earnings in the United States, 1900-1991, Selected Periods[a]

Measure of Earnings	Periods			
	1900–66	1947–66	1966–78	1978–91
Annual earnings[b]	2.1	2.9	--	--
Compensation per hour[c]		3.3	2.3[d]	0.5

[a]Source (partial): Richard B. Freeman, "The Evolution of the American Labor Market, 1948–80," in Martin Feldstein, ed., The American Economy in Transition. Chicago: University of Chicago Press, Chicago, 1980), pp. 349–396.
[b]Source: U.S. Bureau of the Census, Historical Statistics, Part 1, Series D-683, Washington, D.C., GPO, 1975, p. 162.
[c]1947–1966: Freeman, p. 352; 1966–1978, and 1978–1991, Economic Report of the President, 1993 (Washington, D.C.: GPO, 1993), p. 396. (Original source: Department of Labor, Bureau of Labor Statistics). Compensation per hour is defined as "wages and salaries of employees plus employer contributions for social insurance and private benefit plans, and all other fringe benefits, as well as an estimate of the wages, salaries, and supplemental payments of the self-employed" (p. 396).
[d]Freeman reports a 1.7 percent growth rate for 1966–78, but his figures appear to be superseded by the more recent series reported in the Economic Report of the President, 1993.

(1992) may be mentioned among many who have shown a widening inequality in earnings across several classifications of workers. College-educated workers have gained compared to those with a high school education or less, and older workers have gained relative to younger workers. Note that the groups—whites, college-educated, and older workers—that gained relatively were the higher earners to begin with.

Moreover, within these subgroups of workers (by education, age, and race) the variance (or dispersion) of earnings increased, adding substantially to the overall measure of wage inequality in the economy. Not all wage trends have served to increase inequality, however. As shown above in Table 1, the gap between men's and women's wages has narrowed. All these issues have received considerable attention in the popular media as well as in research journals. (See, for example, the best-selling book by Kevin Phillips, The Politics of Rich and Poor, 1990, and the New York Times article by Sylvia Nasar, "Women's Progress Stalled? It Just Isn't So," October 11, 1992. Two useful scholarly publications are the October 1993 issue of the Quarterly Journal of Economics, and Kosters, 1991.)

We should pause here to note that the concept of inequality is difficult to define and that some of its meaningful definitions are difficult to measure. For example, existing studies of the rise in wage inequality have relied on a year-by-year succession of cross-section surveys of workers, mainly the CPS. A more telling picture is obtained by using panel data to see if the rise in inequality is attributable to the same workers remaining in a low (or high) income class or, alternatively, if there is considerable turnover and movement into and out of the low (or high) income classes.

The question is closely related to that of measuring inequality over an extended period of time, during which the year-to-year changes in income can be averaged out. Averaging annual earnings for a period of consecutive years yields a more comprehensive measure of one's position in the distribution of earnings. Blinder (1980, pp. 449–450) reports that family incomes in the 1970s

are somewhat less unequal when averaged over several years using panel surveys than when measured in single-year periods. (I am not aware of similar studies of the 1980s.)

It should be noted that panel surveys that extend for many years are rare, and they involve many logistical and conceptual problems. Attrition of the sample units is an example of a logistical problem. Changes in the family unit and in movements in and out of the labor force are examples of conceptual problems about the appropriate time period and unit of analysis. If one is focusing on the effects of poverty on children, for example, a period of several years may be long enough. Family units divide and unite over time, so it is difficult to define a consistent household unit. The Panel Study of Income Dynamics, which Blinder relied upon for most of his analysis, appears to be the best available survey for longer-term measures of inequality.

The logical extension of the long-run concept of an individual's economic well-being, insofar as income or earnings is its measure, is the year-by-year age-earnings (or age-income) profile over the full lifetime of the individual. (Note that leisure consumption is now being ignored.) The age-earnings profile shows the timing of the earnings receipts. By specifying a discount rate for each year's earnings, we can calculate the present value of the lifetime earnings as a summary statistic. Thus, the population distribution of the present values of earnings (or incomes) may be thought of as the ideal summary statistic for "the income distribution." Quotes are used because the income distribution would vary according to the discount rate selected, and no single rate is universally accepted. This ideal concept of the income distribution would, of course, be correlated with the usual measure of the income distribution for a single calendar year, but the correlation might be weak. Consider, for example, the earnings profiles from age 18 to age 65 of surgeons compared with carpenters.

Clearly, we cannot know anyone's present value of lifetime earnings until his or her working life ends, even assuming that the yearly records of earnings are available. This practical shortcoming

of the measure should not, in my opinion, lead us to ignore the implications of the lifetime concept. Techniques for approximating and estimating the concept are available and could be used to good advantage with better data. Again, changes in an individual's family status and attrition pose serious problems for obtaining appropriate data.

Let us consider two practical examples of the importance of the concept of the lifetime (or, at least, a longer-run) measure of income, in addition to the above example of its effects on measures of income inequality. First, the economist's view of education as an investment to increase a worker's lifetime earnings may radically change our interpretation of the findings by Katz and Murphy (1992) and others that the earnings gap widened in the 1980s between workers with college and high school education. The finding appears to imply a high payoff to a college education, but does it? Consider that Freeman (1976) reported a narrowing of the earnings gap in the 1970s between the two education groups of workers. Freeman later reaffirmed his finding, stating that "In a strikingly new development, the growth of demand for educated workers fell short of the growth of supply, with the result that the quality of jobs obtained by the educated declined" (1980, p. 350). Freeman's findings suggest a low payoff to a college education in the 1970s. However, when we realize that the appropriate measure of a payoff (or lack of payoff) to education is a rate of return based on a 45-year span of working life, we see that neither set of findings, of the 1970s or of the 1980s, gives us a rate of return on a college education (relative to the alternative of a high-school only education). Will it turn out that the lifetime earnings profiles will be sharply different for those who received the educational degrees in two succeeding decades? The question calls for earnings data in a different form than the data presented by Katz and Murphy or by Freeman. Answering the question also requires information about the direct costs of schooling in the form of tuition and fees, but these are of minor importance compared to the 45-year earnings records.

Actually, the contrasting evaluations by Katz-Murphy and by Freeman of returns to college education are not based on following a given cohort over time. Instead, they are based on a mix of age-groups in cross sections in given years and the earnings trends of different educational groups in those cross sections for ten to fifteen years or so. Thus, Freeman's data for his study of the 1970s and the data of Katz and Murphy for their 1980s study overlap. It is unlikely, therefore, that the long-run measure of the returns to education will be very different for neighboring cohorts. Eventually, we will learn the empirical conclusion on this matter, but the conceptual point is the difficulty in determining rates of return to investments in education, training, migration, and so on from the earnings distributions for relatively short-term periods.

A second example of the importance of the lifetime concept of the income distribution is in the relation between transfer payment programs and the lifetime receipt of earnings. A large part of the growth of government expenditures as a fraction of Gross National Product is attributable to transfer payment programs. Three have accounted for most of the recent growth: (1) Old Age, Survivors, and Disability Insurance (OASDI), popularly known as Social Security; (2) the related Medicare program that pays for certain medical and hospital costs of OASDI recipients; and (3) the Medicaid program for certain medical and hospital costs of families "on welfare" who receive payments from, mainly, Supplemental Security Income or Aid to Families with Dependent Children. On the one hand, earnings of workers are reduced by taxes to pay for these transfer payment programs. On the other hand, tax-reduced earnings of persons when they are 25 to 64 are at least partially offset by increased incomes when they are 65 and older. Indeed, historically, the present value of Social Security benefits per recipient have far exceeded the present value of the recipient's taxes to the program paid when working earlier in life.

The issues are further complicated by the fact that the tax and transfer payment programs also affect the incentives to earn. Theoretically, higher taxes on a worker's earnings can lead either to

increases or decreases in work. Although the tax increase reduces the incentive to work, the reduction in income increases the perceived need to work. A transfer payment, however, has an unambiguous disincentive to work. It increases the recipient's income, and it reduces the effective wage because an increase in earnings is usually accompanied by a reduction in the transfer payment. This implicit tax on the earnings of those who receive OASDI or AFDC, for examples, are much higher than the explicit taxes on earnings. Workers who reach the age when they are entitled to OASDI and Medicare face powerful disincentives to work, especially when they receive payments from the programs.

The relationships between work and tax/transfer payments are complex. They depend on the progressivity of the tax structure, the incidence and timing of the transfers, and the labor supply responses. The main conclusion is that a study of trends in both earnings and earnings inequality should include the role of taxes and transfers in a lifetime context.

3. The Growth in Part-Time and "Contingent" Workers. One structural change in the labor market that has been associated with the widening inequality of wages is an increase in jobs with an insecure employment relationship, loosely defined by reduced or irregular hours and an insecure working relationship with the employer. Job insecurity is, however, difficult to define, and the jobs discussed in this section turn out to be quite heterogeneous. They have been given the distinctive label of "contingent jobs." Polivka and Nardone (1989), who use this name, cite a 1985 usage by Audrey Freedman of the National Industrial Conference Board. The name has the advantage of brevity compared to "market-mediated jobs," which has been used by Abraham (1990).

Polivka and Nardone adopt the following three criteria to define contingent jobs: limited job security, variability of hours, and the degree to which the employee's control of hours is not predictable. Christenson and Murphree (1990) argue for including part-time jobs and add the criterion of a nontraditional work site, such as a variable site or working at home. Polivka and

Nardone and Abraham argue against considering part-time jobs, per se, as contingent jobs. Note that part-time jobs are not necessarily variable or unpredictable. Without a clear-cut definition for these various working arrangements, there are no standardized measures and statistics.

We might draw upon economic theory to help define job insecurity in terms of the technological and contractual ease of replacing a worker, perhaps adding "under conditions of full employment," because the ease or difficulty of replacing workers depends on whether labor markets are loose or tight. Another determinant of the relative ease of replacement is the homogeneity of the workers. The technological ease of replacement is a demand-side factor, and the homogeneity of workers is a supply-side factor, and both are familiar to economists as traditional determinants of the elasticity of the demand for workers—that is, the degree to which employers will respond to a wage change by hiring more or fewer workers. Specifying the contractual ease of initiating or ending the employment relation introduces an institutional criterion to an otherwise neoclassical economic definition. For most workers an employment contract is implicit, not explicit.

A classification of jobs as contingent and noncontingent may appear related to the concept of a "dual labor market," in which "secondary" (or "peripheral") jobs have less security and more variable hours than "primary" (or "core") jobs. Caution is needed in making this connection, however, because the "dual" classification was commonly used to indicate good jobs and bad jobs, and, whatever validity one attaches to these stereotypes, contingent jobs may not be easily stereotyped in this way. To illustrate, certain occupations in the building trades may be relatively unstable in weeks worked, hours worked, employer attachments, and place of work, and yet the wages of these jobs are some of the highest received among blue-collar workers. Indeed, the venerable principle of compensating wages is a force that rationalizes paying high wages as compensation for such nonpecuniary disadvantages as job insecurity and nonpreferred hours. Thus, it will be difficult to

offer a comprehensive normative judgment about part-time and contingent jobs without knowing the wage rates for these jobs in relation to the alternative wages that these jobholders could earn.

Before presenting a list and statistics on these types of jobs, consider some of the interesting questions about them. Have they grown because of changes in the demographic and industrial composition of the labor market—more women and more service jobs, for examples? Or are they an increasing proportion of employment within industries, occupations, and demographic groups? Is the growth of part-time and contingent jobs a cause or an effect of the decline in unionism in the economy? Again, we can ask: Do they reflect the "good" of increased flexibility and greater opportunities in the labor market for workers who desire part-time and contingent jobs, or the "bad" of involuntary part-time work and unstable jobs imposed by a labor market with declining opportunities? Many commentators have emphasized the negative implications of the growth in contingent jobs. Indeed, this development, along with the decline in wages and increase in wage inequality, is colorfully expressed in the title of a Brookings Institution book, A Future of Lousy Jobs? (Burtless, 1989).

Let us consider several subgroups of jobs (or workers) that appear to fit the characterization, vague though it is, of contingent jobs.

Part-time workers. Part-time and part-year workers (discussed below) are classifications of workers (and implicitly of jobs) that are relatively easily measured by accepted criteria. A part-time job is defined according to its scheduled hours per week or, in the customary operational definition in the CPS, by the worker's report of his or her regular hours of work per week. Working less than 35 hours on a regular basis is considered part time. The CPS also provides the important distinction between voluntary and involuntary part-time workers, which in turn provides information to help make normative judgments about the jobs. Note that unemployed workers are not usually included in

the statistics on part-time workers, although information is collected on whether the unemployed are searching for full- or part-time jobs.

As shown in Table 3, the percentage of part-time workers employed in the nonagricultural sector has risen from an average of 13 percent in the 1960s to 18 percent in the 1980s, and it was 18 percent in 1992. The use of five-year averages in the table permits an easier reading of trends and smooths over some of the cyclical variations in part-time jobs. As shown in the last three columns in Table 3, the percentage of part-time workers tends to be somewhat higher in the trough year of the recession compared to neighboring years. Some are working "short weeks" because of slack business, and this component of part-time work rises during recessions. It is a component mainly of part-time workers in normally full-time jobs.

Table 4 shows a time series of part-time workers who are working part-time for "economic reasons," which is a term that implies that the worker's status in part-time work is not by choice nor because of some physical limitation. So defined, they constitute from 19 to 34 percent of all part-time workers, using the five-year averages shown in the table. Table 4 also shows that involuntary part-time workers are a larger percentage of the employed population in recessions, such as in 1958, 1961, 1971, 1975, and 1982–83. (The figures for these years should be compared relative to their neighboring years.) Thus, they may be viewed as being "part-time unemployed," and they are, in fact, included in a more comprehensive measure of unemployment by the Bureau of Labor Statistics, although they are not part of the official unemployed count. Involuntary part-time workers are a relatively small percentage of the total civilian, nonagricultural work force, ranging from 3 to 5 percent, but their percentage has been creeping up in recent years.

The pattern of the time series is interesting. From 1955 to 1964 the proportion of part-time workers classified as involuntary was relatively high, 32 percent, and part-time workers as a whole were a relatively small component of the employed population, 12 percent (as shown in Table 3).

