REPORT BY THE

Comptroller General

OF THE UNITED STATES

Employment Statistics Provide A Basis For Monitoring Social Change

There is an enormous variety of statistics about employment opportunities and conditions. The national unemployment rate--the most commonly used of these statistics--does not, by itself, adequately describe many important aspects of the employment situation. A more comprehensive picture can be developed by carefully selecting a combination of statistics from available sources.

This report was made at the request of the Chairman of the Senate Committee on Human Resources.

PAD-78-30
MARCH 20, 1978

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-133182

The Honorable Harrison Williams
Chairman, Committee on
Human Resources
United States Senate

Dear Mr. Chairman:

In response to your request, we are reporting on employment statistics as indicators of social change. We have reviewed the merits and drawbacks of existing statistical series and suggest a set of currently available statistics that your Committee could use on a regular basis to monitor labor market conditions.

Our review was made pursuant to your request and under the provisions of title VIII of the Congressional Budget Act of 1974 (Public Law 93-344).

Sincerely yours,

Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT TO THE SENATE COMMITTEE ON HUMAN RESOURCES

EMPLOYMENT STATISTICS PROVIDE A BASIS F.R MONITORING SOCIAL CHANGE

D I G E S T

Employment statistics, especially the unemployment rate and the number of persons employed, are useful measures of the economic well-being of persons in our society and satisfy most definitions of social indicators.

The unemployment rate is that proportion of the labor force which is unemployed. It is commonly used as an indicator of labor force utilization, economic hardship, and social stress. But the unemployment rate measures only certain very specific things. Used alone, it cannot reflect a number of important aspects of the employment situation.

For example, the unemployment rate does not represent the number of hours worked by the employed or sought by the unemployed. It counts persons who worked as little as 1 hour in the survey week as employed, does not note reductions in hours, and counts unemployed persons seeking full-time and part-time work alike. It does not count discouraged workers or notice different intensities of job search or different productive potential.

The unemployment rate is not an adequate measure of economic hardship. Unemployed individuals may have income from sources other than work or may be in households and families which pool income to support their members. On the other hand, the earnings of many fully employed workers do not support a family of four at or above the poverty level. Others facing economic hardship are not in the labor force and their situation is not represented by the unemployment rate.

There appears to be a statistical relationship between social stress measures such as illness, crime, and the unemployment rate. However, such relationships do not necessarily imply that unemployment causes illness or vice-versa. Because these problems exist among the employed and people not in the labor force as well as unemployed persons, other explanations are possible and perhaps more important.

Technical problems in measuring the unemployment rate may affect the ability to compare unemployment from place to place and time to time. Problems in the State and local area estimation methodology, the seasonal adjustment procedures, census undercounts, and response bias are discussed in this report. Social changes, such as the shifting age and sex composition of the labor force and changes in public programs, may also affect the statistics over time, possibly altering the meaning of given values of the statistics.

The unemployment rate was designed as a broad and general indicator of labor force use. Most of the limitations discussed above are inherent in an indicator of this sort which, by its very nature, cannot describe all relevant aspects of the employment situation. But many other statistics are available regularly from Government and private sources and can fill most of the gaps in information that would result from using the unemployment rate alone.

It would be impossible for a decisionmaker to handle and understand the enormous volume of data which would result from trying to use all these statistics on a continuing basis. But by displaying a few well-chosen statistics, it is possible to develop a reasonably complete picture of conditions in the labor market. While this set of social indicators for the employment sector would not automatically tell a decisionmaker which policies to choose, they would help to reveal trends and emerging problems.

GAO prepared a list of suggested employment indicators after reviewing the available statistics and considering those used in the employment sections of other social indicator reports, such as those prepared by the Organization for Economic Cooperation and Development and by the U.S. Government. GAO's list is composed primarily of statistics from the Current Population Survey. These are supplemented by statistics from other sources on work hours and earnings, fringe benefits, job satisfaction, and occupational health and safety.

Contents

ABBREVIATIONS

AFDC	Aid to Families with Dependent Children
BLS	Bureau of Labor Statistics
CETA	Comprehensive Employment and Training Act of 1973
CPS	Current Population Survey
GAO	General Accounting Office
OECD	Organization for Economic Cooperation and Development
OMB	Office of Management and Budget
SMSA	standard metropolitan statistical area

CHAPTER 1

INTRODUCTION

In September 1976 the Senate Committee on Human Resources requested that we (1) help develop an operational social indicator system focused on employment and (2) examine the potential of present employment statistics as social indicators. In the letter, Senator Harrison A. Williams, Jr., Chairman of the Committee, stated that the Committee was hoping that it could "add to its inventory of information devices an operational social indicator system to assist in our decisionmaking in the budget process."

INTEREST IN SOCIAL AND ECONOMIC DATA

In recent years, both the Congress and the executive branch have expressed a growing interest in concepts and data which describe social and economic well-being for use in public decisionmaking. The Congressional Budget and Impoundment Control Act of 1974, Public Law 93-344, requires, in section 703(a)(4), that the House and Senate Budget Committees study ways to develop "techniques of human resource accounting and other means of providing noneconomic as well as economic evaluation measures." Although there is universal agreement that systematic social data adds to public awareness and provides perspective to decisionmaking, there are differences concerning operational definitions of social indicators and their potential usefulness in public decisionmaking.

SCOPE OF REVIEW

We reviewed the development of social indicators and their current use in policy analysis and public decisionmaking. We evaluated the conceptual and technical performance of the best known employment and unemployment statistics and analyzed several social reports, noting their employment contents and the data requirements for constructing a report. The characteristics and availability of data series proposed as possible contents of a report were also examined.

Social indicator research is occurring in many areas. The report briefly reviews the directions of this research but focuses on what could be made operational now. Much of the current social indicator research is not directly applicable to policy problems.

Our review was done from our headquarters, Washington, D.C., during October 1976 to June 1977. We interviewed personnel from the Statistical Policy Division, Office of Management and Budget (OMB), (now Office of Federal Statistical Policy and Standards, Department of Commerce); the Bureau of Labor Statistics (BLS), Department of Labor; the Congressional Research Service; the Center for Coordination of Research on Social Indicators, Social Science Research Council; and present and former staff of the Committee on Human Resources. As agreed with the Committee, we did not obtain comments from any of the Federal agencies or other groups from whom we sought information.

OUTLINE OF THE REPORT

Chapter 2 discusses several concepts and definitions of social indicators. The usefulness of social indicators as congressional information tools varies with the definition, as does the prospect of an operational system in the near future. Moreover, many of the more apparently desirable social indicator concepts are the ones furthest from becoming operational. At present, a social report, in which indicators are employed to describe social conditions and monitor social change, is the most operational system. However, many social concerns and objectives do not have quantitative measures, or have only a few that are collected with established and consistent methodologies.

In chapter 3 the available employment statistics are examined for their performance as social indicators. The statistics satisfied many criteria and descriptions of social indicators. However, the interpretation of the data was nonetheless open to debate because of differences about economic theory and individual values. Some attention is given to the effects of technical methodology on the performance of the statistics as social indicators. The employment statistics examined were chiefly those produced by the Current Population Survey and the establishment employment survey.

The development of a demonstration social report on employment and unemployment is discussed in chapter 4. International and national reports are examined to identify the requirements of a report system and the types of concerns and specific data series to be included. The examination of reports and data series reveals that some important topics have little available information. Problems of obtaining data, specifying the desired level of detail, specifying the appropriate frequency, and data management are discussed briefly.

CHAPTER 2

SOCIAL INDICATORS AND SOCIAL INDICATOR SYSTEMS

In recent years both the Congress and the executive branch have been interested in concepts and data to describe and evaluate social well-being. At the same time, they have sought ways to evaluate programs as effective or efficient in enhancing or supporting social well-being. Social sciences and management sciences have been asked to create information and processes which help in decisionmaking.

The Congress has expressed its intent to add new information and processes to decisionmaking in several recent laws. In section 703(a)(4) of the Congressional Budget and Impoundment Control Act of 1974 (Public Law 93-344), the House and Senate Budget Committees are required to study ways to develop "techniques of human resource accounting and other means of providing noneconomic as well as economic evaluation measures." The act also requires long-term projection of funding levels, which implies projections of future social as well as economic conditions. The House Committee Reform Amendments of 1974 require most standing committees of the House to undertake futures research and forecasting of their responsibilities in concrete and quantitative terms. The Congressional Office of Technology Assessment is directed in the Technology Assessment Act of 1972 (Public Law 92-484) to assess the probable effects of technology. The declaration of purpose of that act directs that the "physical, biological, economic, social, and political effects" be examined. Social indicators and various collections of social indicators have been proposed to satisfy these requirements.

In this chapter, definitions of social indicators and methods of presenting and using social indicators are reviewed. The relationship between social indicators and systems (organized collections) of social goals, social accounts, or social models is discussed. The concept of a social report, which is also an organized collection of social indicators, is presented. Recent reports are described.

DEFINITIONS AND BACKGROUND

"Social indicator" seems to be a general label for the social statistics employed in many different proposals of social description, explanation, and evaluation. Several definitions of social indicators exist. Some are more demanding or restrictive than others. "Social indicators" may be defined as statistical measurements of social conditions. Other definitions appear to be variations of this definition, which specify tasks for indicators to perform or limit the

number of indicators to a fraction of the many available statistics.

One well-known definition has normative significance.

> "A social indicator * * * may be defined to be a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments about the condition of major aspects of a society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction, while other things remain equal, things have gotten better, or people are 'better off.' Thus statistics on the number of doctors or policemen could not be social indicators, whereas figures on health or crime rates could be. A large part of our existing social statistics are thus immediately excluded from the category of social indicators, since they are records of public expenditures on social programs or the quantity of inputs of one kind or another used for socioeconomic purposes." 1/

This definition is associated with developing social goals or targets. In other definitions, social indicators are social statistics which show historical variations with social changes, are time series components of a social system model, or are items in a system of social accounts.

Social indicators received increased attention at the time of the publication in 1966 of "Social Indicators," edited by Raymond Bauer. 2/ The book was funded by the National Aeronautics and Space Administration to encourage social scientists to assess the social impact of the space program. Within this book and elsewhere about the same time, social scientists pointed out that there were no measures of many social concerns and that many existing measures were poorly designed or rarely collected. At the same time, others proposed the development of a system of social accounts or another system which could track the occurence of social change and present a fuller accounting of the benefits and costs of social programs. National income accounting and

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1/U.S. Dept. of Health, Education, and Welfare, Toward a Social Report, January 11, 1969, pg. 97.

2/Bauer, Raymond A., ed., Social Indicators, The M.I.T. Press, Cambridge, Mass., 1966.

benefit and cost analysis have been presented as the models for these suggestions. Proposals for social reports were also made.

In 1967 congressional interest in social accounts and related information was expressed in the Full Opportunity and Social Accounting Act. The bill proposed a social accounting system and a Council of Social Advisors that would provide the contents of an annual social report from the President to the Congress. The bill was introduced, with some modifications, in later sessions of the Congress through 1973, but was never passed in both Houses. "Social Indicators 1976," issued in December 1977, by the U.S. Department of Commerce, is the latest Government publication of social indicators.

Much of the enthusiasm for social indicators is based on expectations that improvements and extensions of quantitative social measurement would mean more social information was available and relevant to social policy decisions. For some people, social indicators are whatever social statistics are useful in these efforts. For other people, the interest in social indicators has been less immediately policy oriented. The latter group accepts social statistics, whatever their present apparent welfare significance, as social indicators if they show a consistent relationship to social change.

These groups have sometimes been divided into the supporters of social goals, accounts, and models and the supporters of social reports. The groups are not completely separated. They use each other's insights and research but often emphasize different issues.

SOCIAL GOALS, ACCOUNTS, AND MODELS

Public decisionmakers face many levels of policy questions. Stated generally, they include (1) What are national social conditions? and (2) Where change is wanted, what can Government do to cause social change as efficiently and equitably as possible?