TABLE 3

Part-Time Workers as a Percentage of Non-Agricultural Civilian Employment, 1955–1992

Years[a]	Average % Part Time	Business Cycle Effects on the Percentage Part-Time Work		
		Trough Year	Unemployment Rate	% Part Time
1955–59	11.6			
		1958	6.8	13.0
1960–64	13.2			
		1961	6.7	13.5
1965–69	13.8			
		--	--	--
1970–74	15.7			
		1971	5.9	15.8
1975–79	16.8			
		1975	8.5	17.3
1980–84	18.1			
		1982–83	9.6	19.0
1985–89	17.5			
		--	--	--
1990–92	17.6	1992	7.4	17.9

Source: 1988–92: U.S. Department of Labor, Employment and Earnings, January issues (annual averages, household survey); 1955–1987: U.S. Department of Labor, Bureau of Labor Statistics, Labor Force Statistics Derived from the Current Population Survey, 1948-1987, Bulletin 2307, August 1988.

[a]A five-year average is shown.

TABLE 4

Percentage of Part-Time Workers Who Are Working Part Time for Economic Reasons (Sometimes Referred to as Involuntary Part Time), 1955–1992

Years[a]	% of Employed Population	% of All Part-Time Workers	Business Cycle Effects			
			Trough Year	Unem. Rate	% of Empl.	% of P.-T.
1955–59	3.9	33.6	1958	6.8	5.1	39.4
1960–64	3.9	29.8	1961	6.7	4.6	34.4
1965–69	2.6	18.9	--	--	--	--
1970–74	3.1	19.6	1971	5.9	3.2	20.4
1975–79	3.8	22.8	1975	8.5	4.3	24.9
1980–84	5.3	29.1	1982–83	9.6	6.1	32.2
1985–89	4.9	27.4	--	--	--	--
1992	5.3	30.0	1992	7.4	5.3	30.0

Source: 1988-92: U.S. Department of Labor, Employment and Earnings, January issues (annual averages, household survey); 1955–1987: U.S. Department of Labor, Bureau of Labor Statistics, Labor Force Statistics Derived from the Current Population Survey, 1948–1987, Bulletin 2307, August 1988.

[a]Five-year averages.

The proportion of involuntary part-time workers in this period was high despite the prevailing low rates of unemployment, reflecting instead the fact that women, who were then likely to hold voluntary part-time jobs, were only around one-third of the labor force. From 1965 to 1979 the number of voluntary part-time workers increased as more women and young people entered the labor force, and the proportion of involuntary part-time workers decreased to around 20 percent. In the period 1965–79 unemployment was moderately low, although higher than in the 1955–64 period. During the 1980s the percentage of part-time workers who were involuntary rose to 28 percent. This increase was partly in response to the high unemployment levels of the 1980s and partly because women were increasingly holding full-time jobs.

Table 3 showed that most of the increase in part-time workers as a proportion of all workers occurred from the 1955–59 period to 1970–74—from 12 percent to 16 percent. From 1970–74 to 1990–92 the increase was from 16 to 18 percent. Table 5 shows that since 1970 the changing demographic composition of the work force appears to be a minor factor in explaining the modest increase in part-time work from 1970 on. Prime-age men, defined as between 25 and 54, have a much lower percentage of part-time workers than women or other age groups of men, but, interestingly, part-time work is increasing at a faster rate for prime-age men than for all other workers. The proportion of prime-age men declined from 45 percent of the work force in 1955 to 36 percent in 1979, but rose to 39 percent in 1992.

In summary, almost all of the increase in part-time work, from 12 percent of employment in 1955–1959 to around 18 percent today, occurred by the late 1970s, when the average was 16 to 17 percent. The shift in the industrial structure toward service industries and away from manufacturing, and the related increase of women in the labor force, are explanations for the long-term increase, but it is noteworthy that part-time work has increased relatively little during the period since 1970 despite the continuation of these two trends. Involuntary part-time work, in contrast, has become a larger

TABLE 5

Average Percentage of Part-Time Workers among "Prime-Age" Male Workers (Age 25–54) and among All Other Workers, 1970–1992

Years[a]	Among Males 25–54	Among All Other Workers	Males 25–54 as % of Labor Force
1970–74	3.5%	24.1%	38.6%
1975–79	3.9	24.4	36.6
1980–84	5.1	25.2	36.7
1985–89	5.2	25.2	37.8
1992	6.2	25.2	39.0

Source: 1988-92: U.S. Department of Labor, Employment and Earnings, January issues (annual averages, household survey); 1955–1987: U.S. Department of Labor, Bureau of Labor Statistics, Labor Force Statistics Derived from the Current Population Survey, 1948-1987, Bulletin 2307, August 1988.

[b]Five-year averages.

fraction of all part-time work in recent years relative to the 1970s. The normative implications of a rise in involuntary part-time jobholding is clear, but the increase in voluntary part-time work is not. A careful study of wage rates for part-time workers of comparable skills could give us an answer to the normative question. The increase in women's labor force participation reflects the demand-side forces of technological change favoring white collar jobs and consumers' shifts toward retail trade and services. The demand factors appear to dominate such exogenous supply-side factors as declining birthrates, because women's wages have risen despite their increased supply. As noted in Part II, the new CPS should give us more information about part-time workers, including involuntary part-time workers.

Part-year workers. A part-year job is less tightly defined than a part-time job. The basic criterion involves the regularly scheduled number of weeks worked per year, not counting vacation time. The Bureau of the Census, in the source cited in Table 6, reports three categories of weeks worked last year: 50–52, 27–49, and 1–26. Using 50–52 weeks worked as an indicator of full-year work, Table 6 shows a larger fraction of full-year workers in the period 1980–91, 67 percent, than in 1950–79, 63 percent. This rise is mainly a result of an increase in full-year work by women. Since the 1950s, when about 48 percent of women workers were full-year workers, the trend has steadily risen to 60 percent in the 1980s. The men's percentage has been fairly constant, at around 71 percent, during this forty-year period, although the decline in farm employment has probably decreased the proportion of part-year workers, especially from 1950 to 1970.

Along with women, young and old workers are overrepresented among part-year workers. By examining changes in the proportion of part-year workers among married men with a wife present, we can obtain a tighter measure of trends in part-year jobs that reflect changes in demand conditions rather than in the demographic composition of workers. The last two columns in Table 6 show the percentage of full-year workers among husbands. There is little change: 80 percent in the

TABLE 6

Percentage of Workers Who Work Full- and Part Years, Defined by Weeks Worked during the Year, 1950–1991[a]

	Percentage Working 50–52 and 27–49 Weeks							
	Total		Men		Women		Married Men[b]	
Years	50–52	27–49	50–52	27–49	50–52	27–49	50-52	27-49
1950–54	62%	20%	70%	19%	46%	24%	--	--
1955–59	62	19	70	18	49	22	73	16[c]
1960–64	60	18	69	17	47	22	75	14
1965–69[d]	64	17	73	14	50	20	80	12
1965	62	17	72	14	48	20	79	12
1966	64	16	74	13	50	20	81	11
1970–74	63	17	71	15	52	20	78	12
1975–79	62	18	69	16	54	21	77	12
1980–84	65	17	69	16	59	19	76	12
1985–89	68	16	73	14	63	18	78	10[e]
1990-91	69	16	70	15	65	18		

Source: 1950–1987: U.S. Department of Labor, Bureau of Labor Statistics, Labor Force Statistics Derived from the Current Population Survey, 1948–1987, Bulletin 2307, August 1988; 1987–1991: U.S. Bureau of the Census, Current Population Reports, Consumer Income, P-60, "Money Income of Households, Families, Persons," various years, based on the March survey.

[a]Five-year averages.

[b]Wife present.

[c]1958–1959 only.

[d]In 1966 the official definition of the labor force was changed to exclude 14- and 15-year-olds.

[e]1985–1986 only.

late 1960s to 78 percent in the mid-1980s. The proportion was lower, around 74 percent, in the period from 1955 to 1964. (Note that the change in the census definition of the labor force in 1966, when 14- and 15 year-olds were excluded, would have had no effect on the proportion of working husbands.)

An unknown portion of workers who report working less than a full year are in jobs that are regularly available on a full-year basis, but the workers report working only part of the year because they were laid off, entered or left the labor force during the year, were injured or ill for part of the year, and so on. This group is probably larger than the number of full-year workers who hold two or more part-year jobs. The time series of part-year and full-year work shows one characteristic of jobs that does not provide evidence for a weakening attachment to one's job.

Temporary help services. The standard industry classification for Help Supply Services (SIC code 7363), referred to here as Temporary Help Services, was defined and established in 1987 to cover firms that employ workers who are "contracted out" to work temporarily for other firms. The size of this industry for the years 1982 to 1986 is based on the Labor Department's back estimates. The workers employed by temporary-help firms, not including the managers and supervisors, clearly fit the definition of contingent workers. Their times of work, hours of work, and locations of work are quite variable, and they seldom have much of an "implicit contract" with either the employer they work for or with the temporary help firm itself. They also fit the theoretical criteria of being relatively homogeneous and easily replaceable.

Table 7 shows a rapid growth from 1982 to 1992 in the number of nonsupervisory workers in the Temporary Help Services, but even by 1992 it was only slightly over 1 percent of the civilian employment in the nonagricultural sector. In 1991 women were 58 percent of all "temp" workers (not shown on table). These statistics do not include workers who make temporary arrangements with the employers on their own. At the same time, some temp workers may have stable and secure jobs.

TABLE 7

Temporary Help Services, Industry 7363 (Standard Industrial Classification), Nonsupervisory Workers: Number, Percentage of Business Services (SIC 73), Percentage of Nonfarm Employment, 1982–1992

Year	Numbers (000's)	Percentage of Business Services	Percentage of Non-Farm Employment
1982	404	14.8	0.4
1983	475	16.1	0.5
1984	625	18.6	0.7
1985	715	19.4	0.7
1986	816	20.5	0.8
1987	967	22.5	1.0
1988	1,103	23.6	1.0
1989	1,157	23.5	1.1
1990	1,294	25.0	1.2
1991	1,277	25.1	1.2
1992	1,395	26.4	1.3

Source: U.S. Department of Labor, Employment and Earnings, Supplement (Establishment Data), January issues.

Shift work and flex-time. These time-of-work arrangements are not necessarily indicative of contingent employment, but they are interesting to track to describe the technology of jobs and the life styles of workers as well as to evaluate the normative question of whether time-of-work schedules are improving or worsening the worker's lot. The growth of flex-time should be beneficial to workers because the workers are ostensibly regulating their own hours, and the jobs reflect employers' accommodation to the workers' preferences.

Mellor (1986) classifies the schedules of hours into six categories: day (standard), evening, night, split, rotating, and other. Mellor reports that in 1985 16 percent of workers were on nonstandard schedules, and that part-time jobs were disproportionately nonstandard. Generally, shift work is initiated by an employer's response to the requirements of the technology of production and to consumer demands, so we may presume that workers generally do not prefer these schedules. Again, the question of whether wages adjust to make the jobs as attractive as similar jobs with regular hours needs to be answered to address the normative implications of the increase in nonstandard schedules.

Subcontracting. Workers who are employed by firms that do subcontracting may be more likely to be contingent workers than workers with a more permanent employer in a stationary work site, but the argument is speculative. Abraham presents statistics, based on a survey of employers, about the extensive use of between-firm subcontracting by employers and reports that 13 percent of the firms increased this practice between 1980 and 1985, but by itself this information does not tell us much about the contingency of workers in these firms. We may assume that employers opt to "contract out" for labor services to reduce labor costs; sometimes, no doubt, to avoid the obligations to provide job security that are owed to their regular employees. Unions at the firms that contract out tend to resist these arrangements, and the decline in union strength may be a reason for the increasing

use of the option. Understanding more about this practice calls for research based on many case studies.

Self-employment. Although self-employment is an atypical status of employment and probably involves more irregularity in hours worked and demand conditions, it does not fit comfortably into the classification of part-time and contingent jobs. The distinction between incorporated and unincorporated self-employed workers would probably show more contingency among the unincorporated. A similar judgment probably applies to self-employed persons who work out of their own homes (discussed separately below).

Self-employment decreased as a fraction of employment throughout this century, even in the nonagricultural sector, until the 1970s, when it began to increase slowly. Table 8 shows that the percentage of workers who were self-employed declined from 10.5 percent in the late 1950s to around 7 percent in the late 1960s and has remained fairly steady since then, slightly increasing to 7.7 percent in the last period, 1990–92. In 1992 about 6 percent of employed women and 9 percent of employed men were self-employed.

Blau (1987) refers to the slight increase in self-employment in the 1980s as a trend reversal, and he attributes it to changing technology (such as home computers and communication advances), tax policies that are favorable to self-employment, and increased numbers of older persons, who can accommodate self-employment with the receipt of Social Security benefits. Blau also mentions the increase of working women, who may wish to work out of their home, but the overall statistics do not support this conjecture. Women have a lower percentage of self-employment than men, and men and women have similar trends in the growth in self-employment. In general, Blau's explanations imply that self-employment offers opportunities for workers who find various impediments to regular employment. This may be true, and yet the high turnover and frequent bankruptcies among the self-employed suggest a less optimistic picture.

TABLE 8

Self-Employed as a Percentage of All Workers, 1955–1992

Years[a]	% Self-Employed
1955–59	10.4
1960–64	10.3
1965–69	7.9
1970–74	6.9
1975–79	6.9
1980–84	7.5
1985–89	7.5
1990–92	7.7

Source: 1988-92: U.S. Department of Labor, Employment and Earnings, January issues (annual averages, household survey); 19055–1987: U.S. Department of Labor, Bureau of Labor Statistics, Labor Force Statistics Derived from the Current Population Survey, 1948-1987, Bulletin 2307, August 1988.
[a]Five-year averages.

Home-based employment. The decennial census identifies persons who report that they commute a "zero distance" to their primary place of work, and this is interpreted as work at home. From this source we see a decline in home-based employment from 3.6 percent of the nonfarm employment in 1960 to 1.6 percent in 1980 and an increase to 2.2 percent in 1990. The figures seem too small to indicate important changes. Both the census and the CPS offer a time series for unpaid family workers, who report working more than 15 hours a week in a family business or on a farm. Some members of this group work at home, but unpaid family workers in total are a small and diminishing percentage of the labor force.