To describe well-being and plan to change it requires an objective statement of a welfare function. Such a statement might say that social well-being is related to levels and changes in employment, education, health, public safety, entertainment, income, and more. A subfunction might describe employment well-being as dependent on employment opportunities, wages, hours, fringe benefits, job safety, job satisfaction, job stability, career opportunities, and other variables.

Two problems complicate the development of the welfare function. One is the specification of the variables in the

function, and the second is the specification of the form of the function (Is well-being the sum or product of the variables, and what are the coefficients and signs on the variables, etc.?). The efforts at national goals, quality of life indexes, accounting systems, and models have all been related to solving or simplifying these problems.

The development of national goals and concerns is viewed differently by different groups. For some this means proposing general national principles. For others it means proposing specific measures and quantitative targets for concerns believed to be components of national well-being. There have been two recent discussions of national goals--the President's Commission on National Goals (1960) and the U.S. National Goals Research Staff (1970). Neither group recommended specific measures or targets, although both discussed areas which they believed to be components of national well-being.

Setting quantitative targets for specific measures to increase national welfare assumes some (unstated) relation between these targets and social well-being. It also assumes that planners understand the interactions which will occur as several actions are taken simultaneously. The gaps between present social conditions and the more optimal state can only indicate the efforts that must be made. An example of a single specific goal is a 4-percent unemployment rate. The arguments about setting this as a goal reflect different opinions about the best method of improving social well-being.

There have been some "shorthand" efforts at combining various proposed quality-of-life indexes. These index values are actually sums (or products) of the values of variables which match someone's concept of the good life. The measures are presented as scales with good and bad directions and are combined in a weighted formula. The weights represent the compiler's judgment about what are the more important concerns. A specific index would have general acceptance only if most people accepted that the concerns (and the measures chosen for them) represented "what matters," and that they matter to the degree indicated by the weights. 1/

1/We used concepts similar to these in a 1977 report on the well-being of a sample of older people in Cleveland, Ohio, in which the older people were assessed as having eight levels of functioning, from unimpaired to extremely impaired, in areas of social status, economic status, mental health, physical health, and ability to do daily tasks. In some cases, these assessments were combined to represent overall well-being. "The Well-Being of Older People in Cleveland, Ohio," (HRD-77-70, April 19, 1977).

To discover from the people what priority they give to different goals and how they describe their own well-being, social scientists have turned to subjective social indicators. Measures of life satisfaction and domains of satisfaction have been studied from attitude and opinion surveys, such as the National Opinion Research Center's General Social Survey, repeated each year since 1972. According to this survey, the high priorities given to four national problems--"halting the rising crime rate," "protecting the Nation's health," "dealing with drug addiction," and "protecting the environment"--have remained relatively stable between 1972 and 1975.

In other research, the importance of certain domains to overall satisfaction with life has been studied. 1/ Personal or family relationships are clearly important, but the interactions of sources of satisfaction are extensive. At the same time, subjective satisfaction in domains like the job, housing, money, and income are not necessarily correlated with high measures of objective life conditions. These types of findings reveal some of the complications in identifying and measuring components of well-being and the problems in adding together individual welfare functions.

Systems of social accounts have been sought to (1) relate education, health, income, safety, and other social concerns to each other and to social well-being and (2) reveal how a change in inputs in one area will affect the outputs or outcomes of the others. According to Bertram M. Gross, one of the earliest proponents of social accounting:

> "* * * the state of any nation at any period of time--past, present, or future--can be analyzed in terms of two interrelated, multi-dimensional elements: system structure and system performance. The elements of system structure deal with the internal relations among the system's parts, the elements of system performance with the acquiring of inputs and their transformation into outputs." 2/

1/"Quantification of the Unquantifiable," Mosaic, Sept.-Oct. 1975, National Science Foundation; and Mark Schneider, "The 'Quality of Life' and Social Indicators Research," Public Administration Review, May/June, 1976, pp. 297-304.

2/Bertram M. Gross, "The State of the Nation: Social System Accounting," in Bauer, op. cit.

Kenneth Land has explained the reason for pursuing social accounting systems and their relevance to social models.

> "Various social scientists * * * have observed that one of the main obstacles to the construction of models of social conditions other than economic conditions has been the lack of a system of 'social accounts' comparable to the 'national income and product accounts' * * *. The latter accounts provide a systematic compilation of economic data into the basic variables used in the construction of macroeconomic models. Some analogous framework would be useful in setting out the social indicators to be determined in a model. Moreover, social accounts could provide social indicator models with a framework for building an internally consistent system of equations which determines many social indicators simultaneously, a function that the national economic accounts perform in the case of econometric models. Of course, macromodels can be built without an accounting framework, and, indeed, this is just what happened in economics in the pre-Keynesian era. Thus, to explain variations in particular social indicators, one could proceed by utilizing various middle-range sociological theories. However, piecing these parts together into a consistent system would be difficult without some underlying social accounting framework." 1/

However, efforts to develop these systems suffer by comparison to economic accounts and input-output tables because they do not have a common accepted unit of measure for the components of well-being and because the relationship between components is often unknown and unmeasurable.

Demographic accounting, which has been proposed, is a type of social accounting which tracks the movements of population groups through socioeconomic states. It uses the person as the unit of measure. By defining different states and counting as people change from one to another,

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1/Kenneth C. Land and Marcus Felson, "A General Framework for Building Dynamic Macro Social Indicator Models: Including an Analysis of Change in Crime Rates and Police Expenditures," American Journal of Sociology, November 1976, pg. 565.

predictable, if not causal, relationships can be found. The work of Richard Stone for the United Nations and on England and Wales is an example of this. 1/ However, the state a person is in does not translate into a state of well-being.

Nestor E. Terleckyj has produced a social goals accounting system which relates the measures of several social concerns to specific activities or production of certain goods. He describes the system as:

> "* * * an attempt to devise an analytical framework for systematically assessing existing possibilities for social change measured by a set of quantitative indicators. More specifically, it focuses on the possible sources of change in specific social conditions that represent major aspects of the quality of life." 2/

As Terleckyj states, this system is experimental and limited in scope.

Social systems models try to explain social change by identifying the more important influences on behavior and specifying any interrelationship. The models allow predictions to be made and are useful in providing explanations. The interest in historical explanations is often associated with an interest in social forecasts. Historical explanations and future predictions rely on the analysis of time series. Projections and time series explanations do not necessarily require precisely the same variables as those involved in careful cross-section explanation of different levels of a concern. Demography and mathematical sociology have had some success and offer prospects for developing projections and both types of explanations.

Social forecasts are necessary ingredients in policy planning and policy evaluations--in all forms of "what if" problems. Choosing the likely relationship between influential variables and predicting a direction and especially a value for these variables makes forecasting more than mechnical.

1/United Nations Secretariate, Towards a System of Social and Demographic Statistics, preliminary version, United Nations, New York, July 24, 1973. Document ST/STAT 68, limited distribution; and Richard Stone, Demographic Accounting and Model Building, Organization for Economic Cooperation and Development, Paris, 1971.

2/Nestor E. Terleckyj, Improvements in the Quality of Life, National Planning Association, 1975, pg. 5.

Some policy analysts insist that social accounts and models will be useful only if they result in identification of policy manipulable variables, which are not necessarily the same thing as social indicators. Policy manipulable variables are variables which the responsible agencies can affect. They may, in fact, include input variables, such as numbers of employment counselors or numbers of physicians, which some definitions of social indicators exclude.

The demand for evaluation information and process developed about the same time as the interest in social indicators. Analysts now generally agree that information to evaluate the performance of specific programs does not come from social indicators alone. Program evaluation tries to determine how much change in social well-being, as measured by changes in the values of specific components, resulted from the program efforts. A complete evaluation would require that all the components affected by the program could be identified, measured, and quantified in a common unit with and without the program. Only then could perfect calculations of benefits and costs be made and a critique be given about the efficiency, equity, and legality of the program operation.

Since social change occurs constantly, it is difficult to ascribe to a specific program. Control groups and special experimentation procedures can be developed to measure change in specific social statistics. But the need to understand the social system and identify a priori where the effects of the program will occur and to express them in a common unit makes evaluation extremely difficult. It helps to explain the controversy about what to include in the benefit and cost calculations and what values to give the included items.

The efforts made in goal setting, accounts, and models have not produced any widely accepted and complete products. They have demonstrated the complexity of describing well-being and have given policymakers more understanding of the role of values and judgments in current decisionmaking.

SOCIAL REPORTS

Social reporting has attractions for policy-oriented people and people interested in monitoring social change. Social reports organize and increase the visibility of social statistics. This is the first step in generating support for improving the statistics. Efforts to improve present social measurements include developing new data bases, replicating baseline or one-time surveys, performing

social experiments for information about behavior, or conducting opinion and attitude research. They reveal the shortage of data in some subject areas.

The reports also address the first policy question--What are national social conditions?--although answering it depends on whether a framework for interpretation can be supplied. Reports do not actually present explicit welfare functions, but they can support the proposals of those who have explicit functions and explanatory frameworks. Reports allow users to give priority to the concerns they value. Reports can also make other interpretation difficult if they omit relevant measures.

Opinions differ about who should compile a social report, having thereby the responsibility for selecting the more important social statistics. Should written interpretation be included and, if so, who should do it? Should the report include input variables or just the outcomes--although we may not have clear definitions of outcomes like health or educational opportunity? To whose advantage will the social report be--this year and 2, 4, or 6 years hence? Specific reports are subject to criticism for what they include or omit. The decisions of the editors about what to include and how to interpret it are crucial. Essentially, the questions are: What describes well-being and shall the glass be described as half empty or half full?

People who actually construct social reports are faced with a very large number of data series to consider and organize. One reason they follow the work of the social goal setters, accountants, and modelers is to obtain information about which data series seem more important and appropriate to include. In turn, the data developed for the reports are obviously the tools of the accountants and modelers.

In the last days of the Johnson administration (Jan. 1969), the Department of Health, Education, and Welfare issued a brief report, which attempted to assess seven areas of social concern--health and illness; social mobility; the physical environment; income and poverty; public order and safety; learning, science, and art; and participation and alienation. "Toward a Social Report" was viewed as a "preliminary step toward the evolution of a regular system of social reporting" but also devoted a portion of its contents to discussing the problems of social reporting. It stated that it did not contain values for many of the indicators which would have been preferable and most directly useful because the Government did not produce the desired type of statistics. It found no shortage of statistics and did not point to improper decisions about what to collect.

Instead, it claimed that too many of the available statistics were the byproduct of management information requirements and were not direct measures of welfare. Moreover, the total statistical output resulted from unrelated decisions about what statistics to collect. For specific social concerns, such as health or employment, there is no one complete measure but rather many measures of possibly related conditions. The report encouraged eventual aggregation of social statistics but recognized problems in doing this. It expressed the need to integrate separate social statistics and aspects of welfare into a framework of national priorities with information about program effects to inform Government decisionmakers.

The report a year later of the National Goals Research staff, "Toward Balanced Growth: Quantity with Quality," repeated some of the same major areas--environment, learning, and basic science. It also looked at different areas--population growth, consumerism, technology assessment, and economic growth.

A subsequent publication, "Social Indicators 1973," produced in 1974 by OMB and the Bureau of the Census, did not discuss what desired measures of well-being would be and proposed no present or future applications of the available data. It consisted chiefly of charts, graphs, and tables of social statistics available in health, public safety, education, employment, income, housing, leisure and recreation, and population. Users were expected to have standards and procedures with which to assess the individual data series and relate them to each other. The statistics were described as output data, but no statements of desirable or "normative" levels of the statistics were provided.