In 1986 the Labor Department reported statistics about persons who worked eight or more hours per week at home for pay or profit, based on a special supplement to the May CPS in 1985. Those who report working 35 or more hours exclusively at home may be considered full-time, home-based workers. On the basis of this survey, Horvath (1986) reported that 2.1 percent of the work force was home-based, which is close to the decennial census figures of 1.6 and 2.2 in 1980 and 1990, even though the criteria for classifying workers as home-based are quite different. Other statistics of interest in this report are that 33 percent of the home-based workers were self-employed, 52 percent worked part time, and 67 percent were women.

By the criterion of job location used by Christenson and Murphree, these workers would be classified as contingent workers, but, as with the self-employed, who overlap this group, such a classification appears arbitrary without other justifications. Information on the workers' stability or longevity in these categories and on their earnings are needed to judge whether these jobs fit the criteria for contingency.

The underground economy? An extreme form of an atypical, unstructured, and loose attachment to the labor force consists of those who work "off the books," or in some form of unreported, and sometimes illegal, work. Cordova (1986) gives more attention to this type of

atypical employment than others writing on the subject of contingent jobs, perhaps because he surveys several nations. Underground economies are believed to be widespread in less developed countries, and Cordova states that the problem is significant in several west European countries. In the United States there was much attention to the this phenomenon in the late 1970s, when high taxes, increased government regulations, and "stagflation" prevailed. As these conditions abated, some of the attention to the underground economy did also.

Writing in 1980, George Shultz (p. 661), who was Secretary of Labor and Secretary of the Treasury in the Nixon administrations, referred to a low estimate of the underground economy as amounting to 10 percent of GNP. In that time of stagflation he stated that the rate of increase in real GNP was being understated and that unemployment and inflation were overstated. These claims imply that the underground economy had been growing, which is harder to prove than its existence.

McDonald (1984), an economist with the Bureau of Labor Statistics, examined a number of criticisms of official government statistics made by scholars who have given special attention to the underground economy in the United States. His conclusion is that the arguments and evidence of these scholarly critics are not persuasive of a serious bias in the principal measures of the labor force, productivity, and inflation.

Recently, however, the rise of immigration, particularly illegal immigration, has revived concern about the underground economy. McDonald's article dealt with the period between 1960 and 1980, before immigration became a front-page concern. The jobs held by many of the low-skilled and less educated immigrants, especially the illegal immigrants, surely fit the classification of contingent jobs. As this type of immigration continues, the jobs of low-skilled workers in the United States who live in the areas receiving most of the immigrants will probably become more contingent, according to the proposed definitions.

Summary and normative issues. The foregoing listing has dealt with types of jobs in which the suggested criteria of contingency are likely to apply, recognizing that many workers and their jobs in the listed categories won't match those criteria. At the same time there is at least indirect evidence, discussed below, that full-time, year-round wage and salary workers are themselves facing greater job insecurity and hours variability, which suggests a wider spread of contingency than revealed by the special categories of atypical jobs.

Table 9 gives a rough picture of the trends in a composite measure of contingent jobs, combining three types of workers: (a) part time, (b) full time, self-employed, and (c) temporary help. The measure is calculated to avoid double counting by applying the following findings from the sources cited. On the basis of the 1985 CPS special survey, discussed above, 40 percent of temporary help workers work part time; 53 percent of home-based workers who work exclusively at home work part time; estimates of the percentage of home-based workers who are self-employed range from 35 percent (CPS, 1985) to 50 percent (1980 census); the percentage of self-employed who work part time grew from 18 percent in 1966–70 to 25 percent in 1990–92. (The statistics are derived from Employment and Earnings, various issues.)

Table 9 shows that from 1955, when the series of part-time workers began, to 1979 the first two components, (a) and (b), grew slowly from 21 to 23 percent of civilian, nonagricultural employment. In 1982 information for temporary help service became available and added one percentage point to the measure. By 1992 this composite measure of part-time and contingent workers was 24.5 percent. The increase appears moderate, but its measure is admittedly rough.

To make predictions and infer normative judgments from the growth in the types of jobs discussed in this section, we need a better understanding of the reasons for their emergence and growth. Many causes have been suggested in the research literature, but I do not see coherence in the theories nor consistency in the evidence in support of the suggested causes.

TABLE 9

A Composite Measure of Part-Time and Contingent Jobs (Part-Time + Full-Time Self-Employed + Temporary Help, Excluding Overlaps), 1955–1987

Years	Composite as a Percentage of Civilian Nonagricultural Employment	Business Cycle Effect		
		Trough Year	Unem. Rate	Composite %
1955–59	20.8			
		1958	6.8	22.3
1960–64	21.9			
		1961	6.7	22.5
1965–69	20.6			
		--	--	--
1970–74	21.5			
		1971	5.9	21.7
1975–79	22.6			
		1975	8.5	23.0
1980–84	24.5[a]			
		1982–83	9.6	25.4[a]
1985–89	24.2			
		1992	7.4	24.8
1990-92	24.5			

Source: For part-time, self-employment, and civilian nonfarm employment: see Table 3. For "temporary help," see Table 7.

[a]Temporary Help employment (SIC 7363) was first tabulated in 1982, adding from 1 to 2 percentage points to the totals, so a 2 percent increase from 1981 to 1982 is attributable to this addition.

Consider the demand side. A slack economy does encourage firms to seek ways to cut costs, and it does reduce the bargaining power of workers, but the fact that wages have been stagnant would seem to reduce the employers' needs to switch to such nonwage features of the job as hours, working conditions, and job security provisions. Technological change, another demand factor, may have made workers more easily replaceable or in other ways less attached to the firm, but this has to be documented. Surely a counterdevelopment is changes in technology that require employees to obtain more firm-specific training, which would induce a closer tie between the firm and its employees. An increase in the volatility in demand conditions has been suggested by Abraham (1990), and she points to the growth in international competition as evidence, but I am not aware of research findings in macro economics for the proposition that the economy has become more volatile.

As noted above, the growth in the share of employment in services and the decline in manufacturing have contributed to the growth in part-time and contingent workers. (Part VI below discusses the changing industrial structure.) This sectoral shift has been part of a long-term evolution in all industrialized economies. We should also keep in mind that doctors, lawyers, and many other secure and prestigious professions are part of the growth in service workers.

An often-mentioned reason for using part-time and contingent workers is the legal and institutional requirements on employers to pay high overhead costs for their regular staff of employees in the form of hiring costs, fringe benefits (especially health care and pension plans), and various costs when workers are laid off or fired. The decline in unionism has presumably reduced one source of these costs, but, over a period of the last twenty years or so, government regulations may have caused those fixed costs of full-time employees to rise.

On the supply side, three related factors have increased the proportion of workers who have traditionally held, and sometimes preferred, part-time jobs and flexible hours. First, the changing demographic mix. Plewes (1988) gives the following demographic breakdown of part-time workers

based on the 1985 May CPS: 37 percent are between the ages of 16 and 24, 37 percent are women between 25 and 54, and 18 percent are over 54. Men between 18 and 54, who were 36 percent of the work force, were only 8 percent of part-time workers in 1985. Generally, but not consistently, these groups of youth, older workers, and prime-age women are also overrepresented in other types of contingent jobs. However, only women have persistently increased as a share of the labor force. The proportion of the population over 16 years old that is young, ages 16 to 24, has varied widely over time: 16 percent in 1955, 27 percent in 1975, and 17 percent in 1991 (U.S. Bureau of the Census, Statistical Abstract of the United States [henceforth cited as Abstract], various years). Older workers have consistently declined as a percentage of the labor force, but there has been a large increase in the number of older persons receiving retirement benefits, an unknown proportion of whom may seek part-time jobs and flexible hours of work.

Second, the growth in multiple-earner families. Secondary earners are more likely to seek shorter or flexible hours and less likely to demand secure jobs. Third, the accommodation of part-time jobs to such alternative time commitments as housework, schooling, and retirement, given that employment by women, schooling, and retirements have all increased.

A final point, suggested by Polivka and Nardone, is that part-time and contingent jobs can provide a period of trial employment that may benefit both employers, partly by avoiding the overhead costs of regular employment, and workers, who may seek a transition to full-time employment. Using temporary help agencies as a screening device to hire regular employees is mentioned by Abraham (1990), although the agencies try to restrict such "pirating" of their employees. Using temporary help agencies to screen in new hires may also be a way to evade antidiscrimination laws.

Most authors who have written about the growth of part-time and contingent workers place more weight on the disadvantages of these jobs to the workers than on the advantages, and their

recommended policies tend to raise the costs of these jobs to employers. The policies recommended include: raising the legal minimum wage; removing tax advantages in contracting out; extending health care, pension, and child care benefits to part-time workers; requiring more generous unemployment insurance or layoff benefits; and stricter enforcement of antidiscrimination laws. The list is only partial. Note that some of the policies reduce the demand for part-time and contingent workers explicitly by raising employers' hiring costs. Other policies increase the benefits to the workers from these jobs, increasing the supply of workers who seek these jobs. The positive and normative issues that arise are similar to those associated with the minimum wage law.

4. The Long-Run Increase in Unemployment Rates. The average annual unemployment rates for each of the last four decades are 4.5 percent in the 1950s, 4.8 percent in the 1960s, 6.2 percent in the 1970s, and 7.3 percent in the 1980s. Does this represent a real decline in economic performance, or, as some claim, the inevitable consequence of a changing labor force, or, as still others claim, a faulty statistic? Does the unemployment rate have a different relationship to economic performance (and other economic indicators) than it did in the past? This last question is important, and not just to economic policymakers and researchers. Indeed, along with the inflation rate, the unemployment rate is the single most important monthly economic statistic to politicians and to the public at large, often receiving front-page attention.

These ten-year averages of unemployment are inversely related to the key measures of economic progress—productivity and real wages. The annual growth rates of productivity and real wages were above 3.0 percent in the 1950s and 1960s, about 1.6 percent in the 1970s, and less than 1.0 percent in the 1980s. The negative correlation between growth rates in wages and unemployment does not have a clear causal interpretation, of course, but it does suggest that the unemployment rate is a valid indicator of economic performance.

The Bureau of Labor Statistics also reports a version of the unemployment rate that adjusts for (a) unemployed workers who seek part-time jobs, giving them only half weight, (b) "involuntary" part-time workers, who are added to the unemployed with half weight, and (c) adding "discouraged workers" to unemployment. It turns out that this comprehensive measure of "lost production" has maintained a stable relation with the official unemployment rate. In 1970 the expanded unemployment rate was 7.1 percent, which was 45 percent larger than the official unemployment rate, 4.9 percent. In 1990 the expanded rate, 8.2, was 49 percent larger than the official rate, 6.7 (Abstract, 1992, p. 401). The two measures are so highly correlated that either could serve the chief purpose of the unemployment rate, which is to indicate changes in the performance of the economy.

In analyzing unemployment, a useful technical point is that its level at any point in time is mathematically related to two components: (a) the incidence in unemployment, which itself may reflect the loss of a job or an entrance into the labor market in search of a job, and (b) the duration of unemployment by those who are unemployed. These two components help us understand how the unemployment rate is affected by demographic changes and by transfer payment programs for those who are unemployed.

Changes in the demographic composition of the population and the labor force, which will be discussed below, will change the aggregate unemployment rate even if demand conditions remain stable. The size of the population of young people is important because they have a relatively loose attachment to the labor force and have much higher unemployment rates than older people. Persons aged 16 to 24 grew from 17 percent of the labor force in 1960 to 24 percent of the labor force in 1980, and the overall unemployment rate would rise because of this demographic change. By 1990, however, the percentage of young people in the labor force had declined to 17 percent, back to the 1960 level (Abstract, 1992, p. 385). Statistics cited above showed that the proportion of youth in the population has varied sharply over the last forty years. This type of population change is mainly

exogenous, while labor force participation changes of young people are endogenous, responding to social and economic factors. Thus, the effect on the overall unemployment rate of the changing proportions of youth will reflect both exogenous and endogenous forces.

The largest demographic change in the labor force is the increase in women's participation, and this has had an interesting and perhaps unexpected effect on the aggregate unemployment rate. Before 1987, women's unemployment rates were, on average, higher than men's, and the common explanation was that women had a weaker attachment to the labor force—like young people but for different reasons. Since 1987, however, the unemployment rates for the two sex groups have been similar, the women's rate lessening slightly.

Thus, the growth in the female proportion of the labor force, which was a supply-side reason for the higher aggregate unemployment rate in the 1970s, was not a source of the even higher levels of unemployment in the 1980s. One important reason for the reversal in the relation between men's and women's unemployment is women's disproportionate representation in the growing service industries and their underrepresentation in the declining manufacturing industries. From 1969 to 1988 the average annual unemployment rate for experienced wage and salary workers in manufacturing industries was 7.1 percent, while the corresponding unemployment rate in the service industries (trade, financial, government, and service) was 5.6 percent (U.S. Department of Labor, Handbook of Labor Statistics, 1989, p. 145). Another likely reason for the decline in women's unemployment rate is the stronger commitment of today's women to continuity in employment and to full-fledged careers, compared to earlier cohorts.

Unemployment Insurance (UI) and various welfare programs that subsidize the status of not working are often considered reasons for the rise in unemployment. UI receives the most attention because it directly subsidizes unemployment and, in principle, is conditional on the recipient's search for employment. Welfare programs, in contrast, mainly subsidize people who are not in the labor

force (neither employed nor unemployed by official definitions). Economists have argued that generosity in UI will subsidize the incidence of unemployment by encouraging lay-offs rather than work-sharing among employees whose work hours are reduced. Workers who are part-time unemployed and part-time working are not generally eligible to receive UI. UI also increases unemployment levels by subsidizing the duration of unemployment. Even advocates of a generous UI program often argue that the program permits unemployed workers to search longer to obtain a better job match. That UI was a reason for higher unemployment seemed convincing in the early 1970s, when both the coverage of UI and its real benefit levels increased. However, in the latter part of the 1970s inflation began to outstrip the money payments from UI and from welfare programs, and explicit cutbacks in transfer payment programs further reduced their generosity. The real benefit levels of UI declined, and UI benefits became taxable income. In fact, UI recipients became a smaller share of all unemployed workers (see Vroman, 1990). Thus, the high levels of unemployment in the 1980s are hard to attribute to UI and welfare programs.

Mention should also be made of some relatively generous private, employer-sponsored, supplemental unemployment benefits that were obtained, mainly by union-management collective bargaining agreements, in the 1970s. These programs were not widespread, however, and the decline in union strength and subsequent "concessionary" collective bargaining during the 1980s have made this subsidy to unemployment even less important in recent years.

It must be admitted that we know little about the quantitative relation between the availability and generosity of transfer payments, on the one hand, and labor force behavior on the other hand. One reason is that these payments are grossly underreported in the CPS and other surveys. The longitudinal Survey of Income and Program Participation appears to be the best source for estimating this relation, because this survey has better coverage of transfer payments and follows the respondents

over time. Even here, however, UI is underreported. Smith and Vavrichek (1990, p. 51) report that 75 to 80 percent of UI payments appear to be reported in SIPP.

Are there any convincing supply-side explanations for the rise in unemployment? One candidate is the increase in multiple-earner families. Some secondary earners, like young people, are more likely to experience unemployment. Whether the incidence of unemployment among husbands and wives increases if they both have jobs is unknown. What is likely is that a family member who becomes unemployed is likely to be unemployed longer if there are other earners in the family (see Smith and Vavrichek, 1990).

The proportion of families with multiple earners has been increasing for decades, primarily because of the rise in employment of wives, and the trend continued through the 1980s. Table 10 shows an increase in the percentage of families with multiple earners from 52 to 57 percent from 1980 to 1991. This occurred despite the increase in the proportion of families headed by women, the family type that is least likely to have multiple earners. Among married-couple families, which were 82 percent of all families in 1980 and 78 percent in 1991, the percentage of multiple-earner families increased from 56 to 64. Research on the relation between multiple earners and unemployment is recommended.

In summary, most of the supply-side explanations for the rise in unemployment rates, which did explain some of the rise in unemployment in the 1970s, because of increased numbers of young people and more generous UI payments, do not seem convincing explanations of the high levels of unemployment in the 1980s. With the exception of the increase in multiple-earner families, the important explanations probably are to found on the demand side of the market.

An important question that remains is whether the unemployment rate should be given more or less importance in determining macro-economic policy and various programs of hardship alleviation. "Full employment" is often stated to be a policy goal. However, no specific rate of

TABLE 10

Families with Two or More Earners as a Percentage of Families with Earners 1980–1991, Selected Years

Family Type	Percentage of All Families 1980	Percentage of All Families 1991	Percentage with Two or More Earners 1980	1985	1989	1990	1991
All families with earners	100%	100%	52%	55%	58%	58%	57%
Married couples	82	78	56	60	65	65	64
Female-headed families	14	17	29	32	32	32	32
Male-headed families	4	5	38	39	42	39	38

Source: U.S. Bureau of the Census, Statistical Abstract of the United States: 1992 (Washington, D.C.: GPO, 1992) p. 413.

unemployment has been agreed upon to define full employment, and it remains a concept without a quantified definition. A prominent advocate for deemphasizing the focus on the unemployment rate, particularly regarding macro policy, is Herbert Stein, formerly the Chairman of the Council of Economic Advisers in the Nixon administration. His historical perspective on this issue is worth our attention.

From 1944 to 1948 Stein was a staff economist for the Committee for Economic Development, a prestigious research and policy organization. He recalled that

> the CED, like almost everyone else at the time, believed that the condition of high employment [Stein's preferred term for full employment] could be defined by a single statistic, the unemployment rate ... and that the rate corresponding to high employment would, for all practical purposes, remain constant [at] 4 or 5 percent.... By the mid-1950s ... 4 percent had become firmly established in public thinking.... This fixation on the 4 percent unemployment rate, from which we became liberated only slowly, and are not yet fully freed, has been a major obstacle to clear thinking about macroeconomic policy during the years [1968–74] when I was in government as well as in other times.

Stein then commented on supply-side sources of the rise in the "full-employment" unemployment rate, such as the demographic factors and transfer payment programs discussed above, and he added: "Moreover, the amount of misery connected with unemployment, and the feeling of guilt and responsibility on the part of the community as a whole, all changed. We also came to see that the measurement of unemployment, as disclosed by our survey techniques, had little economic significance and that the distinction between being unemployed and being out of the labor force was slight" (Stein, 1980, pp. 171–172).

The last sentence is not fully explained, but it probably refers to the weak correlation between the unemployment rate and both the inflation rate and, in his words, misery. In any case, a more succinct and challenging criticism of the unemployment rate would be hard to find. It is sharply at variance with my view of the validity of the unemployment rate as a measure of economic performance. Although not all of Stein's points can be addressed by better labor force statistics and research—some involve questions of values and of political-economic strategy—we should think hard about his points that can be so addressed.

5. The Impact of International Trade. Conventional wisdom among economists clashes with much of popular and political opinion about how international trade affects three major problems discussed above: the slowdown in wage growth, rising unemployment, and wage inequality. Economists tend to see free (or freer) trade as a source of increased consumption and gains in the efficiency of production, although there is recognition of the difficult adjustments for workers who lose their jobs in industries hurt by import competition. An offsetting factor is the increase in domestic production in the exporting industries. Moreover, the comparative advantage of the United States remains in an educated and skilled work force and in high-tech services, so the expansion of trade should increase the employment of high-wage workers. The ongoing controversy about the North American Free Trade Agreement (NAFTA) tells us that this favorable view of international trade by mainstream economists is far from universally accepted. What types of data on the labor force and labor markets can contribute to resolving this controversy? Before answering this question, let us examine international trade in the historical context of the last thirty years.

In 1960 imports were about 5 percent of Gross Domestic Product (GDP), and trade was roughly in balance—that is, exports equaled imports. In 1970 imports amounted to 7 percent of GDP, and the balance of trade showed a small deficit (imports greater than exports). In 1980 imports were 8 percent of GDP, and there was a slight trade surplus. From 1960 to 1980 exports and imports

grew at roughly the same rate. It was not until 1984 that imports reached 10 percent of GDP. Imports were 11 percent of GDP in 1991 and rose to 12 percent in 1992. The trade deficit during this eight-year period reached a peak of 3 percent of GDP for each of the years 1984–87, fell to 2 percent in 1988–89, and to 1 percent in 1990–92 (Economic Report of the President, 1993, pp. 350–351).

Clearly, the volume of imports has markedly increased during the past thirty years, and this has been accompanied, one could say inevitably accompanied, by a roughly parallel growth of exports. This rather benign picture over the long run gave way to alarms during several years of large trade deficits in and since the mid-1980s. We should recognize, however, that trade deficits usually result in foreigners' exchanging American I.O.U.'s into purchases of American assets. But because these conversions of debts are in the form of investments, their ultimate impact on the American economy is yet to be determined. It is also true that the excess of imports during most of the 1980s meant that consumers benefited more than producers, but since, ultimately, we are all both consumers and producers, we have to look at specific industries and occupations to see what types of consumers and producers were affected.

The overall picture is greatly complicated by extensive linkages in the network of production and consumption. From the producers' perspective, any imported good will compete with that same good, domestically produced, but the good may be either a complement or a substitute for other industries or for other consumption activities. Determining winners and losers is complicated. A familiar argument in political economy is that those who are hurt by a change in policy, here expanded and freer trade, will be more vocal than those who are helped, often because the former are a concentrated minority while the latter are a dispersed majority.

The following empirical questions would be useful to answer to inform policy debates about the relation between international trade and labor markets. What is the quantitative relation for a

given industry between (1) its trade penetration, say, the ratio, (exports-imports)/output, and (2) the change in employment or wages of that industry? Is the impact of trade greater on employment or wages, and does the answer to this question depend on whether exports exceed imports, or vice versa? Annual data are available from the CPS on workers' wages (or earnings) by industry, and the Bureau of Economic Analysis of the Commerce Department provides annual trade data that, with some complications, can be matched to the standard industrial classifications used in the CPS. Also, every five years the BEA produces an input-output table of U.S. industries, which permits a measure of industrial trade penetration that allows for the indirect trade effects in an industry stemming from its linkages with other industries. For example, the imports of autos affect the domestic production of the steel industry as well as the auto industry, because steel is an input in autos. What level of detail in industrial classifications—two-digit, three-digit?—are necessary to measure trade penetration satisfactorily, and what level will yield a sufficient sample of workers in a specific industry to measure wages reliably?

Note that in any given year the relation between an industry's wages and an industry's exports and imports is one of mutual causation: wages will influence trade as well as trade having an effect on wages. A challenging question is whether the causal effect of trade on wages can be estimated in a wage equation in which lagged values of trade are specified as having an effect on current values of wages.

Do longitudinal data, following the same workers over time, show the same effect on wages as the results from cross-sectional data, where different workers form the samples each year? Unfortunately, the relatively small sample sizes for surveys with panel data make it difficult to answer this question. Does the trade effect on wages and employment differ by skill and wage level of the workers? This question addresses the effect of trade on the distribution of wages.

Finally, although immigration will be discussed below, the relation between Mexico's trade with the United States and immigration from Mexico should be mentioned. A basic theorem in economics about trade and immigration stresses the near-equivalence of the trade in goods with the migration of factors of production: capital, technology, and, our focus, workers. Two forces stemming from more and freer trade between Mexico and the United States should affect the immigration from Mexico. One is increased opportunity for Mexican labor to send the products of their labor to the United States, and the other force is the prospects for higher earnings in Mexico to lessen the current incentive to migrate to the United States. The relation between increased trade between the two countries and the legal and illegal immigration from Mexico to the United States is sure to be closely studied in the coming years.

6. Changes in the Industrial Structure of the Economy. The size of industries in an economy can be measured in two ways, by the market evaluation of an industry's output or by its employment. For broad, one-digit industrial classifications either criterion gives a similar picture of changes of the industrial composition over time. Table 11 shows the percentage shares of GDP by five major industry groups, consisting of nine one-digit industry classifications, for selected years from 1950 to 1989. The changes over the 39-year period are large, but have generally been gradual. An important implication of the rather consistent and gradual changes in industrial output is that the changes were accompanied by rapid economic growth and rising wages in 1950–70, and by slow growth and stagnant wages in 1970–90. At first blush, therefore, industrial change would not seem to be a major causal factor in the slowdown in economic growth.

From 1950 to 1989 GNP more than tripled in real terms, having increased by a factor of 3.4, and the share of manufacturing in GNP declined from 29 percent to 19 percent, while the combined sector of three broadly defined service industries (trade, financial, and service) grew from 38 percent to 52 percent of GNP. Government services grew from 8 percent to 12 percent, so the total service

TABLE 11

Industry Shares of Gross National Product, 1950–1989, Selected Years

Year	GNP, 1982 Dollars (Billions)	Industry Shares				
		Ag., Mining, Construction	Manuf.	Transp., Pub. Util.	Service, Trade	Govt.
1950	$1,204	15%	29%	10%	38%	8%
1960	1,665	11	28	10	41	10
1970	2,416	10	25	9	43	13
1980	3,187	12	21	11	44	12
1989	4,118	8	19	9	52	12

Sources: 1950–1980: Economic Report of the President, 1992, pp. 306–307; 1989: Statistical Abstract of the United States: 1992 (Washington, D.C.: GPO, 1992), p. 429.

sector grew from 46 percent to 64 percent. Manufacturing declined rather steadily over each decade: its percentage of GDP was 29 in 1950, 28 in 1960, 25 in 1970, 21 in 1980, and 19 in 1989. The industries that are primarily blue collar and male are manufacturing, agriculture, mining, construction, transportation and utilities, and wholesale trade, and together these industries declined from 63 percent of GNP in 1950 to 45 percent in 1989. Most of the declines were concentrated in manufacturing, mining, and agriculture.

Women were disproportionately employed in the retail trade, financial, services, and government industries. Together the share of GNP in these four industries rose from 27 percent in 1950 to 55 percent in 1989. (Each of these industries was more than 46 percent female, which was the percentage of total employment that was female in 1989. See Abstract, 1991, p. 400.) Although both demand and supply forces brought about this shift from "male industries" to "female industries," demand forces appear dominant, because the wages of women rose relative to men's wages from 1950 to 1989. These industrial shifts appear, at first glance, unfavorable for real wages for all workers, because "male industries" tend to have higher wages than "female industries." The overall strength of the economy from 1950 to 1970 obviously overcame this unfavorable compositional change in industries, because wages generally increased sharply.

The emphasis above has been on industry trends based on their share of GNP, but a similar picture is shown for the industry shares in total employment (see Abstract, 1992, p. 396). Of course, a more detailed classification of industries would reveal many trends in output and employment that would be at variance with the average for the larger industrial group that they are part of. Currently, for example, firms that have large national defense contracts are declining, regardless of their industry affiliation.

7. Technological Change. One source of changes in the industrial structure is technological changes, which also affect the occupational structure. Historically, labor-saving technological change

has been central to the economywide rise in productivity and real wages. The twenty-year period of slow growth in wages is presumptive evidence for a historic slowdown in technological progress, unless it can be shown that the fruits of technological progress have all gone to capital. Using employee compensation as a share of National Income to measure "labor's share," no such shift from labor to capital is evident (Abstract, 1992, p. 432). Labor's share was 70 percent in 1960 and 74 percent in 1970, where it has remained, plus or minus one percentage point through 1991. Correspondingly, corporate profits were 12 percent of national income in 1960 and 9 percent in 1970, and remained at that level until the recession of 1991–92, when corporate profits fell to 7 percent of National Income. (Other important forms of nonlabor income are rents, interest, and self-employment income. Self-employment income is actually a mix of income from labor and capital.) Perhaps the fact that labor's share of National Income stopped rising after 1970 holds some clues as to why the rate of productivity growth has declined, but I know of no research on this relationship.

Another important qualification about the benefits from technological change is that it can bring about losses to workers in particular industries and occupations and for certain time periods. Technological change creates new occupations and alters and sometimes eliminates old occupations. It causes changes in the workday and in the location of jobs, as mentioned in the section on part-time and contingent jobs. It is difficult to measure and to promote—at least it is difficult to promote in cost-effective ways. Stein's comment in 1980 holds today: "It is not easy to find growth-promoting measures that are clearly worth their cost—especially in view of the mystery about the causes of the slowdown in productivity growth" (p. 174).