"Social Indicators 1976" does not contain direct normative assessments either but does include, where available, comparisons with other countries and information about public perceptions and attitudes. In 1976 the Bureau of the Census, under the guidance of OMB, produced a monthly magazine, STATUS, which contained charts, tables, and graphs of social conditions. The magazine is no longer produced. Currently, there is no plan to repeat the "Social Indicators" volumes. However, separate statistical publications are produced in education, health, employment, housing, population, income, and public safety by the responsible agencies. Highlights of the statistics are contained in the Census Bureau's "Statistical Abstract of the United States." The statistics are frequently the byproduct statistics referred to earlier and are not related to each other or assessed in text or visual presentations, except by comparison over time.

SUMMARY

Of the three types of social indicator systems which have been proposed since the mid-1960s--social accounts, social models, and social reports--social reports are most easily made operational. The descriptive use of social statistics is not, however, as powerful as the uses proposed for accounts or models; reports do not directly provide explanations, predictions, or policy decisions. Reports can, moreover, be controversial and challenging to construct, in part because the report framework, or lack of it, is obviously the judgment of the compilers.

Reports, however, can be constructed now. In constructing an overall social report, or a report for any area, such as employment, the structure should identify and reveal the report's concerns. What the report is about should be clear, and the report's statistics should be representative of this group of statistics. Definitions of the categories it uses should be known, and superior techniques of data collection and analysis should be required.

Efforts to construct reports from available data reveal that the determination and expression of basic goals and concerns and the development of methods of measurement proceed better together. Social concerns are often multidimensional and complicated. They can be hard to represent adequately in single and simple measures. Such measures often capture only part of the concern and then only by requiring arbitrary categorization.

The relationship of the unemployment rate, the best known and best developed employment statistic, to employment concerns is an excellent example of this problem. Contemporary employment data concerns have become more complicated than getting "any" work, which was the challenge of the 1930s and 1940s when the employment and unemployment definitions were established. While increased employment is still a goal, there are now other employment concerns as well.

CHAPTER 3

EMPLOYMENT STATISTICS AS SOCIAL INDICATORS

The unemployment rate is the primary employment indicator. It may be the single most visible government social statistic. Its monthly movements are tracked by government, business, labor, and private citizens. At various times, the national rate is used to represent labor force utilization, income loss and hardship, and social stress.

This chapter describes the definitions of employment and unemployment and the methodology of data collection and evaluates the performance of the unemployment rate in its possible roles as a social indicator. One focus is whether the definitions of employment and unemployment represent all concerns about employment opportunities and conditions. A second focus deals with the ability of the present system to adjust to the demands for detail and accuracy placed on it.

DEFINITIONS AND METHODOLOGY

Measurement of the unemployment rate depends on definitions of employment, unemployment, and the countable population. These definitions have developed over many years. Censuses in the 19th century sought to count "occupied" and "gainful workers," but even through most of the 1930s, counts of employed persons were incomplete and varied. By late 1940, however, the Works Progress Administration had initiated a monthly survey of a national sample of households. After passage in 1946 of the Employment Act (Public Law 79-304), stating that maximum employment was a public goal, more attention was directed to monitoring employment levels. The concepts and methodology have been reviewed many times. Most recently they were revised in 1967 as the result of the 1961-62 President's Committee to Appraise Employment and Unemployment Statistics, chaired by Robert A. Gordon. A new review will be made by the National Commission on Employment and Unemployment Statistics authorized under section 13 of the Emergency Jobs Programs Extension Act of 1976 (Public Law 94-444).

"Employment" and "unemployment" have been defined precisely so that data can be collected. The portion of the U.S. population to be defined as in the labor force has also been delineated. The definitions which have been developed affect the ability of the resulting statistics to represent all dimensions of employment and unemployment.

Each month the Bureau of the Census interviews a sample of the Nation's households, asking about the activities of the members during the week containing the 12th of the month. The interviewers ask a carefully structured set of questions about each member 16 years of age and over during the survey week. According to the responses of the individual contacted, each household member is categorized as employed, unemployed, or not in the labor force.

The survey, called the Current Population Survey (CPS), is the largest monthly household survey of its type in the world. Since its beginning in 1940, the sample size has increased many times to provide more detailed information. In 1976 the sample for national estimates contained about 47,000 households. A slightly larger sample size--about 56,000 to 57,000 households--was used in 1976 and 1977 for State and selected local rates. The eligible households come from every State and the District of Columbia. The expanded sample size produces data which meet BLS minimum levels of reliability on annual unemployment rates for 50 States and 30 large metropolitan areas. The sample is designed to include different geographic areas in proportion to the sizes of their respective populations.

Each household surveyed appears in the sample for 4 consecutive months, drops out for 8 months, and is sampled again for 4 months before leaving the sample entirely. The sample is large enough to produce monthly independent population controls for the national population by various characteristics--age, sex, race, marital status, household relationships, ethnic origin, occupation, and industry--with many possible cross-classifications.

A person is classified as employed if, during the week of the 12th, he or she performed 1 hour of work as a paid employee or at his or her own business, profession, or farm or worked 15 hours or more as an unpaid worker in a family business. Individuals will be counted as employed although not working if they had jobs or businesses from which they were temporarily absent for personal reasons, such as illness or vacation or for bad weather or a labor dispute.

If individuals did no work at all during the survey week, but had tried to find jobs within the previous 4 weeks and were currently available for work, they are counted as unemployed. Also unemployed are those not working who are waiting to be called back to jobs from which they had been laid off or who are waiting to report to new wage or salary jobs within 30 days. The civilian labor force is all persons

16 years and over not in the Armed Forces who are employed or unemployed. "Not in the labor force" means the person has no job and is not looking for one.

The unemployment rate is the proportion of the civilian labor force which is unemployed. National unemployment (and employment) rates are also available by age, sex, race, marital status, household relationship, ethnic origin, and broad occupation and industry breakdowns.

The reported rates for these categories are subject to error according to the size of the subgroup in the sample. For most months of 1976, the chances were 67 out of 100 that the true national rate was within plus or minus 0.12 of a percentage point of the total sample rate and 95 out of 100 that the true rate was within plus or minus 0.24 of a percentage point. However, the ranges for teenagers at comparable levels of certainty were plus and minus 0.56 and 1.12 percentage points because the number of teenagers in the sample is only part of the national sample size.

The count of unemployed is composed of people who lost their previous jobs (job losers), who quit their previous jobs to look for other jobs (job leavers), new workers looking for their first jobs (entrants), and persons looking for jobs after an absence from the labor market (reentrants). Answers to a series of questions classify jobseekers in these groups. CPS also reports the duration, in weeks, of unemployment. From this data, an average duration of unemployment is calculated.

CPS data can also be used to produce employment rates. This means employment data is available by the same demographic, occupational, industrial, and locational categories. These data can be compared to another source of employment data--the establishment survey of nonagricultural employment (Bureau of Labor Statistics). This is a survey of about 160,000 business establishments covering about 40 percent of payroll employment--far larger than the household survey and conducted in much greater industry detail but without demographic detail. Generally, the two series move in the same way, but the differences in coverage and the differences in origin of data can produce some divergences.

LABOR FORCE UTILIZATION INDICATOR

The unemployment rate data are estimates of the number of people who want work but cannot find it. This is a measure of labor force utilization and an indicator of economic activity.

If the rate is not zero, some of society's human resources are unused. As a measure of the extent and seriousness of this underutilization, however, the rate is subject to several criticisms.

The unemployment definition counts the person looking for full-time work and the person looking for part-time work as equally unemployed. The employed definition counts the person working 15 hours a week after school and the person working 40 hours plus overtime as equally employed. The present methodology ignores the loss of overtime, of second jobs, and of regular work hours unless all work time is lost.

Even during May 1975, when unemployment was at its post-Depression high, 22.9 percent of all full-time wage and salary employees (14.1 million persons) worked 41 or more hours at their jobs. However, in May 1973, 27.1 percent of this group, 16.8 million persons, had worked 41 or more hours. Changes occurring in the numbers of people holding two or more jobs are also not reflected in the unemployment rate; in the past 20 years, from 4.5 to 5.7 percent of the employed population have held two or more jobs.

Any loss in hours which does not take the total number of hours worked below 35 hours will not be noted in the employment survey as a change from full-time to part-time work. Some part-time work is voluntary, but some is a reduction in usual hours or is because of inability to find more work. Of the 16.1 million people who worked in part-time jobs in 1976, 3.5 million described themselves as working part-time because of economic reasons; i.e., slack work, material shortages, repairs, starting or stopping a job during the week, or inability to find full-time work. (The BLS definition of inability to find full-time work does not necessarily mean absolute inability; it is inability to find work at a wage rate or under working conditions acceptable to the respondent.)

On the other hand, unemployed persons seeking work are counted alike, as if all were seeking the same amount of work. Somewhere around a fifth of the unemployed, however, are looking only for part-time jobs. For many this is because they are students. Of the 1,414,000 people looking for part-time work in 1976, 712,000 were 16 to 19 years old. Many were probably students. Others of the 1.41 million were women looking for part-time jobs because of their roles as mothers and homemakers.

The unemployment rate is also questioned as a measure of utilization because it does not record as available for work those persons who have told BLS they are out of work and not looking for work because they do not believe work is available for them. These "discouraged workers" are reported as not in the labor force because they have not engaged in any form of job search in the 4 weeks before the survey week. They are called discouraged because they report they believe no work is available in their line of work or area; they have tried before but could find no work; they believe they lack necessary schooling, training, skills, or experience; they believe employers think they are too young or too old; or they have other personal handicaps in finding a job.

The numbers of these persons are reported quarterly; the first two reasons are represented as job market factors and the latter three described as personal factors. The numbers of these workers are not included within the labor force because jobseeking activity rather than a stated desire for work is defined as the criterion for labor force participation.

The labor force expands at different rates at different stages of the business cycle--more slowly during downswings than over the long run. In such times, an above-normal number of workers drop out of the labor force or fail to enter it, or both. Jacob Mincer has pointed out that some workers are, at the same time, pulled into or stay in the labor force to add to reduced or threatened incomes. 1/ The groups particularly subject to these pressures include married women, school age youth, and people of retirement age. The number of added workers must be subtracted from the discouraged workers to get the cyclically motivated net change in the labor force. The discouragement effect does dominate in downswings, and labor force growth slows or stops. The data indicate that inhibited entries rather than discouraged withdrawals made up most of the decline in labor force growth in the 1970-71 downswing.

Mincer argues that the view of discouragement as a condition or an attitude resembling long-term unemployment is not supported by the BLS survey. Survey results indicated that most discouraged workers were potential or former secondary workers not strongly attached to the labor force at present because of family responsibilities and the discouraging cyclical job aspect. In addition, the question as asked in the survey does not ask what wage level is associated with the "wanted" job.

1/Jacob Mincer, "Determining Who Are the 'Hidden Unemployed'", Monthly Labor Report, March 1973, pp. 27-30.

The Gordon committee recommended using a relatively objective criterion of labor force attachment--making an effort to locate a job. 1/ To be included in the labor force, if not working, CPS requires that an individual have looked for a job in the previous 4 weeks in any of several methods. No distinction is made between those who looked repeatedly in many ways and those who tried one way once. Among the methods a job seeker might report are checking with a public employment agency, checking with a private employment agency, checking with an employer directly, talking with friends and relatives about jobs, placing or answering ads, getting on a union or professional register, obtaining assistance from a community organization, or waiting at a designated pickup point.

Subjective information about strength of attachment to the labor force is part of the total question of labor force capacity and utilization and is not resolved in the unemployment statistics. The kinds of job search activities of the unemployed are reported monthly and annually, but the "quality of effort" is not. The job search activities of the unemployed will be more carefully examined when the results of a 1976 special supplement to CPS, the Survey of Job Seeking Activities, are released.

Aggregate employment and unemployment counts do not distinguish different abilities and levels of training possessed by different people. The labor market, however, to the extent it acts rationally and does not discriminate, does distinguish. Employers try to hire those units of labor which they believe can produce, in combination with the firm's capital, output of value equal to or greater than a given wage rate. To some extent, the differences in skill level are revealed in the higher unemployment rates of inexperienced workers, particularly youth. If employers hire rationally, many of the unemployed may be people with fewer proven productive abilities. No large-scale evidence about the wages sought by the unemployed and the wages offered to them have been available. Many of the manpower programs of the recent past, which have focused on education and training for the unemployed, seem to accept the argument that some of the unemployed lack skills needed by employers.

On the other hand, if the issue is productive capacity, employment does not always mean that an individual's full ability to produce valuable goods and services is in use.

1/President's Committee to Appraise Employment and Unemployment Statistics, Measuring Employment and Unemployment, U.S., G.P.O., Washington, D.C., September 1962.

Geographical, racial, sexual, or institutional barriers may prevent workers from competing in labor markets where their skills would be in demand. The employment definition does not require an optimal use of resources.

Even at the peak of the business cycle, unemployment will occur as people quit jobs to look for new jobs, as people enter or reenter the labor force, and as firms lay off workers to go out of business or shift products or locations. This unemployment is described as frictional. An estimate of frictional unemployment has not been agreed upon by economists, and consequently an estimate of a "normal turnover" level of unemployment has not been established. Another source of unemployment is layoffs from seasonal jobs or seasonal product shifts--agricultural layoffs, post-Christmas layoffs, and model changes. The unemployment counts are adjusted by a seasonal factor to minimize month-to-month disturbances in the announced rates. Both of these sources of unemployment occur over all stages of the business cycle. The individuals who experience the unemployment, of course, do not experience it any differently because it had unexceptional or noncyclical causes. Still the distinction is important to make and understand because appropriate policy actions differ.

There have been efforts to improve on the unemployment rate as a measure of labor force utilization. One effort, a labor force time lost measure, is produced now and reported each month in the BLS employment press release. Data is collected in CPS which tells how many employed persons worked full time (35 or more hours) and how many worked part time by choice or because full-time work was unavailable. CPS also reports whether unemployed individuals sought full-time or part-time work.

Labor force time lost is the difference between 100 percent and the ratio of total staff-hours worked by the employed tolhours potentially available to the labor force. The calculation requires some assumptions about the numbers of hours lost by the unemployed who are seeking full-time and part-time work and the employed working part time involuntarily. The calculation is shown on the following page. The labor force time lost measure moves over the business cycle in the same manner as the unemployment rate. It has always been numerically greater than the unemployment rate. In 1974, it was 6.1 percent, in 1975, 9.1 percent, and in 1976, 8.3 percent--compared to unemployment rates of 5.6, 8.5, and 7.7 percent, respectively. It is a measure which should be more fully publicized because it much more adequately represents hours lost. (See table 1.)

Table 1

Calculation of Percent of Labor Force Time Lost or Utilized, 1974

Item		Hours (000 omitted)
1. Total staff-hours worked (persons at work X average hours = 80,613,000 X 39.0) (note a)		3,143,907
2. Staff-hours imputed to persons with jobs but not at work (5,323,000 X 39.0)		207,597
3. Staff-hours provided by economy (line 1 + line 2)		3,351,504
4. Staff-hours lost by unemployed:		
Persons seeking full-time work X standard hours 3,941,000 X 37.5 =	147,788	
Persons seeking part-time work X hours of part-time workers 1,134,000 X 18.3 =	20,752	168,540
5. Staff-hours lost by involuntary part-time workers:		
Involuntary part-time X difference between hours worked and standard (37.5) workweek = 2,943,000 X (37.5 - 21.3) =		47,677
6. Total staff-hours lost (line 4 + line 5)		216,217
7. Total potentially available labor force time (line 3 + line 6)		3,567,721
		Percent
8. Time lost as a percent of available labor force time (line 6 - line 7)		6.1
9. Utilization of available labor force time (100.0 - line 8)		93.9

a/In 1974 the average hours worked by all full- and part-time workers was 39.0.

Julius Shiskin, Commissioner of Labor Statistics, has presented seven unemployment indicators capturing elements of labor force underutilization or severity of employment disturbance. The rates are not additive although they do represent higher numbers as they go from U-1 to U-7. They are compiled by BLS and are furnished to the Joint Economic Committee. They allow users to pick an indicator to follow over time according to their judgments about what changes in the rate are significant. (See table 2.)

Table 2

Seven Unemployment Indicators

U-1 through U-7

U-1 Persons unemployed 15 weeks or longer as a percent of total civilian labor force

U-2 Job losers as a percent of civilian labor force

U-3 Unemployed household heads as a percent of the household head labor force

U-4 Unemployed full-time job seekers as a percent of the full-time labor force (including those employed part time for economic reasons)

U-5 Total unemployed as a percent of civilian labor force (official measure)

U-6 Total full-time job seekers plus half part-time job seekers plus half total on part time for economic reasons as a percent of civilian labor force less half part-time labor force

U-7 Total full-time job seekers plus half part-time job seekers plus half total on part time for economic reasons plus discouraged workers as a percent of civilian labor force plus discouraged workers less half of part-time labor force

Note: Reflects recent revisions of basic data, including seasonal experience through December.

Many observers want to take account of changes in the composition of the labor force in interpreting the unemployment rate. Labor force comparisons show that in 1976 adult males (20 years and over) were 54 percent of the labor force,

whereas in 1955 this group had been 65 percent of the labor force. The sectors of the work force which have grown, adult women and teenagers, both have higher unemployment rates than adult men. These population groups have large numbers of entrants and reentrants to the labor force who have trouble obtaining permanent employment for several reasons. George Perry demonstrated that had the labor force composition in 1970 been the same in 1956, the overall unemployment rate would have been 4.4 percent rather than 4.9 percent. 1/

More recent adjustments to 1956 compositions performed by the Congressional Budget Office estimate that the present unemployment rates would be about 1 percent lower under that composition. 2/ The aging of the post-World War II baby boom and the lower birth rates of recent years will reduce the proportion of youth in the work force after 1980, but it is unclear when the increasing labor force participation rates of women will level off.

The employment-population ratio, which is the proportion of the noninstitutionalized population 16 years of age or older that is employed, has been proposed as an alternative or a supplementary measure to the unemployment rate, especially during times of changing labor force participation. Comparisons of the employment-population ratio and the unemployment rate reveal that it is possible for high employment ratios to accompany high unemployment rates if the labor force participation rate is growing. While labor force participation rates are responsive to changes in business activity, increases in the rates have been remarkably uninterrupted over the last decade or more. Increased participation by adult women and teenagers, who move into the labor force primarily as unemployed new entrants and reentrants, are the principal reasons for the increasing total rate.

In the past 10 years, employment ratios have ranged from about 54 percent to about 57 percent, approximately a 3-percent range, while unemployment rates have ranged from about 3.5 percent to about 9 percent, approximately a 5.5-percent range. Arguments have been made that the

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1/George L. Perry, "Changing Labor Markets and Inflation," Brookings Papers on Economic Activity 3, Brookings Institution, Washington, 1970, pp. 411-441.

2/Congressional Budget Office, Sustaining a Balanced Expansion, Washington, D.C., August 3, 1976, pg. 23.

employment ratio is a superior measure for labor force utilization and a preferable measure in explaining wage and price changes, because it is not based on an arbitrary and a difficult decision concerning whether someone is unemployed or out of the labor force.

The American Federation of Labor-Congress of Industrial Organizations considers that the official unemployment rate misrepresents the joblessness problem in a specific way and each month since early 1976 has constructed, from Government figures, a figure which it considers more accurate. It adds to the official count of the unemployed a number representing discouraged workers and a number representing half the people working part time for economic reasons. This has added over 2 percentage points to the numbers of the unemployment rate. For example, the official January 1976 rate was 7.8 percent, but the union's rate was 10.8 percent; in August 1976, the rates were 7.9 and 10.5 percent, respectively.

INCOME HARDSHIP INDICATOR

One reason unemployment hurts on an individual or human scale is that it means the loss of wages. Most personal income is received as wages and salaries. However, the relationship between employment and income has changed greatly in the last few decades. Many households have more than one earner, and the number and size of public programs existing to transfer income have grown.

Unemployment data do not represent "the need for work" or earnings. The data are collected about people who want to work, are looking for work, and have no work. People from a variety of household arrangements, with or without nonwage income, can qualify as unemployed.

Unemployment data available on a monthly basis tell very little about the household and family situation of the unemployed. Households and families have different definitions, and only limited data are available monthly. Annual data are more informative but still leave gaps in the descriptions. In 1976, for example, when 7,288,000 people were unemployed, 2,763,000, or about 38 percent, were heads of households. Some of these were heads of families or other groups, and some were living alone. The remaining 4,525,000 unemployed persons were secondary workers. 1/ Many of the unemployed heads of households were not the sole wage earners of the household.

1/U.S. Dept. of Labor, Employment and Earnings, Vol. 24, No. 1, January 1977, Table 7.

Unpublished BLS data for the first three quarters of 1976 illustrates the presence of multiple earners in families. On the average, 7,354,000 persons were unemployed in this period, of which 6,432,000 were members of primary families--family heads, wives, or other relatives. Of these unemployed people in families, 70.3 percent were in families where someone else was employed. BLS began to publish quarterly data on this subject in 1977.

These data show that not all the unemployed are sole breadwinners for themselves or others. But it would be a mistake to dismiss the seriousness of the unemployment befalling people other than heads of households. Many of these unemployed are hoping to supplement the low wages of the family head or to replace the wages lost by the family head during that person's illness, unemployment, or labor dispute. Others are trying to pay for education or are trying to establish a good foundation for adult and independent living. Of the unemployed in 1976, 1,701,000 (23 percent) were 16 to 19 years of age. 1/

The data to describe the financial situation of the unemployed are not provided regularly. (The available data were designed to count people who had not worked but were looking for work, without reference to the employment terms they wanted or the reasons they sought work.) Unemployment counts of persons do not note wages and salaries earned by others in the household or family, nonlabor income sources, or the stock of assets.

In addition, some of the unemployed can receive several forms of income assistance. If they were laid off from jobs at which they got the required amount of covered work experience, unemployed persons are eligible for unemployment compensation. (Of course, all entrants and reentrants to the labor market are ineligible, and over the last 10 years they have been one-third to two-fifths of the unemployed.) The unemployment compensation received by eligible persons is usually over 50 percent of statewide average weekly wages for the duration of payments, although this amount varies from State to State. Since unemployment compensation is not taxable, actual replacement rates are higher than gross replacement rates. Net replacement rates will vary depending on previous wages and benefits, State minimums and maximums, taxes, and costs of working. In addition, as the result of collective-bargaining agreements, some workers receive supplementary unemployment benefits.

1/Ibid.

While unemployment compensation is received irrespective of financial status, other income assistance, such as Food Stamps or Aid to Families with Dependent Children (AFDC), is available to persons qualifying by low income and need. Some economists, notably Martin Feldstein, have suggested that unemployment compensation payments and other public income replacement programs encourage the unemployed to delay taking jobs or to remain in the unemployed labor force category rather than dropping out of the labor force. They argue that this has caused unemployment to be voluntarily prolonged and the measured rate to be higher. In this argument, unemployment is a preferable state for some--paying some of the eligible nearly as much unemployment compensation as wage income and definitely paying them more than being not in the labor force. Estimates of the magnitude of this situation on the unemployment rate vary from 0.2 percent to 1.25 percent. The values of the numbers are sensitive to the level of unemployment.

In addition, Kenneth W. Clarkson and Roger E. Meiners have proposed that changes in eligibility requirements for food stamps and some welfare programs, programs designed to alleviate economic hardship, have contributed to higher measured unemployment. 1/ These programs have recently instituted requirements that recipients register with the employment service as available for work. BLS counts registration as looking for work, which is part of the unemployment definition. Some of these registrants would otherwise be considered not in the labor force.