An extended quote from the Economic Report of the President, 1990 is especially appropriate in view of technology's key role in raising productivity and of the previous discussion of the growth in service industries:

Measuring output involves measuring both increases in quantity and quality.... When the Nation primarily produced things such as steel and wheat, output was easy to count—tons of steel and bushels of wheat. Today, a larger share of output is produced in sectors where increases in output are often in the form of improved quality and convenience: consider the impact of 24-hour automatic teller machines and of desktop and laptop computers.... It is hardest to measure output in the service-producing sector, where many problems arise: rapid innovation, frequent changes in pricing, and difficulties in accurately measuring and defining sales and units of output. Industries such as finance, insurance, and real estate, which are among the fastest growing in the economy as measured by sales and employment, are only average in terms of measured GNP growth. And despite rapid innovation, based in part on revolutionary advances in computation and communications, productivity in these sectors, as measured by value-added per hour worked, fell in the 1980s.

The increasing importance of the service-producing sector relative to the goods-producing sector has not only increased the difficulty of measuring total output, but has also increased the difficulty of collecting data on output. It is easier and less expensive to collect data in manufacturing industries dominated by large firms than in service industries dominated by small firms.... Finally, while the economy as a whole has gained from deregulation in transportation and services, Federal statistics have suffered. Deregulation has helped to increase competition, spur growth, and lower prices, but it has meant that data once available from regulators must be collected directly, in many cases from a larger number of firms (pp. 282–283).

Several government agencies, the Bureau of Labor Statistics and the Bureau of the Census in particular, try to keep abreast of technological and productivity changes and document them. How well are they succeeding?

B. Changes in Population and in the Demography of the Labor Force

1. The Demographic Composition of the Population. Let us begin with the methodological point that the composition of the population is assumed to be exogenous, while labor force participation is assumed to be endogenous. Thus, we have little control over the growing fraction of the population that is aged. In contrast, the diminishing proportion of the aged in the labor force is mainly a result of social and individual choices, although some determinants, such as health and disabilities, are exogenous. In some cases the distinction between exogeneity and endogeneity is not so clear. For example, an increase in immigration to the United States is exogenous to American workers, but it is endogenous to society as a whole, because immigration can be substantially influenced by public policies. This section deals with three major changes in the population that impinge upon the labor market: (1) the growing proportion of immigrants in the U.S. population, mainly composed of Hispanics and Asians, (2) the aged, defined as 65 and older, and (3) families that are headed by single women with dependent children.

Immigration. This has become one of the nation's, indeed, the world's, most controversial social problems. The most troubling issue is illegal immigration, but the increase in legal immigration, partly as a result of various legislative changes since 1965, has also raised concerns about overcrowding, environmental impacts, and, pertinent to this report, a threat to the employment opportunities for the domestic (or native) work force. The fact that the immigrants, both legal and illegal, are mainly Hispanic and Asian confronts the nation with its persistent problem and legacy of ethnic discrimination. In the 1950s 68 percent of the 2.5 million immigrants into the United States during that decade were from Europe and Canada, 25 percent were from Latin America, and 6

percent from Asia. In the 1980s, 13 percent of the 6.4 million immigrants were from Europe and Canada, 42 percent from Latin America, and 42 percent from Asia (Chiswick, 1991).

Answers to three research questions involving the labor market are essential to deal with the social issues raised by immigration. First, how well do immigrants fare in the United States in terms of their employment, wages, occupational attainments, and incomes? We have surprisingly little historical information about this question for most groups, mainly because income and earnings were not collected in the decennial censuses until 1940, and country of birth (or of one's ancestors' births) were not consistently collected. Note that surveys other than the census seldom have samples that are large enough to measure outcomes for the many ethnic groups of interest. Also, information is needed about return migration, which can best be measured with panel data, but panel data are not currently available for this purpose. Data from recent censuses fill some of the needs, but illegal immigration, which has increased sharply in the last twenty years, remains an insurmountable problem for survey measurements.

Second, what is the impact of immigration on the wages of domestic workers? Two leading economic experts disagree on this question. Borjas (1990, p. 81) states that "econometrics cannot detect a single shred of evidence that immigrants have a sizeable impact on the earnings and employment opportunities of natives in the United States." Chiswick (1991, p. 628) vigorously disputes this contention and suggests several methodological difficulties in the research.

Third, what are the social and economic costs and benefits of immigration? How does immigration affect transfer payments, the budgets of state and local governments, and various "externalities," such as crowding and social cohesion? The skill levels of recent immigrants, relative to American workers, have apparently declined compared to the 1950–70 period, and their assimilation into the U.S. economy has been questioned. (This is an important theme in Borjas, 1990.) Popular attention has usually focused on real and merely alleged burdens of immigration on

the costs to taxpayers of extra health, school, and welfare services. Less attention is given to evidence of immigrants' high employment rates and to the wide distribution of their education and occupations—professionals at one end and migrant farm workers and live-in child care workers at the other end. Also, because immigrant workers who have been entering the United States in recent years tend to be young, they are less likely to draw upon our most costly transfer payment programs, which serve older and retired workers.

Immigration in recent years has been concentrated in a few states and metropolitan areas. In 1990, for example, three states received two-thirds of the 1.5 million immigrants: 44 percent to California, 12 percent to New York, and 11 percent to Texas. These are the same states, along with Florida, that have been the destination for most immigrants for recent years. To examine many labor market issues about immigration, researchers should be able to exploit the "natural experiment" arising from the wide variation in the distribution of immigrants across states.

A larger proportion of the aged. The decline in birthrates and the increase in longevity are the main reasons for the gradual increase in the fraction of the population that is aged. Those over 65 years of age were 8 percent of the population in 1950, 10 percent in 1970, and 12 percent in 1990. They are projected to become 19 percent of the population by 2025 (Abstract, various years).

Despite these increases of the aged in the population, their reduced labor force participation has decreased their proportion in the labor force and increased the economy's "dependency ratio," defined as the ratio of nonworkers to the population. A higher dependency ratio imposes a financial burden on workers if a given level of per capita income is to be maintained. The declining birthrate has had the opposite effects on the ratio and the financial burden. Fuchs (1980, p. 330) reports that "since 1950, and especially since 1965, the rate of increase in the life expectancy at age 65 has been unusually rapid," and he claimed that "each additional year of life expectancy at age 65 adds more

than 5 percent to the cost of retirement benefits." He suggested raising the age of retirement as one way of dealing with the rising costs of retirement.

The decline in labor force participation rates (LFPRs) of workers over age 65 has been remarkable, especially for men. Their LFPRs were 46 percent in 1950, 27 percent in 1970, and 16 percent in 1990. Women over age 65 have had relatively stable LFPRs of around 9 percent over this period (U.S. Department of Labor, Handbook of Labor Statistics, 1989, pp. 25–27; Abstract, 1992, p. 381.) The trend puzzled Kuznets (1980, p. 336), who commented: "The reduction of mortality at the advanced ages might have meant also the reduction of morbidity; and, at a given age, say in the 65–74 age class, better health and greater productive capacity than before. If so, one may ask why the drastic fall in the labor force participation rates for the older males, and why the failure of the very low rates for older females to rise." He might have added that jobs have become less demanding of physical strength or long hours in the last forty years. Also, federal legislation in 1978 and 1986 has essentially banned mandatory retirement of older workers, which is another factor allowing, and perhaps encouraging, more work by older workers.

Kuznets, however, overlooked three factors that make the trend more understandable. First, a minor factor, the proportion of the 65-and-over population that is 75-and-over is increasing: 34 percent in 1960, 39 percent in 1991 and predicted to be 48 percent in the year 2000 (Abstract, various years). Second, and more important, the increased benefits from the Social Security program for retired people, including Medicare, has permitted older persons to live at an increasingly higher standard of living in retirement. The benefits have increased substantially in real terms from the 1950s on. Third, retirement benefits for the aged from either Social Security or Supplemental Security Income impose a high effective tax rate on the earnings of the recipients that discourages market work. For many years, in both programs, the beneficiary generally lost 50 cents of retirement benefits for every one dollar of earnings above a modest level of exempt earnings. Currently, the

implicit tax on Social Security benefits is one-third of earnings above $10,560 at age 65, and the implicit tax is reduced to zero at age 70.

Three impending changes in the Social Security system raise the need for more information about the labor force behavior of the aged: (1) a planned-for increase in the age of eligibility for full retirement benefits, (2) proposals to lower the implicit tax of 50 percent, and (3) various proposals to subject Social Security benefits received by high-income recipients to the regular income tax. These changes would probably increase work, especially part-time work, by older persons. Recall that the new CPS reduces questions about market work asked of retired persons. This adds to the need for a close watch on the labor force behavior of older workers during the coming years.

Families headed by a single parent. The increase in the proportion of single-parent families among all families has been a major social issue for some time, including during the 1992 presidential political campaign. Families with children and a female head-of-household were 6 percent of all families in 1970; 10 percent in 1990. Among all families with children, female-head families were 10 percent in 1970 and 20 percent in 1990 (Abstract, 1993, p. 61). As noted above, this change in family structure is an important reason for the decline in average family incomes and for the increase in poverty. It has had mixed effects on the size of the female labor force. Women who are single parents of dependent children and who receive welfare payments have lower labor force participation rates than mothers living with their husbands. However, across all four major marital status groups, and controlling for age, wives living with their husbands tend to have lower labor force participation rates than women who have never married, women who are separated and divorced, and widows. The need to control for age is clearest if we consider widows, who have low labor force participation rates because they are usually old rather than because of their marital status. In the discussion below, wives with husband present will be referred to as wives, women who have never married as single,

and women who are divorced, separated, or widowed as "others." LFPR will stand for labor force participation rate.

The differences in LFPRs of wives and "others" has sharply narrowed in recent years. As shown in Table 12, in 1960 wives' LFPRs were 29 and 37 percent for the age groups 25–34 and 35–44, and the LFPRs for "others" for these respective age groups were 63 percent and 70 percent. In 1991 wives in the two age groups had LFPRs of 70 and 74 percent, and the corresponding LFPRs for "others" were 75 and 82 percent. In fact, for two younger age groups, 16–19 and 20–24, the LFPRs of "others" are now lower than the LFPRs of wives, a reversal of the comparison that held in 1960. The reason for these convergences are, of course, the large increase in LFPRs of wives, not in declines of LFPRs among "others," which have slightly increased.

The reason why the LFPRs of "others" aged 16–24 increased so little is probably the combination of increases in unwed motherhood, establishing separate households, and increased participation in Aid to Families with Dependent Children (AFDC) and related welfare programs. The sharp contrast in the LFPR trends of women aged 16–24 who are married and living with husbands compared to those who are separated and divorced calls for an explanation.

In 1988 the Family Support Act was passed, which introduced a number of reforms in AFDC that provided incentives for more market work by AFDC recipients and required participation in these work programs as a condition for continued receipt of welfare benefits. The incentive programs have generally not been carried out, however, and no increase in market work by the "welfare mothers" occurred. The disappointing results are attributed to a combination of the 1991–92 recession and budget limitations that have prevented states from providing the job training, public employment, and day care that was called for in the legislation.

The Clinton administration has proposed new legislation to reduce the welfare rolls by shifting welfare recipients into jobs. The proposals maintain the "carrots" of the Family Support Act in the

TABLE 12

Labor Force Participation Rates of Women, by Marital Status and Age, 1960 and 1991

Marital Status and Year	Total	16–19	20–24	25–34	35–44	45–54	65+
Single							
1960	59	30	77	83	83	80	24
1991	66	50	74	80	81	68	13
Married							
1960	32	27	32	29	37	36	7
1991	58	49	65	70	74	57	8
Other[a]							
1960	42	44	58	63	70	60	11
1991	47	46	63	75	82	65	8

Source: U.S. Bureau of the Census, Statistical Abstract of the United States: 1992 (Washington, D.C.: GPO, 1992), p. 387.
[a]Divorced, separated, and widowed.

form of training, public jobs, and day care and add the "stick" of a two-year limitation to receiving welfare payments. Also, states will be allowed considerable flexibility in devising their own welfare policies to reduce benefits and encourage more work. We can anticipate considerable demands for labor force data that will permit evaluations of the various state programs and that will provide information on such subjects as the pool of jobs available in the private market for welfare mothers, and the costs and types of training, public jobs, and day care arrangements.

2. The Demography of the Work Force. Four of the groups listed in the previous section as having increased in the population—immigrants, Hispanics, Asians, and women who are single parents—have become a larger proportion of the labor force. Hispanics increased from 6 to 8 percent of the labor force from 1980 to 1990 and are projected to be 10 percent in the year 2000. The proportion of the work force composed by women who are single parents increased from 2 percent in 1960 to 5 percent in 1992 (Abstract, 1993, pp. 393 and 400). The increased proportion of Asians in the labor force can be inferred from their increase in adults between 18 and 64 from 1.6 percent of the United States population in 1980 to 3.0 percent in 1990. This section will focus on three large and important demographic groups: (1) women, mainly wives with children, (2) men between the ages of 45 and 64, and (3) youth.

Women. The continued increase in the LFPR of women, especially married women with young children, remains the most fundamental demographic change in the labor force. These changes have affected and have been affected by many aspects of our economic and social life, including such demographic trends as an increased average age of first marriages, declining birthrates, and increased rates of marital breakups.

Wives increased their LFPRs from 30 percent in 1960 to 58 percent in 1991, but the increase by wives with children was from 28 percent to 67 percent over the same period, and the increase by wives whose youngest child is under 6 years old was from 19 percent to 60 percent. As noted in the

previous section, the LFPRs for the other two marital status groups of women, singles (never married) and "others" (divorced, separated, and widowed) were quite moderate. "Others" increased their LFPR from 40 percent in 1960 to 46 percent in 1991. Singles increased their LFPR from 44 percent in 1960 to 65 percent in 1991, but much of that increase is associated with an older population of single women, stemming from the delayed age in marriage (Abstract, 1992, p. 388).

There are many important issues for research and data acquisition associated with these statistics. Three are mentioned. First, what is cause and what is effect between market work and the following changes in women's life-cycle events: deciding to marry and divorce, bearing children, attaining education, and "going on welfare"? Surely, causation is mutual; that is, if there are exogenous changes in market work, each of the other events will be affected (on average), and exogenous changes in each of the other events will affect market work.

Second, how do the various measures of market work—labor force participation, hours worked per week, weeks worked per year, and years worked per life—sum up to describe the total amount of time that women in succeeding cohorts spend in market work? Taking a page out of the demographer's book, I suggest that LFPRs, like annual birthrates, to some extent reflect only timing decisions about work (or births) and do not imply or reflect a change in the total amount of work (or total number of children borne) by a woman. The share of lifetime spent in market work will be discussed in Part IV.

Third, what has the increase in market work by women, especially wives and mothers, meant for their time in housework, particularly in the care of children? There are several implications of this issue that can affect the economic well-being of the population in major ways. Time spent in housework involves the division of labor between the sexes. To the extent that women bear almost all the burden of housework, as they have historically, their opportunities for advancement in the labor market are limited, their standard of living—including the consumption of leisure—will be

curtailed, and the marriage relationship may be affected. To the extent that time spent in housework by wives and mothers is reduced and is made up by more housework from husbands or from market-purchased child care, a new set of outcomes will emerge, about which we can only speculate. To the extent that housework, again emphasizing the care of children, is reduced and not made up, the quality of family life and of children themselves may suffer.

Fuchs (1980, pp. 332–333) commented on this last issue in rather dramatic and ominous terms: "Recent changes are an extension of a long-term cumulative reduction in the scope and magnitude of functions performed within the family.... [M]any responsibilities such as education, health care, and social insurance have been assumed by the state. Within the next decade we will probably see another major role transfer—care of the young—which is, in many respects, the quintessential family function.... The decline of the family and the growth of government will seriously jeopardize the market system and associated political, social, and cultural freedom." Other social commentators could be cited who would take a quite different view of the evolving changes in family life and in women's work life. My purpose is only to argue that changes in the labor market have profound implications, from sometimes unanticipated sources, for the larger issue of the quality of life.

Men between the ages of 45 and 64. Although the decline in labor force participation among workers who reach the age of 65, when they are eligible for full Social Security retirement benefits, is well known and generally understood, the more moderate declines among persons between the ages of 45 and 64 are puzzling. This decline in LFPRs is mainly among men, and it applies to all three of the principal marital status groups. In 1960 the LFPR of 45- to 64-year-olds for single men was 80 percent; husbands, 94 percent; and men who were divorced, separated, or widowed, 83 percent. By 1991 these LFPRs had declined to 67, 82, and 74 percent respectively. Among women aged 45–64 the decline applies only to single (never-married) women, whose LFPR was 80 percent in 1960 and

68 percent in 1991. Curiously, these LFPRs of single women are virtually the same for 1960 and 1991 as those for single men of that age. What is sharply contrasting between 45- to 64-year-old men and women regarding the LFPRs is that single men's LFPRs are the lowest among the three male marital groups, while single women's LFPRs are the highest among the three female marital groups (Abstract, 1992, p. 387).

Men between the ages of 45 and 54 had an LFPR of 96 percent in 1948 and it remained at that level until 1965, when it began a slow but steady decline to 91 percent in 1977, where it has since remained. In 1972 the LFPR for white men, age 45–54, was 94 percent and for black men of that age, 85 percent. In 1988, the LFPRs for the two racial groups of 45- to 54-year-olds were 92 and 83 percent, respectively. The fact that 17 percent of black men between the ages of 45 and 54 are neither employed nor looking for employment is surely a statistic of concern. It is more than twice the 8 percent level of white men in that status. Similar trends show up for black and white men aged 35 to 44. (U.S. Department of Labor, Handbook of Labor Statistics, 1989, pp. 25–28.)

Rees (1991) examined the CPS sample of records for the estimated 4.5 million men between the ages of 25 and 59 who reported being "not in the labor force" in 1989. The 4.5 million were about 8 percent of the men in this age group. He found that about 30 percent reported being ill or disabled, 25 percent were "discouraged workers," 7 percent were in school, 7 percent were retired, and 3 percent were keeping house. This leaves 28 percent, or 1.25 million men between 25 and 59, who are in the residual "other activity" category.

Rees posed the questions: "What does a man [of these ages]... do if he is not employed, not unemployed, does not want to work, is not in school, is not in an institution or in the armed forces, is not keeping house, is not ill or disabled, and is not retired. How can there be 1.25 million such people? It is a puzzle." Rees provided interesting supplementary information from the CPS about these men, and he offered a number of hypotheses about their activities, but for this report I only will

state his suggestions for changes and additions to the CPS. One, adopted in the 1994 revision of the CPS, is to ask the entire sample of those who are not in the labor force if they "want to work now." This is the key "discouraged worker" question, which was asked only of the outgoing rotation group in the older CPS. The new procedures will increase the sample size of discouraged workers and will improve the reliability of the statistics. Other suggestions are to probe for a specific activity among those in the residual "other activity" category, to follow a subsample in a panel survey, and to ask for the equivalent of a time diary by asking the question, "What did you do on Monday? or on Tuesday, etc." These questions may not answer all the questions Rees posed, but they offer a start.

As noted above, the largest group of men between the ages of 25 and 59 who are not in the labor force report a disability. It is difficult to determine whether disabilities among men of these ages have increased over time, or whether the increased transfer payments for disabilities have simply allowed more of disabled men to withdraw from the labor force. Several programs are important in providing such payments: the Disability Insurance component of Social Security, the welfare program called Supplemental Security Income, state programs for Workers' Compensation, and programs of the Veterans Administration. Here again we encounter the issue of the relation between labor force behavior and transfer payment programs.

Youth employment. Among many interesting questions about the labor force behavior of young people, the one that has been referred to as a crisis (see Freeman and Holzer, 1987) is the lag in employment of black youth relative to white youth during the last twenty-five years. The gap holds for both sexes, and it portends a further widening of the black-white gap in earnings among prime-age workers in the coming years, with attendant social problems that extend beyond economics. The statistic used in this section to describe this gap is the employment-to-population ratio, E/P, which is similar to the LFPR (=LF/P) except that the unemployment component of the labor force is excluded from the numerator. The E/P focuses on those in the eligible population who have been

successful in finding jobs. A comparison of LFPRs between blacks and whites will show more similarity than E/Ps simply because the unemployment rate of blacks is roughly double that of whites, and the labor force is the sum of the employed and the unemployed.

The decline in the E/P of young black men, aged 16 to 24, over the period from the 1950s and 1960s to the 1970s and 1980s is striking. (The following material is taken from Cain and Gleason, 1990.) In the mid-1950s the E/Ps of black youth ages 16–24 were about the same as those for white youth: about 52 percent for men aged 16–19, 78 percent for men aged 20–24, 43 percent for women aged 20–24. The black E/P was lower than that for whites for only one of these age-sex groups, women aged 16–19: 26 percent compared to the white 37 percent. This difference is probably attributable to a higher teenage birthrate among blacks. Now consider the E/Ps in 1988: 29 percent for black men aged 16–19, and 52 percent for white men of that age; 64 percent for black men aged 20–24, and 80 percent for white men. The divergence was similar for young women. In 1988 the E/P for black women aged 16–19 was the same as it had been in the mid-1950s, 26 percent, while the E/P had risen to 50 percent for white women of that age. The E/P of black women aged 20–24 increased moderately to 51 percent, while the E/P for whites increased to 70 percent.

What are the underlying supply and demand factors that explain the emergence of these sizable gaps in the employment of black and white youth? The increase in schooling enrollments among black youth from the 1950s until 1980, when their enrollment proportions leveled off, is an important supply-side factor that explains some of the lag in employment of black youth relative to white youth, at least over some of the periods (Abstract, 1992, p. 142). From 1950 to the late 1960s school enrollments increased for both racial groups, but the rate of increase by blacks was particularly strong. However, controlling for years of schooling completed—among youths who were high school graduates, for example—black youth were falling sharply behind whites in employment. Also, the employment rates of black youth aged 20–24 are much lower than those of white youth of that age,

even though the school enrollment proportions of whites were higher throughout the 1970s and before. Enrollment proportions of whites aged 20–24 are only slightly higher than those of blacks of that age in 1991, although it should be pointed out that whites are more likely to be full-time students and attending four-year colleges (Abstract, 1992, p. 142). These facts reinforce the point that the future inequality in earnings between whites and blacks will widen as a result of the current gaps in both employment and educational attainment among those between 16 and 24 years of age.

An important demand-side explanation for the racial differences in youth employment is that blacks are concentrated in residential areas that have experienced job flight from 1970 to 1990—the "spatial mismatch" hypothesis. The argument is strongest for the gap between teenagers, for whom residence in economically depressed neighborhoods is mainly exogenous, because they will tend to live where their parents live. Measuring a neighborhood's level and change in job opportunities is difficult. I doubt if existing labor market data for local areas are adequate to measure demand-side changes. We can measure the decline in employment, but this reflects a mix of demand and supply forces.

An underinvestigated aspect of male youth employment is the role of military service. Career opportunities in the military may be relatively more favorable to blacks, particularly black men, because the military is believed to provide a less discriminatory environment. Black youth are overrepresented in the military, and there may be a selection into the military of those among the non-college-educated black youth who have the most favorable traits of employability. Unfortunately, the selection hypothesis, if true, would be difficult to quantify since it would involve attitudinal and other hard-to-measure traits.

Currently considerable attention is given to the transition from school to work as an approach to understanding racial differences in youth employment. The main focus is on those who do not go on to college. The term "transition" implies the need for panel data for such analyses.

C. Changes in Labor Market Institutions

The United States, to a greater extent than other industrialized nations, is becoming a nonunion economy, particularly in its dominant private sector. Union membership as a percentage of private nonagricultural wage and salary employment declined from 26 percent in 1973 to 12 percent in 1992 (Farber, 1990, p. 576, and Abstract, 1993, p. 436). Union membership reached its peak as a proportion of the work force, around 35 percent, in the early 1950s, so the rate of decline in membership has been more rapid in the last twenty years than in the previous twenty years. Farber states: "The reasons for this decline are not clear. ...Shifts in the demographic, industrial, and occupational composition of the labor force away from traditionally heavily unionized types of workers and sectors accounted for a substantial fraction of the decline in unionization prior to the mid-1970s... [but] only a small part of the decline since that period" (p. 576).

I doubt that the decline in unionization has any causal relation to the lack of growth in wage levels or to the increase in wage inequality. Contrary to much public opinion, economists conventionally maintain that while unions can raise the wages of their members, they have almost no effect on the general level of real wages. Their effects on the distribution of wages is more complicated to judge. Historically, unions have been strongest in the middle range of the wage and skill distribution, with relatively less union representation both among the highest paid occupations, such as professional workers, and among the lowest paid occupations, such as farm workers or unskilled workers in the service industries. Thus, even when unions had considerable power to raise the wages of their members, they probably had little effect in narrowing the overall wage distribution. However, today and during the 1980s, the economic power of unions has been sharply reduced relative to its peak periods in the 1950s and 1960s. A qualification is that within union jurisdictions—within firms and within occupations—the union policy of a "common wage" reduced wage dispersions in these jurisdictions.

Some researchers disagree with this opinion and claim that the recent decline in unions has been an important reason for the widening inequality in wages. Blackburn, Bloom, and Freeman (1993) show declines in the percentage unionized of workers of different education, race, and gender groups. They point to larger losses by the less educated (in particular) and to estimates of large effects of unions in raising wages of less educated workers. From these relationships they conclude that the decline in unions has had an especially severe impact on the reduction in wages of low-wage workers. Another interpretation of the data, however, is that the employment losses in unionized industries were attributable to labor-saving technological change, shifts in consumer demand from manufacturing to service goods, deregulation, foreign competition, and other demand-side factors, and that wages in these industries would have declined even if unionism had not declined.

The earlier discussion of an increase in contingent jobs and the possible association of reduced job security raised the conjecture that the decline in unionism was both a cause and an effect of these changes in employment relationships. Since job security is a primary goal in collective bargaining, perhaps equally important to the members as wage gains, one might hypothesize that the decline in unionism has reduced job security generally among American workers. The issue is complex, however, because although unionism, and the threat of unionism to nonunion firms, is a force for greater job security, it is also true that nonunion firms may adopt an industrial relations strategy that promises more job security as a way of avoiding being unionized.

My impression from the abundant writings on the topic is that there has been a decrease in employment security. The decline in unionism has meant a decline in formal contracts between employers and employees—contracts that regulate layoffs and provide protection to workers from discharges. Without formal contracts the employment relationship allows free rein to the common law doctrine of "employment at will," wherein an employer has the right to discharge workers (virtually) arbitrarily. At the same time, there has been an increase in court and legislative

restrictions (or threats of restrictions) on this doctrine. This court activity, however, has mainly affected only professional workers and middle or upper management positions.

Three factors diminishing employment security appear to have accumulated during the past ten or more years: (1) the decline in unionism, (2) a prevailing doctrine of "employment at will" operating in an environment widely believed to be under cost-cutting competitive pressures, and (3) a long-term increase in unemployment rates. We may fairly ask: Is employment insecurity more pervasive today than at any time since the Great Depression of the 1930s? I suggest that a high priority be given to devising measurements and gathering legal and other institutional data on the levels, distributions, and trends in job security.

IV. THE ALLOCATION OF TIME AND LABOR IN THE NONMARKET SECTOR

The uses of time by adults in the nonmarket sector—in leisure, housework, volunteer work, and education—need to be examined, not only to achieve a fuller understanding of labor force behavior but also to focus our attention on the ultimate objective of market work itself, which is economic and social well-being. The long-run growth in leisure by men, which has accompanied the long-run decline in the fraction of their lifetimes spent in market work, has been a major component of the increased standard of living that we sometimes measure only by the increased consumption of material goods and services. It is no wonder that Schor's claim (1991) that the growth in leisure has been reversed in recent years received much public attention. This contention will be examined below, after a discussion of methods for measuring the allocation of time in work and nonwork activities.

A. Leisure: The Case of Men

The methodological theme of this section, which has implications for the collection and use of labor force statistics, is that the concepts of life cycle and life span are needed to understand important issues in labor force analysis. This theme can be applied to the two great, although silent, revolutions in the labor history of the United States and other industrialized nations: the long-run increase in time spent in market work by women and the long-run decrease in time spent in market work by men. Consider the case of men.