Another reason the number or rate of unemployed persons represents economic hardship poorly is that the experience of unemployment is short for most people. In 1976, 38.3 percent of the unemployed had been out of jobs fewer than 5 weeks. The length of completed spells has usually been short--5 to 7 weeks. The average duration of unemployment reported monthly for the unemployed is far longer than this because a portion of the unemployed experience very long spells (27 weeks and more) of unemployment. This portion varies over the business cycle. In 1974 only 7.3 percent of the unemployed experienced 27 weeks of unemployment although in 1975, 15.2 percent had that experience and in 1976,

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1/Kenneth W. Clarkson and Roger E. Meiners, "Government Statistics as a Guide to Economic Policy: Food Stamps and the Spurious Increase in the Unemployment Rates," Policy Review, July 1977, pp. 27-51.

18.3 percent. 1/ Geoffrey H. Moore has developed a "severity of unemployment" measure by multiplying the unemployment rate by the average duration of unemployment in weeks and by 5 days per week. 2/ Because the index moves with both the rate and the duration, it fluctuates more over the cycle than either factor alone. The measure does not reflect income.

Unemployment data are inadequate to represent economic hardship for another reason as well. Economic hardship occurs to people who are employed or not in the labor force, as well as to the unemployed. The monthly CPS reveals that the aged, disabled, and female heads of families, some of the very poorest adults, are disproportionately not in the labor force. All people less than 16 years of age are also not in the labor force.

Many people who have jobs are paid wages which produce less than poverty level incomes. Fifty-two weeks of full-time employment in 1976 at the Federal minimum wage, $2.30 per hour, would yield only $4,784, less than the poverty level cutoff for a family of four.

To clarify the relationship between employment, unemployment, and economic hardship, section 312 of the Comprehensive Employment and Training Act (CETA) requires the Department of Labor to construct an annual statistical measure of labor-market-related economic hardship. Data collection and research on this subject has begun, but no measure has been proposed yet.

Outside the Government a measure has been offered--the Employment and Earnings Inadequacy Index. 3/ Devised by Sar Levitan and Robert Taggart, this index attempts to count all persons in the labor market who face employment and income problems. It sums together unemployed persons; discouraged workers; family heads employed full time, full year at less than poverty earnings; family heads employed intermittently at less than poverty earnings; and persons employed part time involuntarily at less than poverty earnings--exempting

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1/U.S. Dept. of Labor, Employment and Earnings, Vol. 23, No. 1, Table 14; and Vol. 24, No. 1, Table 15.

2/Geoffrey H. Moore, How Full is Full Employment?, American Enterprise Institute for Public Policy Research, Washington, D.C., 1973, pp. 17-22.

3/Sar A. Levitan and Robert Taggart, "Do Our Statistics Measure the Real Labor Market Hardships?", American Statistical Association Annual Meeting, Boston, Massachusetts, August 23, 1976.

all students ages 16 to 21 and persons 65 and older. It subtracts from these groups all the individuals in households which had above-average incomes in the previous year in an attempt to account for those people who had sources of income to ameliorate an earnings loss. The index is calculated for March 1974 in table 3 on the following page. As constructed and as moderated by the income history, the unemployed account for only one-fourth of the persons with inadequate employment and earnings.

This index cannot be constructed more often than once a year at present because only in March of each year are both income and employment data collected from the CPS sample. The income data refers to income for the previous year and are matched with unemployment in the first week of March. The index has components in it which are debatable, such as discouraged workers. A poverty line earnings cutoff is challenged as irrelevant or insufficient by some.

In the 1968 "Manpower Report of the President," the Department of Labor proposed a "subemployment index" in pursuit of some of the hardship concerns. It combined all persons who had been unemployed for 15 weeks or more during the year and all who had worked full time a full year but had earned less than $3,000. The "subemployment rates" for 1961 and 1966 were about 2-1/2 times the unemployment rates. This index was an attempt to develop a Federal "hardship" measure, but because of different opinions about subemployment concepts, the index has not been widely accepted.

Table 1

Derivation of Employment and Earnings Inadequacy Index for March 1974

	Subemployed in CPS	Persons in households with above-average incomes	Employment and earnings inadequacy (EEI)
	(000 omitted)		
CPS labor force:	89,616	-	-
Discouraged workers (less students age 16-21 and persons age 65 and over)	+ 5,5	-	-
Adjusted labor force	90,201	-	90,201
EEI components:			
(1) Unemployed	4,755	-	-
Less students age 16-21 and persons age 65 and over	- 866	-	-
Adjusted unemployed	3,889	-1,171	2,518
(2) Net discouraged workers	682	-	-
Less students age 16-21 and persons age 65 and over	- 97	-	-
Adjusted discouraged workers	585	- 153	432
(3) Employed full time, full year at less than poverty earnings (less students age 16-21 and persons age 65 and over)	2,376	- 139	2,237
(4) Employed intermittently at less than poverty earnings (less students age 16-21 and persons age 65 and over)	1,702	- 240	1,462
(5) Employed part time involuntarily at less than poverty earnings	2,309	-	-
Less students age 16-21, persons age 65 and over, and persons counted in item 4	- 311	-	-
Adjusted employed part time involuntarily	1,998	- 814	1,184
Total	12,250	-2,737	9,513
Subemployed and EEI index	13.6%	-	10.5%

Source: CPS data.

Data are provided annually on the numbers of families in different income classes and the numbers falling below the several cutoff levels suggested as representing economic hardship. These cutoffs include the annual poverty levels for different family sizes, the low level standard family budget, and various percentages of median family income. None of these income measures are related to employment or labor force status.

Information specifically about the income sources of unemployed individuals or households with unemployed persons has been difficult to obtain. Questions were added to the spring 1976 CPSs to report on the income available from all sources to households and individuals. This will answer questions about both the employed and unemployed when available in 1977 and 1978.

SOCIAL STRESS INDICATOR

Unemployment means the loss of income and unwilling idleness. However, in addition, because people are motivated by hopes and expectations, the experience of unemployment may mean more to them than the interruption of labor and a loss of wages. Social scientists tread cautiously in suggesting how unemployment contributes to social disturbances and stress. Certain kinds of antisocial activities, such as shoplifting or robbery, could perhaps be explained amorally in simple economic models as the result of opportunity, low risk, and low income. But other problems, such as increases in suicide, cardiovascular mortality, or admissions to mental hospitals, may be inexplicable without recognizing the attitudes and expectations of people in complicated ways.

The scientists debate whether the loss of income means people do not seek the medical and counseling help that would prevent or alleviate mental or physical illness or whether the loss of income or the loss of status places people under mental and physical stresses that make them ill or violent. In both cases, clear differences in social behavior are obviously related to economic cycles and to increases in unemployment. William F. Ogburn noted these as long ago as 1923. 1/ These relationships suggest using unemployment as a social indicator.

A 1971 study done by M. Harvey Brenner examined the relationship between several social variables and unemployment. 2/ New York State data revealed that inpatient and outpatient visits to several general hospitals increased when unemployment increased; admissions to mental hospitals also increased. Both marriages and divorces increased during

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1/William F. Ogburn, "The Fluctuations of Business as Social Forces," Social Forces, 1, January 1923, pp. 73-78.

2/M. Harvey Brenner, Time Series Analysis of Relationships Between Selected Economic and Social Indicators, U.S. Dept. of Labor, Manpower Administration, 1971.

economic recessions, as did birth rates. Enrollment and registration in educational institutions and enlistment in the Armed Forces increased.

Indicators of crime show increases during economic downturns and decreases during upturns. This is true for three different indicators: the reporting of crimes, imprisonment at State and Federal institutions, and homicides. Interestingly, releases from prison also occur more often in downturns. This could mean that former inmates are released into a discouraging job market when the return to crime would be more attractive.

A 1976 study performed for the Joint Economic Committee by Brenner found that seven indexes of social stress--total mortality, homicide, suicide, cardiovascular-renal disease mortality, cirrhosis of the liver mortality, total State imprisonment, and State mental hospital admissions--all rose when unemployment increased. 1/ Two other economic variables--per capita income and the rate of inflation--were also examined, but the relationships were not as clear or predictable. National data, as well as selected State data, primarily from 1940-73, were examined. Since the stresses of unemployment were not always expected to produce immediate index changes, the effects were examined over periods of up to 5 years following the year of increased unemployment.

This evidence indicates that changes in the unemployment rate are associated with changes in the incidence of several social problems. The mechanisms by which unemployment aggravates social problems are unknown, however, and the greater causes of these problems are not necessarily unemployment. Increases in the unemployment rate may lead to increases in the problems, but none of the problems are expected to go away at lower unemployment rates.

Public policy measures to alleviate the distress of unemployment have been, in one sense, massive. Expenditures on unemployment assistance for 1975 were on the order of $20 billion, about four times greater than if unemployment had been 5 percent. 2/ HEW estimated in October 1975 that income assistance through AFDC; AFDC-Unemployed Fathers, Food

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1/M. Harvey Brenner, Estimating the Social Costs of National Economic Policy: Implications for Mental and Physical Health, and Criminal Aggression, study for the Congressional Joint Economic Committee, October 26, 1976.

2/Employment and Training Report of the President, Transmitted to the Congress 1976, pg. 36.

Stamps, and Medicaid would be $6.8 billion greater in 1975 than if unemployment had been 5 percent. 1/ But in another sense, the effect of these transfers in replacing lost labor income, the measures fall far short. Edward M. Gramlich has estimated that the transfer system as a whole replaces slightly less than one-third of the labor income lost by male-headed poor families and slightly more than half for female-headed poor families. 2/

These income transfers also do not replace the lost social status, the companionship and identity of work, or the certainty and stability of family and social roles. The loss of an individual's investment in training and seniority or the delay in acquiring training and seniority are real costs to the individual as well The frustrations and disappointments of loss of employment or inability to get stable employment discourage strong labor force attachments and regular work habits for many people.

The unemployment rate is not, however, an efficient and a complete measure of the level and change in social stress. When policy choices aimed at social problems are outlined, the lack of information about how unemployment contributes to these problems for different people would make decisions about priorities difficult and program design uninformed.

TECHNICAL QUESTIONS

While the arguments about the ability of the unemployment definitions to describe joblessness continue, other controversies about the unemployment rate have accelerated in recent years. New and greater demands for accuracy in the data have developed as the rates are used to activate large-scale Federal spending programs and apportion Federal funds among States and localities.

Four of the primary technical criticisms of the unemployment rate are the accuracy of State and local small area unemployment rates, the seasonal adjustment formulas, census undercounts, and response bias (household respondent or interviewer error). To the extent these problems exist, the rates fail to distinguish different degrees of local

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1/U.S. Dept. of Health, Education, and Welfare, Office of the Assistant Secretary of Planning and Evaluation, Office of Income Security, The Cyclical Behavior of Income Transfer Programs: A Case Study of the Current Recession, Technical Analysis Paper No. 7, Washington, D.C., October 1975, pg. 3.

2/Ibid, pg. 29.

problems, to represent changes over the year, to provide the right factors for expansion of the sample to represent the population, and to assign people to their correct labor force categories.

Titles I, II, and VI of CETA and the recently legislated Public Works Employment Act of 1976 allocate funds according to local levels and numbers of unemployed people. Some title I funds are distributed by a formula wherein 37.5 percent of the funds are awarded to the State and local groups, called prime sponsors, according to their relative shares of U.S. unemployment. Title II (public service employment) divides its funds among eligible areas according to the relative numbers of unemployed people in each area. The criterion for eligibility is an unemployment rate of 6.5 percent or more for 3 consecutive months. Title VI (emergency jobs) funds are allocated by a three-part formula using total volume of unemployment and eligibility levels of 4.5 and 6.5 percent. The two titles of the Public Works Employment Act also determine eligibility with respect to local rates above 4.5 percent, 6.5 percent, and the national rate.

The Department of Labor has been required to provide these local data for States, the components of labor market areas, and the more than 400 prime sponsors of CETA and the larger number of State and local governments potentially eligible under the Public Works Employment Act. The methodology relies on a combination of a derived method, which starts from unemployment insurance data, and CPS average yearly estimates for the areas where available. The derived method, called the modified 70-step method, produces State estimates by a series of steps starting from numbers about unemployment compensation eligibility. The State estimates are not comparable before these procedures because unemployment compensation eligibility varies significantly from State to State. Efforts are being made to standardize the procedures and definitions of the States. Since 1974 the data derived in this way have been benchmarked each year from annual CPS data. In this methodology, the modified 70-step method is relied upon primarily to estimate monthly changes in unemployment between benchmarks, but the estimates are weighted by correction factors from the annual benchmarking.

The CPS sample size was sufficiently large in 27 States, 30 standard metropolitan statistical areas (SMSAs), and 11 large cities to provide direct, independent benchmarks for 1974 and 1975. The other 23 States were also benchmarked to CPS but in a less direct method. An expansion of the sample size, to about 56,000 to 57,000 eligible households, was made in 1976 mainly in rural States. (The national estimates for 1976 and 1977 did not incorporate this sample

expansion.) The 1976 benchmarks for all 50 States and Washington, D.C., available in 1977, are direct benchmarks.

BLS is exploring further expansion of the sample to get more frequent State data. Its goal is to produce monthly data, but it believes there are problems getting the funds.

The levels of accuracy presently possible in State and local sample estimates are not as high as in the national estimates because of the smaller sample sizes. An area is considered to have a large enough sample to be reasonably accurate and to be independently benchmarked if its unemployment rate has a relative error (standard error divided by sample estimate) of 10 percent or less at one standard error. This means there is a one in three chance that the sampling error is higher than 10 percent. It means, for example, that there is a one in three chance that an estimate falling exactly at the eligibility level of 6.5 percent is actually somewhere outside an interval between 5.9 and 7.1 percent. If the true rate is above 6.5 percent, no misallocation of resources under the funding programs has occurred. If the true rate is below 6.5 percent, a "wrong" allocation has been made.

Only a few of the area estimates fall in the ranges below the point of eligibility which indicate this possible error, and in many cases the ranges are smaller because of smaller sampling errors. Most area estimates are not the result of sampling, but rather are the result of the synthetic procedures of the modified handbook methodology. Consequently, BLS cannot determine the accuracy of these estimates.

Accuracy for local unemployment statistics matters in other parts of the formulas as well. In some parts, funds are distributed according to the share of total unemployment located in an area. Errors in estimates of numbers are likely to occur and to lead to mistakes in allocation shares as well as determination of eligibility.

The demands for timely and accurate State and local unemployment rates have accelerated as the programs using them have grown in number and funding. The changing and developing procedures for providing this data have unfortunately produced winners and losers in the division of funds each year. The change from reliance on the 70-step method alone to using the benchmarks provided important changes. The estimation of employment changed from a "jobs by place of work" basis to a "persons by place of residence" basis. This affects the counts in places with substantial multiple job holding and substantial commuting to work. The estimation

of unemployment changed because of adjustments for State-to-State differences in eligibility for unemployment compensation. These methodological revisions, which are questioned by some localities, when combined with the relatively high levels of acceptable statistical error, combine to create many controversies. State and local unemployment rate determination will be a significant part of the work of the National Commission on Employment and Unemployment Statistics.

The visibility of the unemployment rate, especially in times of high unemployment, means that there is great interest in even the smallest changes of the rate. While the actual numbers of employed and unemployed persons found in CPS and the resulting unemployment rate are reported, the quoted and analyzed number is a "seasonally adjusted" number. The seasonal adjustment process tries to factor out or put into perspective the variations in labor force participation and work which occur over the year from school calendars, holidays, crop cycles, model changes, and bad weather. On the basis of past experience, estimates are made of regular seasonal patterns.

Errors possible in the seasonal adjustments, however, could affect the timing of small changes in the reported rates. The X-11 seasonal adjustment methods used since 1973 are an adaptation of the ratio-to-moving average method. Each year, factors for each month of the upcoming year are calculated based on the labor force data for the most recent 9-year period. Allowance is made in the methodology for changing seasonal patterns, such as the movements of Easter or when school years are lengthened or changed. Factors are actually calculated for 12 labor force groups--males and females, 16 to 19 and 20 years and older, in unemployment, agricultural employment, and nonagricultural employment. The factors are calculated and announced in January for the upcoming year to assure that everyone will know what to expect. (They are published in the February issues of Employment and Earnings.) No changes in the factors or methodology are made in midyear because of the possible political overtones.

In 1975, however, when the seasonally adjusted rate for June fell to 8.6 from 9.2 in May (before revision), the seasonal methodology received an unusual amount of attention. The revisions of 1975 data and the factors being used for 1976 incorporate an adjustment in the methodology. The earlier methodology, called multiplicative, assumed that the seasonal changes in all 12 of the data series moved as a proportion of the levels of the series. An alternative methodology, the additive methodology, assumes that the magnitude of the seasonal increase or decrease is essentially constant

without regard to the level of the series. Earlier studies about the appropriate methodology for each group had indicated that the multiplicative methodology was preferable for all. New studies, however, indicated that teenage unemployment had behaved primarily in an additive pattern since 1967, and the methodology was changed for these 2 of the 12 groups. The revised 1975 monthly rates are altered by this methodology so that the June 1975 rate fell only 0.2 of a percentage point, from 8.9 percent in May to 8.7 percent in June. Under both methodologies, the annual rate is 8.5 percent for 1975 but the pattern of movements over the year is changed.

While the May to June 1975 changes are more dramatic than most, they illustrate the importance of seasonal adjustment factors in the search for information about movements in the economy.

One possible source of error in calculating the unemployment rate is the independent estimates of population totals and population subgroups used to weight the survey population to make it representative of the Nation. These estimates, provided by the decennial censuses, are used to calculate ratio estimators to apply to the survey numbers before expanding them to a national scale.

Differences in basic characteristics, such as age, race, sex, and residence, are related to labor force categories. The Bureau of the Census believes that the 1960 and 1970 censuses missed about 5 million people each. While more whites than blacks were missed, the proportion of blacks missed was higher. The error rate was also higher for men than for women.

The weighting and expansion of the CPS sample is performed in two stages. In the first stage, the sample, which is divided into four regions, is expanded by ratio estimators which reflect that region's measured population totals in the 1970 census. In the second stage, adjustments are made for the changes in the population composition since 1970. (A partial acknowledgement of the undercount has been made in the methodology of the second stage since 1974.)

The national unemployment rate is probably unaffected by the undercount. It would take a very high undercount rate, combined with an even higher unemployment rate among the uncounted persons, to make a significant difference in the national rate. The numbers of persons employed, unemployed, and not in the labor force could be in error as a result of being expanded by too small a factor, but may not necessarily be out of proportion.

In smaller local areas, however, the undercount may be more of a problem. It has been suggested that the undercount is higher in crowded urban poverty areas and sparsely populated rural areas. If this is true, the ratio estimators used in producing local unemployment rates and counts for these areas may be more in error than the national ratio estimators. Special efforts are planned for the 1980 census to reduce the undercount errors.

A quality control program designed to monitor the performance of the CPS interviewers conducts reinterviews with a fraction of the CPS respondents each month. The findings are not incorporated in the published data (because of time limitations) but do provide a superior data source in which response bias, a particular form of measurement error, is revealed.

The reinterview data source is probably superior for two reasons: (1) the use of more experienced interviewers to do the checking and (2) the greater number of self-respondents. Original interviewers are instructed to interview only a knowledgeable member of the household (usually a housewife), but reinterviewers are specifically instructed to reach the person about whom the questions were asked. This process reveals the response bias.

Response biases occur in complete household censuses as well as samples. They are persistent biases which result from the interview and enumeration process itself. They are based on lack of information or misunderstandings on the part of the respondents about the questions or in enumerator error in reporting the responses. The Bureau of the Census is continually working on this problem, as in the quality control program itself, but the program does reveal that accepting a proxy respondent produces an understatement of both employment and unemployment. The proxy may easily be uninformed of the job-seeking or occasional work activities of others in the household, and the result is a misclassification of persons as not in the labor force. (It also may reflect difficulty with the definition of looking for work.)

Alfred Tella's recent research on cyclical behavior of this problem suggests that the misclassification results in an understatement of unemployment, which increases during periods of high joblessness. 1/ While it is hoped that

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1/Alfred Tella, Methods for Manpower Analysis, No. 11, The W. E. Upjohn Institute, April 1976, pp. 1-22.

response bias as a percentage of the rate will decline through methodological improvements, information about its approximate size at any time should be known in designing any programs meant to be all encompassing.

SUMMARY

For the unemployment rate alone to be the employment social indicator, its definitions of employment and unemployment should capture all changes in labor force utilization, economic hardship, and social stress. It should answer completely all questions about employment opportunities and employment experiences. It would be simplifying if, in turn, all rate changes meant changes in an identifiable dimension of employment or unemployment. As unemployment is defined now, changes can occur in utilization, economic hardship, and social stress which are not captured in the indicator and the indicator can fluctuate for reasons which have little direct relationship to the underlying social well-being. Moreover, the unemployment rate has nothing to say about the quality of a job.

The employment and unemployment statistics program has several strengths, and its products meet many criteria of good social indicators. The products are derived from national surveys having extensive and representative coverage of the population. The definitions and methodology are uniformly applied and have been worked out through debate, examination, and scientific and statistical testing. To achieve this uniform application, objective criteria are used for classifying persons as employed, unemployed, or not in the labor force.

The data are collected in an established, frequent, and speedily processed survey. While the most visible product is the unemployment rate, that number is obtained within a multiquestion framework which produced other monthly numbers and additional quarterly and annual numbers. As a package, these numbers answer many questions about the employment and unemployment experiences. They describe who is employed and unemployed and where (geographically, industrially, and occupationally) they are employed or unemployed. They say something about labor market demand and supply. They say somewhat less about why people are unemployed and what that unemployment means in terms of income hardship and social stress. They report wage and earnings data but they provide very limited information about the jobs people hold or what people do during unemployment.

Additional information and improved information is becoming available. An expansion of the survey to increase the number of States whose employment rates meet acceptable statistical criteria has occurred, and others are proposed. Additional information about the income of employed and unemployed persons will be available as a byproduct of the 1976 Survey of Income and Education. This survey asked extensive questions about different income sources for families and individuals.

Longitudinal studies which report changes in individual labor market and income statuses over time will provide better information and perspective about the frequency and longrun effects of work and income changes. Data for this type of study is becoming available from the National Longitudinal Surveys collected jointly by Herbert Parnes at Ohio State University, the Department of Labor, and the Bureau of the Census and from the Panel Study of Income Dynamics collected at the Survey Research Center of the University of Michigan.

Other survey programs with different survey designs, however, provide data about working conditions. The amount of data available from CPS, the establishment survey, Government program reports, and other surveys is vast, but there are still several problems in representing employment concerns. Some of these arise in the different opinions about definitions, some arise in the technical complexities of surveying and reporting, and some arise in insufficient data. The National Commission on Employment and Unemployment Statistics has been established to examine many of these problems.

CHAPTER 4

TOWARD A SYSTEM OF EMPLOYMENT INDICATORS

This chapter reviews existing employment indicator reports, discusses issues in designing a report, and proposes employment statistics for a report. Employment data series, while not meeting all conceptual and technical demands, are better developed and better accepted than many social statistics series. In 1946 the Employment Act (Public Law 79-304) stated that maximum employment was a public goal for which the Federal Government had a responsibility. The act established the Joint Economic Committee and the Council of Economic Advisors to monitor economic activity and propose actions. In analyzing economic activity, the unemployment rate became an important and highly visible data series. It has satisfied many definitions of a social indicator.