The decline in market work by men and the resulting increase in leisure consumption from 1890 to 1980 has been quantified by the author (Cain, 1984a, 1984b), mainly using data from the decennial censuses to measure hours worked per lifetime for a succession of cohorts of men. A "typical" man who was 40 years old in 1900 was estimated to have worked about 2,700 hours per year on average for each year of his adult life from 1874, when he was 14 years old, to 1930, when he is assumed to have died at age 70. This amounts to an average work week of 54 hours, although the actual number of hours worked per week would be fewer during his youth and old age and longer, 60 or more hours per week, during his prime-age working years. Another interpretation of an average of 2,700 hours per year is that it amounts to about 45 percent of a man's adult lifetime of "discretionary" hours—assumed to be 16 hours per day. (This allows eight hours per day for sleeping, eating, and self-maintenance. Note that age 14 is the beginning of adulthood for purposes of describing one's working life.)

Carrying out the same calculation for the cohort of men who were 40 years old in 1940, the average hours worked per year, for each year of their adult life, was 1,950. The larger part of this reduction from the earlier average of 2,700 was in the decline in the average hours worked per week. By 1940, the average work-week for prime-age males was around 44 hours. Other sources of the reduction in total time at work were retiring at a slightly earlier age and leaving school at a later age.

For the cohort of men who were 40 years old in 1980, relying on extrapolation to 2010 (when that cohort reaches age 70), the corresponding average of hours worked per year over their lifetime is estimated to be about 1,500. This translates into spending 27 percent of the man's adult lifetime (of discretionary time) at work. The decline from 1,950 hours, for the cohort born 40 years earlier, to 1,500 hours was almost entirely attributable to the decline in average years in the labor force. There was only a slight reduction in the average work-week during this period. The decline in the number of years of labor force participation for the recent cohort reflects, of course, the large decline in LFPRs for men over the age of 50, especially over the age of 60. A qualification to the calculation is that it does not allow for the proposed changes in the Social Security program that will increase the age of retirement at full benefits. If these changes in Social Security are not offset by changes in private pensions, then my extrapolation to 2010 will somewhat overstate the growth of leisure for the cohort born in 1940.

Two lessons from these calculations are worth emphasizing. One is the magnitude of the reduction in working time. On average the typical man born in 1860 and assumed to die in 1930 worked 1,200 hours more per year—which in turn averages to 23 more hours every week for each of the 56 years of his working life (age 14 to age 70)—than his counterpart who was born in 1940 (and is assumed to die in 2010). The improvement in the quality of life that this represents is astonishing. The fact that men born in 1940 can expect to live more years beyond age 70 than the earlier cohorts further adds to their improvement in well-being.

The second lesson pertains to the claim by Schor that the increase in leisure consumption by men has been reversed in the last twenty years. Although we cannot fully test this claim with respect to the full life span of the current work force, the calculations above that do apply to life spans cast serious doubt on Schor's claim. The reason for Schor's conclusion is that she focused mainly on the annual hours worked per year for prime-age working men for a relatively brief 20-year period, from

1970 to 1990. Twenty years is brief relative to a man's 56-year (or more) span of adult life. Other problems in interpreting Schor's data and analysis are discussed in Hedges (1992) and Stafford (1992).

B. Housework

Women's time in market work, in sharp contrast to that of men, has increased. Calculations like those above for men show that women in each succeeding cohort have increased their total amount of market work during their life span. A typical woman born in 1860 could expect, on average, to spend about 8 percent of her adult lifetime (of discretionary time) in market work. For the cohort of women born in 1940 the amount of time spent in market work nearly doubled, rising to 15 percent.

For women's leisure time to have increased over the long run, therefore, it must be shown that their time in housework has decreased more than their market work increased. What is the quantitative evidence for a decrease in housework by women? How adequate are our data sources for obtaining this information? If women's total time at work did not decrease as much as men's, might this explain part of the feminist protest and reform movement over the last thirty or so years? The increase in female-headed households and concerns about the "double burden" on adult women, married and unmarried, are further reasons why these questions are worthy of study.

Consider also the argument that an obstacle to equality for women in the labor market is their customary responsibilities for housework, even beyond giving birth to children. Historically, and to some extent still today, housework and child care tasks prevent women from acquiring as much premarket education as men, particularly in obtaining advanced degrees, and from getting jobs with as much upward mobility as men. To obtain gender equality in labor market achievements may require men to engage in a larger share of housework. What is the quantitative evidence for the level of and changes in men's time in housework?

Two themes are pursued in addressing these questions. One is to repeat the proposition that the life cycle is an essential theoretical framework. Just as economists use a long span of time for the analysis of investments in education, so also is this long-run perspective necessary for measuring how much housework is done by men and women. More housework during one period of one's lifetime may be substituted for, or at least taken into account regarding, the amount of housework in another period. The events of births, education, market work, and retirement all require planning, and the full span of one's lifetime becomes the ultimate unit for measuring the allocation of time and economic well-being.

To illustrate a practical benefit of this theme in measuring housework for women, consider the frequently reported separate measurements of housework for unmarried women, employed wives, and wives who are not employed. Although there is useful information in these measures, most women occupy all three statuses during their lifetimes. The three different measurements may be most usefully viewed as three ingredients for a single weighted average.

The second theme concerns methods to measure time spent in work activities outside of the paid labor market, here focusing on housework. Although surveys of time uses have a long history, their frequency has been limited, their techniques unsatisfactory, and no consistent time series of time use had been developed. All three limitations are currently being overcome, although more resources are needed for the task.

Social scientists from several disciplines have designed increasingly sophisticated time-use surveys, using a variety of techniques. "Diaries" and recording devices can be given to the respondents to assist them in logging their activities, television time use may be electronically recorded, interviewing techniques can be made unobtrusive and yet jog memories, and stratified sampling procedures can efficiently cover different calendar periods. Consistent questions and regularly scheduled interviews are beginning to provide useful time series.

It is interesting to report a few of the main findings from these surveys to illustrate the state of our knowledge on some of the questions raised above. Unfortunately, when comparing results from different surveys, conducted at different times and with different methods, we often see conflicting conclusions. Schor (1991) claims that women's time spent in housework did not change from 1973 to 1987 nor, relying on Vanek (1974), from 1920 to 1966. Juster and Stafford (1991), who link studies from the Department of Agriculture and Cornell University in the 1960s and 1970s with surveys from the University of Michigan from the mid-1970s to the 1980s, report a decline of 27 percent in housework by women, from 41.8 hours a week in 1960 to 30.5 hours in 1980. Fuchs (1988), using a different method of estimation, reports a 14 percent decrease in housework by women from 1960 to 1986.

Given the increase in market work by women since 1960, Schor concludes that women's total work time increased substantially from the 1960s to the 1980s. Fuchs's estimate of women's total work time is a modest increase of 4 percent from 1960 to 1986. Juster and Stafford report an 11 percent decrease in women's total work time from 1965 to 1981. Before making a normative judgment about these figures, consider the authors' estimates for men.

Schor finds that men's total time at work increased from the 1960s to the 1980s, but by less than the increase for women. Fuchs reports that men's total time at work from 1960 to 1986 decreased by 9 percent. Thus, Fuch's conclusion about men's work differs from Schor's, but he appears to agree with Schor's conclusion that men fared better than women regarding the consumption of leisure over this period. Juster and Stafford report that men decreased their total time at work by 8 percent, almost the same as Fuchs's estimate, but they disagree with Fuchs and Schor about the relative changes for men and women.

On the related topic of measuring wives' and husbands' time in housework, Morris (1990) provides a number of time-use studies that also show considerable diversity in their quantitative

estimates. However, there appears to be considerable agreement about the following qualitative results. First, wives' total workload when they have young children and hold market jobs is very high. Second, husbands contribute a rather low level of housework and, perhaps surprisingly, do not much increase their contribution to housework even when their wives hold market jobs. Juster and Stafford, using different but more recent data, claim that recent cohorts of husbands are reporting a significant increase in housework when their wives are employed, especially when there are young children present.

In summary, time use, housework, and leisure consumption are topics that raise important and controversial questions that are not resolved. Data are only beginning to be obtained to address the issues.

C. Volunteer Work

Volunteer work is a major activity in the lives of a relatively small proportion of Americans, a minor activity in the lives of many Americans, and, on average, does not consume a large fraction of time. The CPS definition of volunteer work is unpaid market work, which would include some, but not all, work for churches, public agencies, and other nonprofit organizations. Using this definition, Tiehan (1993) examined the results of three one-time surveys on volunteer work: by the CPS, a Gallup survey, and the National Survey of Philanthropy. She calculated that about one-third of all civilian, noninstitutionalized adults (over 18 years of age) did volunteer work on a more-or-less weekly basis, contributing about four hours of volunteer work per week. The overall average per adult is, therefore, 1.3 hours per week (see also Romero, 1987). Per person, the amount is small, but the sum over all persons is large and is an important part of American social and economic life.

The National Commission on Employment and Unemployment Statistics (1979, pp. 84–85) recommended that information on volunteers and their work be collected every three years in a special supplement to the CPS to provide "not only a picture of volunteers' skill acquisition and

experience, but also a data base for valuing productive nonmarket activities." The recommendation was justified on grounds that "the development of more complete data on nonparticipants [in the labor force] could afford a better picture of both the potential labor force and labor market dynamics, and thus be of considerable value for policy analysis" (p. 84).

Since 1979 several important changes have taken place. The Tax Reform Act of 1986 decreased the subsidies to charitable giving, but this change has no direct effect on the contributions of one's time, which have never been tax deductible. However, the 1986 Act reduced the marginal rates of taxes on earnings, which effectively increased the opportunity costs of all nonwork activities, and this will decrease the incentive to perform volunteer work. Another change is the continuing increased numbers of retired people, who offer a larger potential supply of volunteers. Perhaps the word "potential" should be emphasized. Romero (p. 220) reports no difference in volunteer work by retired and employed men of the same age. This finding may reflect differences between the two groups in unmeasured personal traits, such as vigor and sociability, in which case an across-the-board increase on retirement might well lead to more volunteer work. In contrast, the increase in employed women represents a potentially decreased supply, because women perform more volunteer work than men. Interestingly, both groups may also increase the demand for volunteer labor. Those who are very old, unhealthy, in nursing homes, isolated and distant from their younger family members are all potential recipients of volunteer work. Employed mothers of dependent children and without a husband present are a source of demand for volunteer services for child care.

Some of the questions of interest about volunteer work are the following. What is the quantitative evidence about the change in numbers of volunteers and in their time spent in this activity? Is volunteer work often a training experience for a future career in market work? Does it offer a transition from market work to retirement or, possibly, from retirement to market work?

Given that women generally report more volunteer work than men, does volunteer work constitute a "triple burden" for some women?

D. Education

Education is viewed as a productive and beneficial alternative to market work. The historic trend of educational gains in the population is, of course, largely a reflection of the long-run increases in the proportions of each succeeding cohort of young people, aged 14 to 24, who are enrolled in school. The Clinton administration will try to increase both educational attainment and youth employment by its proposal for National Service. The pay will be low, but part of the compensation will come in the form of credits or vouchers for a college education. This program and, indeed, that of employment in the regular military services deserve to be studied with the sort of labor force statistics that apply to the civilian population. Specifically, there is the need for surveys of the participants in the National Service and military services to provide data on their socioeconomic characteristics and age-earnings profiles, which can be compared with "matched" samples of youth in conventional careers. There is, of course, more to evaluating careers than examining their monetary returns, but this is an essential part of a broader evaluation.

The long-run trend of increased school enrollment slowed down, and was temporarily reversed, in the 1970s. Nearly half of enrolled youth also hold jobs, mainly on a part-time basis. As discussed earlier, employment rates of young white men began to increase slightly during the 1960s and 1970s, reversing a century's decline in male youth LFPRs. This occurred even though their school enrollment and years of schooling completed increased. The LFPRs of young white women increased sharply in the 1960s and 1970s, even though their schooling also increased. Schooling increased for blacks during this period, but the employment trends for black men declined and those for black women grew very slowly during this period. Forecasting the proportions of employment

and school enrollment for young people is more difficult than for most other demographic groups, because simple extrapolation of past trends is not justified.

Schooling and work behavior of young people are important determinants of the long-run trend in productivity. Differences in schooling and work among the gender and ethnic groups of young people have equally obvious consequences for the goals of equity.

Some states—Wisconsin is one—have compulsory school attendance (through high school) for youth aged 18 and under. Wisconsin has also recently enacted legislation that attempts to restrict market work by high school students. The objective, clearly, is to increase school enrollment and educational attainment. There are many proposals in all states to increase the quality of education, but there are also many state proposals to reduce the costs of education. Labor force statistics have often provided the main source of economic evidence on the "payoff" to education in the form of enhanced employment and earnings. Evaluating the various state programs is a challenge to collectors and analyzers of labor force data.

Consider the following pessimistic conclusion from a recent RAND study (Haggstrom et al., 1991, p. vii) of the transition from high school to work and further schooling.

> In general, our findings indicate that a substantial proportion of high school seniors in the 1980s lacked direction when they left school and that their subsequent activities were marked by false starts and backtracking. ... Half of the college entrants dropped out before they earned degrees.... The resulting losses of talent, on top of the huge losses represented by persistently high dropout rates in the secondary schools, point to the conclusion that America made poor use of its human resources during the 1980s and will be hard put to meet its manpower requirements in the 1990s.

To judge the validity of these pessimistic findings, we need to have comparable studies of high school seniors in the recent past and in the near future.

V. THE POLITICAL SETTING OF LABOR FORCE STATISTICS

The primary purpose of the official labor force statistics published each month by the Department of Labor is to measure the macroeconomic performance of the economy and to provide information for a variety of economic policies, mainly concerned with the business cycle. As indicators of the performance of the economy, the statistics are ammunition in political contests from the local to the presidential level. In addition, the statistics are indicators of economic hardship, although this is not an official use endorsed by the Labor Department. Economic hardship can be alleviated by extending and increasing Unemployment Insurance, a state-administered program that can be supplemented by federal funds when the unemployment rate reaches certain levels. Local area employment and unemployment statistics are criteria for dispensing federal aid to areas that are experiencing economic distress. Clearly, the statistics have political as well as economic uses.