Nonetheless, many concepts needed to make decisions about obtaining fuller employment or better employment remain unclear, and further research is necessary. While the debates and studies continue, existing data can be used to evaluate the developing models and theories and to understand events. CPS and the establishment payroll survey, among others, produce several hundred thousand data series for the Nation monthly, quarterly, and annually. Assessment and organization of the available data from the perspective of measuring social well-being can contribute to that research and thinking.

The Senate Committee on Human Resources has legislative jurisdiction over several budget functions directed at employment or affected by employment levels. Table 4 lists some of the Committee's employment budget functions and programs. As discussed earlier, employment and unemployment can also be shown to be correlated with many health and social stress problems not included in the table.

EXAMINING OTHER SYSTEMS

Many data series qualify as social indicators. Concentrating on a few of the millions of data series is necessary to make the data understandable. It is useful to examine other social indicator studies and data banks before making specific recommendations.

Table 4

Selected Committee on Human Resources
Budget Functions Having Employment Goals
or Affected by Employment Levels 1/

Budget function	Program
451	Community development:
	Community Services Program
502	Higher education:
	Student Loan Insurance Fund
504	Employment and training:
	Program administration, employment, and training programs
	Temporary employment assistance
	Employment and training assistance
	Community Service Employment for Older Americans
	Grants to States for unemployment insurance and employment services
505	Other employment and training services
603	Unemployment insurance:
	Railroad unemployment benefits
	Federal unemployment benefits and allowances

In one study underway, the Organization for Economic Cooperation and Development (OECD) is working on a Social Indicator Development Program. Specifically, OECD has been working since mid-1976 to develop a survey which measures levels and distribution of well-being. Before designing the survey, OECD attempted to compose a list of social concerns common to most member countries. One of the identified goal areas was employment and quality of working life. In that goal area, the concerns and indicators listed in table 5 were identified. Some of the concerns are not matched by indicators because of difficulty in finding or agreeing upon representative series. Several OECD members, the United Kingdom, France, West Germany, and Japan, have been publishing or working on national social reports which have had employment and work life concerns.

1/Report of the Senate Committee on Labor and Public Welfare, Presenting its Views and Estimates Pursuant to the Congressional Budget Act, Public Law 93-344, 94th Congress, 2nd Session, March 1976.

Table 5

Provisional Working List of Goal Area "C": Employment and Quality of Working Life of OECD's Social Indicator Development Program 1/

Concerns and Subconcerns		Indicators
C-1	The availability of gainful employment for those who desire it	(1) Average number employed ÷ by (average number employed + average number unemployed)
		(2) Average number seeking employment other than full-time ÷ by (average number employed other than full time + average number seeking employment other than full time)
C-2	The quality of working life	
	C-2-a Working conditions	(3a) Industrial fatal accident rate
		(3b) Industrial permanent impairment rate
		(3c) Industrial short-term disabilities rate
	C-2-b Earnings and fringe benefits	(4a) Dispersion of weekly earnings of employees
		(4b) Average weekly earnings of employee in industry "X" or occupation "X" ÷ by average weekly earnings of all employees
	C-2-c Employment time, employment-related time, and paid holidays	(5) Average number of hours worked per week per paid employee
		(6) Average total time per day of travel to and from work per employee
		(7) Average number of paid holidays and vacation days per year per employee
C-3	Individual satisfaction with the experience of working life	
	C-3-a Working conditions	
	C-3-b Earnings and fringe benefits	
	C-3-c Employment time, employment-related time, paid holidays	
	C-3-d Relations among and participation by employees	
	C-3-e Supervision, autonomy, and job challenge	

1/Organization for economic Cooperation and Development, Social Indicator Development Programme, 2nd Meeting Common Development Effort No. 13a, working document "Comprehensive Survey," pg. 90.

In the United States, the Statistical Policy Division, Office of Management and Budget, wrote and compiled "Social Indicators 1973," which describes itself as a book of statistics "* * * selected and organized to describe social conditions and trends in the United States." Employment was one of the eight major social areas examined. Within "Employment," broad areas of social interest were identified.

1. Employment opportunities.

2. Quality of employment life.

--Job satisfaction.

--Working conditions.

The specific data series included in "Employment" are listed in table 6. The data were presented in charts and graphs as well as tables.

A second and revised edition of "Social Indicators", issued in December 1977, contains a chapter entitled "Work" which has expanded its contents and changed the subcategories. This chapter is divided into five parts:

Table 6

Social Indicators in the "Employment" Chapter of "Social Indicators 1973"

Employment opportunities:

- 4.1 Unemployment rates, 1947-72, by duration
- 4.2 Unemployment rates, by race, 1948-72
- 4.3 Unemployment rates, by age, sex, and race, 1954-72
- 4.4 Unemployment rates, by educational attainment, 1964-72, by age and race
- 4.5 Unemployment rates, by occupation, 1972
- 4.6 Persons with unemployment, by number of spells of unemployment, 1971
- 4.7 Composition of the unemployed, 1940-70, by age and sex
- 4.8 Composition of the unemployed, by occupation, 1972
- 4.9 Unemployed persons, by reason for unemployment, 1972
- 4.10 Hidden unemployment, by reason and by sex, 1972
- 4.11 Labor force participation rates, 1948-72, by sex
- 4.12 Labor force participation rates, by age, race, and sex, 1954-72
- 4.13 Labor force participation rates of women, 1950-72, by presence and age of children
- 4.14 Occupation of employed persons, 1950 and 1970, by sex and race
- 4.15 Persons working part time, 1957-72, by reason
- 4.16 Composition of the part-time labor force, by sex and age, 1972

Quality of employment life

Job satisfaction:

- 4.17 Job satisfaction, by major aspects of the job, 1969 and 1973
- 4.18 Job satisfaction, by selected demographic characteristics, 1973

Working conditions:

- 4.19 Median earnings, 1956-71, by race and sex
- 4.20 Median earnings, by major occupation group, 1963-71
- 4.21 Median earnings, by occupation, sex, and race, 1971
- 4.22 Workers covered by employee benefit plans, 1950-70
- 4.23 Average weekly hours worked, 1943-72
- 4.24 Time, distance, and mode of transportation to work, 1963 and 1970
- 4.25 Persons receiving paid vacations, 1966 and 1970, by length of vacation
- 4.26 Persons receiving 2 or more weeks of vacation, 2-year averages, 1959-60 to 1969-70, by years of service
- 4.27 Average number of paid holidays, 2-year averages, 1959-60 to 1969-70
- 4.28 Work injuries, 1950-70, by industry

1. "Economic Activity and Employment."

2. "Unemployment."

3. "The Conditions and Quality of Work."

4. "Public Perceptions."

5. "International Comparisons."

The contents are listed in table 7. Most of the data series are taken from publications of the Department of Labor or the Bureau of the Census. A small number are from nongovernment or international sources.

Several concepts appear identically in the three lists, and others are variations of basically the same concepts. All three lists have data series which reveal labor force status. All three distinguish between full- and part-time employment and include some accident and injury data, earnings data, hours worked data, and holiday and vacation data. In the compilations for the United States, detail is provided about age, race, sex, and occupational differences. Some data categories in the "Employment" chapter of the OECD publication are in other sections of "Social Indicators"--for example, travel time to work or benefits coverage. The differences in contents and groupings often reflect national differences, such as demographic homogeneity and different social services systems.

SELECTING EMPLOYMENT INDICATORS

This section discusses the problems of designing a report or a reporting system. The intent is to select data series which illuminate public concerns about employment and working conditions. Since these concerns may differ for different people and groups in society, a large data system will result unless decisions are made about the most important concerns. The large data system can be difficult to use and expensive. Complete agreement upon the contents of a limited list is probably impossible, but congruence and consensus are desirable if the system is to be accepted and used. The likelihood of acceptance is increased if the information included is chiefly descriptive--"what is," rather than normative--"what ought to be." If potential users disagreed with a specific standard for "what ought to be" and the system contained primarily that type of data, the system would not be useful to them. People with both higher and lower goals would not be helped. On the other hand, large systems might include normative series with other data series as a convenience.

Table 7

Social Indicators in the "Work" Chapter
of OMB's "Social Indicators 1976"

Economic activity and employment:

8.1 Total labor force, by sex, and persons not in the labor force, by age, 1950-90
8.2 Total labor force 16 and over by age and sex, selected years, 1955-90
8.3 Rates of economic activity for selected cohort groups, by sex, 1950-90
8.4 Civilian labor force and employment status of civilian noninstitutional population, by age, sex, and race, selected years, 1954-74
8.5 Rates of economic activity for persons 16 years and over, by color, sex, and age, annual averages, 1948-74
8.6 Women with work experience and with year-round full-time work experience as a percent of all workers and female population, 1950-74
8.7 Labor force status and economic activity rates of ever-married women, by presence and age of children, 1948-75
8.8 Median years of school completed by the employed civilian labor force, by sex, occupation group, and race, selected years, 1959-75
8.9 Occupation of employed persons, by sex and race, 1960 and 1975
8.10 Persons working part time, by reason, 1957-74
8.11 Multiple job-holding rates of all employed persons and main reason for working at more than one job, by sex, May 1969 and 1974

Unemployment:

8.12 Unemployed persons 16 years and over and unemployment rates by sex and color, and implicit price deflator, 1947-75
8.13 Unemployment rates by duration, 1947-75
8.14 Unemployment levels and rates for family heads, by sex, April 1955 and March 1958 to 1975
8.15 Unemployment rates by major occupation groups, sex, and race, 1966, 1969, and 1974
8.16 Percent distribution of unemployed persons 16 and over and unemployment rates, by reason for unemployment, 1967-75
8.17 Discouraged workers, by reason, sex, and race, 1967-74

The conditions and quality of work:

8.18 Average expected years of life and of working life, by sex, 1940-70
8.19 Median usual weekly earnings of wage and salary workers, by selected characteristics, in constant (1967) dollars, May 1967 to May 1974
8.20 Average weekly hours of work, 1963-74
8.21 Constraints on work hours, 1968-75, and percent of workers who report existence of unpleasant physical conditions at work, 1969 and 1973
8.22 Work stoppages resulting from labor-management disputes involving six or more workers for at least 1 full day or shift, 1947-75
8.23 Frequency and result of job changes, 1969-74
8.24 Recordable occupational injury and illness incidence rates, by industry, 1972 and 1973
8.25 Union membership as a proportion of the labor force, 1948-72
8.26 Persons receiving paid vacations: 1966 and 1972, by length of vacation (for private employees)
8.27 Persons receiving 2 or more weeks of vacation: 2-year averages, 1959-60 to 1972-74, by years of service

Public perceptions:

8.28 Overall satisfaction with job, 1972-75
8.29 Relative importance of five selected job characteristics, 1973 and 1974 averages
8.30 Mean scores in evaluations of selected job characteristics by selected occupation groups, 1973

International comparison:

8.31 Rates of economic activity adjusted to U.S. concepts, nine countries, 1960-75
8.32 Population and labor force, selected countries and years, 1950-74
8.33 Average weekly hours in manufacturing, nine countries, 1950-74
8.34 Labor force and unemployment rates in selected industrial countries, 1959-75
8.35 Unemployment insurance coverage and benefits as a percent of average earnings, selected countries, mid-1975
8.36 Nonworker-worker ratios, selected countries, 1965, 1975, and 1985

The identification of a few data series as representative and useful for understanding social conditions and social change is an application of judgment combined with knowledge. For example, it requires judgment and knowledge to select data series which are measuring social change; to disaggregate employment status by race, age, sex, etc.; or to select time series of different frequencies.