This political context raises several questions. How well do labor force statistics serve the political uses to which they are put? Do these uses threaten the integrity of the statistics? Has the political aspect of labor force statistics changed in recent years?

In 1971 senior officials in the Nixon administration pressured the Secretary of Labor to cancel the regularly scheduled briefing by the economists of the Bureau of Labor Statistics on the monthly report of employment and unemployment. The secretary himself had held a news conference that gave a favorable interpretation on what appeared to experts, including the professional staff at the BLS, to be disappointing unemployment statistics. The resulting conflict between some of the career staff of the BLS and the political staff of the president's office caused several resignations (or dismissals) of BLS economists.

In April 1993 a New York Times article was headlined "The Labor Secretary's Spin on Jobs Data Lifts Eyebrows" (Nasar, 1993), and it appeared to be a much milder replay of the 1971 episode of a conflict between the "political" secretary, this time Robert Reich, and the professionals at the BLS. The issue was whether a report of employment increase was to be considered less favorable because of the allegedly large proportion of involuntary part-time workers—in the Secretary's words, "the contingent work force." Compared to the 1971 affair, this disagreement in the Labor Department is not only quite benign, but far more understandable. As discussed in this report, a clear interpretation of part-time and contingent jobs in the U.S. economy is difficult to obtain. The data are complex and their normative interpretation is uncertain.

Similar judgments apply to the data associated with employment and training programs, welfare reform, and trade policies. All are highly charged politically, and all make demands about labor force statistics that cannot now be fulfilled. Government programs that are aimed at employment and training require labor force statistics both for determining the type and location of the programs and for evaluating the results. Currently both political parties in Congress intend to reform the welfare program, Aid to Families with Dependent Children, and the earlier discussion of this issue pointed to the complex types of labor force data needed to administer and evaluate the types of reforms being proposed. The variety and range of government programs that affect the labor market are so numerous that this report cannot give them explicit attention except for illustrative purposes.

VI. SUMMARY AND RECOMMENDATIONS

A. Summary

Today's opportunities for gaining an understanding of labor markets are unprecedented. Data, computing facilities, and statistical and econometric methods have all become more abundant

and more effective than ever before, and further gains in all three areas are forthcoming. The 1990 Census is available for public use and more accessible than any preceding census. The official source of labor force statistics reported each month is the Current Population Survey, which has been revised and improved for implementation this year. The Survey of Income and Program Participation is a large survey, similar to the CPS but mainly distinguished by following persons and households for up to 32 consecutive months. It is the largest panel survey for measuring labor market and economic behavior, and there are other panel surveys, discussed in this report, that have been following families for up to 20 years. Electronic records of data from a variety of government agencies have opened further opportunities for research with the vast records of administrative data. Parts I and II of this report attempted to describe these sources of data and to discuss the methodology of their use in a historical setting.

The major challenge to an understanding of labor markets and labor market policies is in how to use the available statistical resources. With this challenge in mind, I have emphasized two broad questions.

1. How do our statistical data serve the three basic methodological purposes of description, prediction of "natural" market processes and outcomes, and prediction of outcomes that are results of government policies and interventions? We describe outcomes to be able to judge performance. We predict outcomes to prepare for impending changes and to evaluate specific policies by determining the causal effects of the policies. To predict, we must have a theoretical framework that provides an agreed-upon interpretation and understanding of the empirical results, as was illustrated in Part II. Some attention was given to the economic theory underlying the discussion in this report, but I suspect that more is needed. A theory is necessary to distinguish between causes and effects, to determine what variables are endogenous or exogenous for the problem at hand, and to determine when the relations among the variables are mutually causal.

2. What are the critical problems in the labor market and the economy that require attention, and how has the economy changed in recent years to cast these problems in a new light? This was the question addressed in Parts III and IV. Many problems or issues are, in fact, a product of evolutionary trends, and recognizing this fact can add a useful perspective, sometimes sobering but sometimes reassuring.

Although the term "problem" is commonly used in economics to refer to a theoretical or empirical puzzle, not necessarily to a "social problem" that needs correcting, much of the discussion dealt with issues that are or appear to be social problems. Here, too, a historical perspective is useful. The twenty-year stagnation in real wages is a fundamental problem in both senses. Labor market data are necessary to describe (and identify) this problem and necessary in seeking solutions. The historical perspective here is that of an economy, a nation, that has enjoyed strong economic growth throughout its history. That record of historical growth both defines our current problem and provides consolation in the form of awareness that our present standard of living is high by historical and international comparisons.

Part V served to remind us, if indeed we need to be reminded, that official government statistics are part of a political and public relations process. There will often be disputes about normative, policy, and political interpretations of the statistics. This can be healthy, and so is the requirement that the statistical results be in the public domain and need to be fully understandable to the public.

The details of this paper have ranged from the nuts-and-bolts of survey questionnaires to sweeping generalities about the definition and measurement of economic well-being. Some of this range will be reflected in the recommendations that follow, although recommendations refer to only parts of the paper.

B. Selected Recommendations about Labor Force Statistics

1. Given that the main purpose of the labor force statistics from the CPS are their uses in determining macroeconomic policies, it follows that the time series of these statistics must permit valid measures of changes, because changes in the series, rather than their level at a point in time, are the key guide to macroeconomic policies. Therefore, efforts to show comparability before and after the revision of the CPS should be expanded. Currently the two versions have at most a one-year period of overlap, which occurred at one phase of the business cycle—the recession year of 1993. When the economy is at different points in the business cycle, will the various statistics for employment, unemployment, part-time work, etc. and for various subgroups in the population show the same relationships between the old and new versions of the CPS as they did in 1993? One check on the comparison between the old and new versions and the stage of the business cycle is to carry out another exercise in double-surveying when the economy is at full employment, administering the old version of the CPS to a sub-sample of households. If this is too costly, additional research with the two versions of the CPS in 1993 could be undertaken. For example, results for the two versions in areas that in 1993 had relatively high and relatively low unemployment rates could be compared. If sample sizes permit, comparisons of the two versions could be made in the two types of areas for older workers, discouraged workers, industrial and occupational changes, and other groups and events that are expected to show differences between the two surveys.

2. Retired and disabled workers will be asked fewer questions about their attachment to the labor force in the revised CPS. The Labor Department has determined that little information is lost. At the same time, there is widespread concern with the growing costs of transfer payments to both groups in conjunction with their declining labor force participation. Also, future changes in the Social Security (and other) programs are expected to occur and affect the labor force behavior of both groups. Occasional supplements of additional questions to these two groups are one method of

maintaining and expanding information about their labor force behavior. The supplementary questions could be asked only of the out-going sample in their fourth and eighth months, which was the method used in the pre-1994 CPS for measuring discouraged workers. Another source of information about the labor force activities of retired and disabled workers is the Social Security Administration, which has experience in surveys of retired workers.

3. The declining labor force participation of men between the ages of 45 and 65, although not a major problem, deserves further study. The case for doing so was made in Part III.B in connection with Rees's discussion of both the decline in labor force participation and of the reasons given by this group for not working and not seeking work. It is worth noting that the decline in labor force participation for this group again illustrates the fundamental issue of whether the change we observe reflects gains in utility from increased leisure consumption or losses in utility from reduced opportunities in the labor market.

4. The relation between unemployment in a family and economic hardship should be examined. Economic hardship can be measured in various ways: the incidence of poverty, the relative loss in income, family breakups, and other outcomes. How has this relationship changed over time? A long-standing controversy exists about whether the unemployment rate receives too much or too little weight in determining macroeconomic policies. The correlation between hardship and unemployment is one criterion for weighing unemployment statistics. The next recommendation concerns another.

5. How valid are various labor force statistics, particularly the employment-to-population ratio and the unemployment rate, as economic indicators of the cyclical and long-run performance of the economy? Do they represent objectives to be specifically changed by direct policies, or should they be thought of only as indicators of performance? Should they receive more or less weight for either purpose?

6. Connected to both 4 and 5 is the relation between multiple earners in a family and (a) the incidence of unemployment among family members, (b) the duration of unemployment among those family members who are unemployed, and (c) the broad question of the extent to which the long-run upward drift in U.S. unemployment rates is a consequence of multiple earners in families.

7. Coordination between SIPP and CPS is recommended for several statistics where SIPP has advantages, such as in the measure of family income and poverty. Family income and poverty in the CPS are based on this year's family size and composition and last year's reported income, so errors in the proper unit for the income and poverty statistics will occur in an unknown number of cases. Single-parent families, for example, have become a larger proportion of all families and have a high incidence of poverty as measured by the CPS. They are also a group whose family composition may be somewhat volatile. SIPP is a source for these income statistics with a proper match of the time units. The measures of family income from SIPP could be used as a check on those obtained from the CPS or as a basis for adjusting the CPS measures. Other advantages of SIPP relative to the CPS are in measuring the duration of unemployment and the receipt of transfer payments.

8. Surveys of panel data, like SIPP, the National Longitudinal Survey, and the Panel Study of Income Dynamics should be used to construct averages of earnings, employment, family income, etc. over long spans of time. These averages, compared to cross-sectional data, will yield more meaningful measures of (a) the distribution of income, (b) the economic returns to investments in education and training, (c) the time devoted to market work, housework, leisure, and (d) durations of time on welfare and other outcomes.

9. Panel data are also superior to cross-sectional data for measuring transitions from one labor force, demographic, or economic state to another—for studying life-cycle events and the adjustments families make to these events. Two examples of this type of data are recent Bureau of the Census reports entitled "The Family Life Cycle: 1985" (Norton and Miller, 1990) and "Maternity

Leave Arrangements: 1961–85" (O'Connell, 1990), both of which use SIPP to trace different demographic events and their relation to economic and labor market outcomes for different cohorts of women.

10. The measure of earnings should take account of fringe benefits, at least those that lend themselves to monetary translations. We are not sure whether accounting for fringes widens or narrows the distribution of (a) earnings among individual workers and (b) incomes among families. It should be noted that the sensitivity of poverty measures to the inclusion of income-in-kind payments has received extensive study.

11. Recommended work on contingent workers includes attention to a useful definition, methods of measurement, and constructing classifications that can be tracked over time. Happily, the Labor Department is currently preparing a special supplement to the CPS to find out more about workers with irregular hours and temporary status. Part of the definition and measurement should include the local area's unemployment rate, or some other measure of the tightness or slackness of the labor market. Economic theory also suggests that the worker's (or the job's) wage and annual earnings should provide compensating wage differences if the conditions of contingency are not preferred by the worker. If compensating wages are not paid and if the jobs are not preferred, then the existence of such jobs may reflect a temporary disequilibrium, or, as another alternative, imply the existence of "lousy jobs" for disadvantaged workers, who are, perhaps, unable to receive better terms of employment because of market barriers. Similar issues arose in point 3, above, concerning the declining labor force participation of men aged 45 to 65, and in determining whether the increase in part-time jobs reflects favorable or unfavorable circumstances in the labor market.

12. Connected with contingent jobs is the broader question of measuring job insecurity for various types of workers, such as men and women, blacks and whites, and primary and secondary earners. Ideally, job insecurity should be explained by underlying supply and demand factors. On

the supply side are insecurities, or perhaps merely loose attachments, that reflect either preferences by the workers or exogenous (nonchoice) characteristics of the workers. On the demand side are government regulations, the technology of the work-place, the cyclical and seasonal volatility of demand for the product, and the role of consumer demand in creating irregular hours in a structural sense—such as the night and weekend hours required in the recreational industry. Again, the question is posed: Do insecure jobs pay compensating wages? If not, why not?

13. What is the relation between job insecurity and the presence or absence of union contracts? Several questions need to be investigated: (a) whether job insecurity has changed (declined?) generally; that is, in firms with and without union contracts; (b) whether a change from a union to nonunion status (or vice versa) in firms changes the workers' job security; (c) whether job security differs between nonunion and union firms at a point in time for comparable workers.

14. Immigration is now and for the foreseeable future a major economic and social issue. Unfortunately, collecting survey data about immigrants is difficult because there are many diversified countries of origin, and few immigrant groups are large enough to yield a reliable subsample in our standard surveys, even one as large as the CPS. There are sometimes language barriers. Simply finding and getting responses from illegal immigrants is exceedingly difficult. To cope with these problems, a supplemental sample of immigrants might be added to a particular year's March survey, which is the source of last year's data on work, earnings, and income. In 1966 and 1967 a sample of low-income households was added to the March CPS that became a rich source for studying poverty for a decade or more. The sampling design at that time involved oversampling low-income areas defined by 1960 census data. The concentration of immigrants in a few states and the availability of 1990 census data to identify smaller local areas could permit a similar sample design as that of 1966–67 but at lower costs.

15. A long-standing gap in labor market statistics is direct measures of the demand side of the market; specifically, measures of employers' job offers in local labor markets. Past attempts to use vacancy data and help-wanted advertisements apparently have not been successful. The unemployment rate is, of course, a measure of demand conditions, but it is constructed from supply-side data consisting of workers' responses to survey questions. The need for demand-side measures was particularly evident in seeking the reason for the lagging employment performance of black youth relative to white youth.

16. Measures of nonmarket activities, particularly volunteer work and housework, would be useful for the rather narrow purpose of gaining a greater understanding of market work and for the ambitious purpose of obtaining a more comprehensive measure of economic well-being. Time-use surveys have an important role for this purpose, but volunteer work is an activity that the CPS could easily measure with periodic supplementary questions.

Like the range of subject matter in the text, the above recommendations vary from the specific and narrowly focused, such as item 1, which asks for parallel surveys of the old and new versions of the CPS, to vaguely worded, general research projects aimed at normative issues, such as measuring the utility of workers who choose (or are forced to choose) between full-time and part-time jobs (item 11). Most of the recommendations are for research projects that seek to determine whether some of the emerging (or long-standing) problems and issues are, in fact, problems. Are workers, on average, becoming increasingly insecure in their jobs? Are wages and incomes, when measured over a five-to-ten year span, really becoming less equal? Would the inclusion of fringe benefits and other nonpecuniary aspects of jobs show an even greater increase in inequality than that shown by money wages and incomes? There has been no attempt to consider the costs of implementing the recommendations. They will have served their purpose if experts in the areas covered are encouraged to think of specific and practical ways of addressing the issues raised.

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