Knowledge about social conditions is employed to make judgments about the important social conditions which should be included. Knowledge about the available data is also used to develop a data system. Incorporating an individual data series in a computerized indicator data bank requires that certain decisions be made and certain steps be taken (even before the methods of input, storage, and output are established). The desired data series must be exactly specified. The sources of the data must be identified. There must be a reasonable expectation that the data will be comparably produced in the future at useful frequencies. More specifically, each data series must be associated with its data collection source, a frequency of collection, the historical length of the record, and the exact population represented.

For example, unemployment rates are available for many population groups. The national total rate is only one of these rates. Moreover, the national value is specific to a point in time. The national unemployment rate record from 1948 to the present contains about 500 elements which are monthly, quarterly, and annual rates. The computer must be able to identify each in order to produce the one which is wanted in any application--November 1976; fourth quarter 1976; or annual average, 1976.

Many series represent smaller, more specifically defined population groups. For example, the unemployment rate of white males, 20 to 64 years of age, married with spouses present, is available from CPS, but it has not been available as long as the rate for the more general groups. Race data did not become available until late 1953, and the marital status data was not available until 1955. (Household relationships were not reported until 1963.)

Documentation for any specific series would resemble the example below.

Series	National unemployment rate
Source	CPS; Bureau of Labor Statistics' "Employment and Earnings"
Frequency	Monthly, quarterly, or annually
Length of record	1948 to the present for all three

The methods of entry, storage, and output must be established. The system designers and users must know how the data series of the system will be collected from the providing agencies and processed for storage. Some data series are available only in print and will have to be entered from a keyboard; others are available in machine readable media. The latter must be accompanied by software which translates the data series to the system's storage mode and into files from which it can be retrieved. To decide how to store the data, the system designer will have to know the expected size of the system, the need for frequent access, and the cost limitations. Output plans will try to produce useful, clear displays of the data.

SUGGESTED DATA SERIES

Examination of available employment data and other employment indicator reports suggests that an employment indicator system for congressional use include:

1. Data series measuring employment status and labor force utilization.

2. Data series describing the distribution of employment and unemployment across regions, people, occupations, and industries.

3. Data series illustrating the economic and social impact of employment and unemployment.

4. Data series measuring working conditions and job satisfaction.

The data series for the explanatory variables of large-scale macroeconomic models and microeconomic human capital, discrimination, and labor market operation models are not included. There are different theories about the structure of these models. Some of the data series are the same as that above, but the models also include other variables from the theories of demand and supply of labor. A panel of experts on these models might recommend employment data series specifically appropriate to the models. Many of the variables from these models are not direct measures of well-being, although they affect it.

Data series on working conditions and job satisfaction (category 4) are difficult to interpret. Many are new. They are frequently taken from nonreplicated surveys of the population which are not comparable to each other. However, a

few quality of employment and job satisfaction surveys which have been or are being repeated should be more useful. The data series on worker perceptions and satisfaction are subjective measures which can be ambiguous. Interpreting combined data on physical and subjective aspects of work is another challenge.

The following data series are suggested as initial elements in a social indicator system for employment concerns. The data are primarily from CPS and the BLS establishment survey.

1. Numbers of persons in the civilian labor force; not in the labor force; employed; and unemployed and unemployment rates by age, sex, race, household and family role, and ethnic origin (Spanish origin).

2. Numbers of employed persons by industry and occupation, numbers of unemployed persons by industry and occupation of last job, and unemployment rates by industry and occupation.

3. Numbers and percentage distributions of persons unemployed by reason for unemployment--job loser, job leaver, entrant, or reentrant.

4. Average duration of unemployment in weeks and a distribution of unemployment lengths for all workers and youth ages 16 to 19.

5. State and local counts of the labor force and unemployed persons and the area unemployment rates.

6. Percent of the unemployed seeking full-time and part-time work and percent of the employed working full time.

7. Labor force time lost measure.

8. Numbers of multiple-worker households and numbers of the unemployed in multiple-worker households.

9. Numbers and duration of unemployment spells in annual work experience of different groups.

10. Population shares of different demographic groups and their labor force participation rates.

11. Average weekly earnings of production or nonsupervisory workers on private payrolls.

12. Average hourly earnings of production or nonsupervisory workers on private payrolls.

13. Average weekly hours of production or nonsupervisory workers on private payrolls.

14. Percent of workers receiving seven or more paid holidays.

15. Percent of workers receiving 2 or more weeks of paid vacation.

16. Percent of people in different demographic groups with work experience in the year.

17. Percent of workers reporting different degrees of overall satisfaction with the job.

18. Rates of incidence of occupational injuries and illnesses.

These data series do not describe public or private programs concerned with employment objectives as program oversight data, more specifically program administration data and program evaluation data, do. Program data are also essential to decisionmaking, but they are not included in a general social indicator system.

Appendix I documents the data series recommended. Other frequencies than the ones specified for the system are often available. Frequencies were selected which were intended to capture significant changes but not overburden the user. As specified, the system would take in about 120 data values each month, 5 additional values each quarter, and 2,500 annually.

The 700,000 data series produced monthly from CPS are identifiable in the CPS Tabulation Outlines. This is a list of the tables produced by the Census Bureau for BLS with descriptions of the detailed table formats. Each month, the results of CPS are sent to BLS in computer printouts, organized according to the table formats in the Tabulation Outlines. The massive computer printouts for recent months are kept in the Office of Current Employment Analysis of BLS. The older printouts are transferred to microfiche and stored. Copies of microfiche tables are available at cost upon request, although with caveats about appropriate usage. Many of the data series represent very small population bases for which the chance of error is high. Others have unexplained fluctuations which make their significance questionable.

Only a portion of the tables and data series are ever published. The volume of all these tables is so great that few would use them regularly enough to justify the expense of publication. About 5,000 of the 700,000 data series are published monthly in "Employment and Earnings." About 1,800 data series are recorded from 1948 (or other beginning dates) on a machine readable file tape which can be purchased from BLS. A new reel is available each year--data through 1976 is available in 1977. There are no monthly updates, although BLS is developing a system for this.

BLS also collects and analyzes hours and earnings data from the industry employment statistics program through a monthly mail survey. Some of the aggregated series are included in the monthly employment situation press release. More of the publishable data is presented monthly in Employment and Earnings. The historical data, which begin at different points and are current through mid-1975, are available in printed or computer tape formats from the Office of Employment Structure and Trends of BLS.

The holiday and paid vacation data are collected in BLS compensation studies. The sources of data are a sample of private nonfarm establishments contacted by mail and personal interview in even-numbered years. The data are made available in press releases, bulletins, and reports.

The job satisfaction data are derived from the 1969-70 Survey of Working Conditions and the 1972-73 Quality of Employment Survey performed by the University of Michigan's Institute for Social Research. The surveys were supported principally by the Employment Standards Administration of the Department of Labor. The raw data of the entire survey are on computer tape, and appropriate documentation is available. However, the series recommended are available in the publications, "The 1969-70 Survey of Working Conditions" and "The 1972-73 Quality of Employment Survey."

Employers' records on occupational injury and illness, required under the Occupational Safety and Health Act of 1970, are the basis of the data collected on this subject. The national data is collected in a Federal-State program which samples around 220,000 private employers. Self-employed individuals and Federal, State, and local government employees are omitted from the survey. The incidence rate represents the number of injuries and illnesses per 100 full-time workers and is calculated as (N/EH) x 200,000 where

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

Some of the suggested data series are in the data banks of the large-scale econometric models. However, the purpose of these models is to forecast gross levels of economic activity. Consequently, the contents in the data banks are not focused on human welfare and many social series are not included. The data banks are available to purchasers of the private model's services. Appendix I matches the suggested indicators with the data series available in model data banks.

Timely updating of a data bank could be done in two ways--entering numbers manually or transferring the numbers, where possible, from computer accessible storage, such as tapes or online data banks. All the data series which are exactly contained in the commercial data banks could be transferred to a committee data system. Some historical data could be transferred from data tapes. Other data series could be entered at the keyboard from press releases and publications, which is how the commercial data banks are updated.

SUMMARY

These suggestions include the measures of employment and unemployment which are most prominent. However, given the objectives of social indicators and the consequent criticism of some of the employment statistics, several other series about working are included. The list can become an operational system now because all the statistics-indicators are defined and regular data collection occurs. Suggestions for the contents were made after consideration of related reports.

A social indicator is developed in a process of perceiving a problem, defining the measures of the problem, designing procedures for collecting numbers, and then modifying the definition and procedure as a result of experience. Similarly, this system should be modified to fit the perceptions of the Committee. The Committee may wish to obtain the advice and recommendations of experts on employment statistics and social indicators before the system is established. The experts may recommend other or additional statistics as indicators and different frequencies and demographic disaggregations.

These statistics can assist decisionmakers by highlighting social dimensions of employment, including, but not limited to, economic dimensions. They can highlight change or lack of change in these dimensions. They cannot replace analysis but can call attention to subjects which merit analysis. The system can direct attention to gaps in what is measured in spite of almost overwhelming statistical detail. The system can also encourage debates about the operational definitions of present measurements. The specifications of operational definitions for measurement can be helpful for specifications of goals for programs.

DOCUMENTATION OF EMPLOYMENT SOCIAL INDICATORS

Data series	Frequency (note e)	Length of record	Source	Publication	Data base indices	Other
Civilian labor force number (note c) Number of employed persons (note c) Number of unemployed persons (note c) Unemployment rates (note d)						
Total numbers	M,Q	1948, 1948 since 1957	CPS	Employment and Earnings, press releases	DRI, Wharton, Chase, NBER for some	CPS macro data tapes
By sex, male, female	M,Q	1948, 1948	CPS	Employment and Earnings, press releases	DRI, NBER, Wharton, Chase for some	CPS macro data tapes
By race, white, black, other races	M,Q	1954, 1954	CPS	Employment and Earnings, press releases	DRI, NBER, Wharton for some series	CPS macro data tapes
By age, 16-19, 20 and over	M,Q	1948, 1948	CPS	Employment and Earnings, press releases	DRI for some	CPS macro data tapes
By sex, race	M,Q	1954, 1954	CPS	Employment and Earnings, press releases	DRI for some	CPS macro data tapes
By race, age	M,Q	1954, 1954	CPS	Employment and Earnings, press releases	DRI for some	CPS macro data tapes
By race, age, sex	M,Q	1954, 1954	CPS	Employment and Earnings, press releases	DRI for some	CPS macro data tapes
By ethnic origin (Spanish)	Q	1974	CPS	Employment and Earnings, press releases		CPS macro data tapes
By ethnic origin, age, sex	Q	1974	CPS	Employment and Earnings, press releases		CPS macro data tapes
Number of persons in the civilian labor force Number of persons not in the civilian labor force Number of employed persons Number of unemployed persons Unemployment rates						
Total for all	A	1948	CPS	Employment and Earnings, "Handbook of Labor Statistics"	DRI, NBER, Wharton, Chase for some (not in the labor force is sometimes included)	CPS macro data tapes
By sex, male, female	A	1948	CPS	Employment and Earnings, "Handbook of Labor Statistics"	DRI, NBER, Wharton, for some	CPS macro data tapes
By race, ethnic origin: White Black, other Black Spanish origin	A	1954 1954 1966 1969	CPS	Employment and Earnings, "Handbook of Labor Statistics"	DRI, Wharton, NBER for some	CPS macro data tapes

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Data series	Frequency (note a)	Length of record	Source	Publication	Data bank (note b)	Other
By age: 16-17 18-19 16-19 20-24 25-34 35-44 45-54 55-64 65+	A	1948	CPS	Employment and Earnings, "Handbook of Labor Statistics"	CBI, BLMR, Wharton for some	CPS macro data tapes
By household status: Household head, total Household head with relative Household head, no relative Relative of head Nonrelative of head	A	1963	CPS	Press releases, Special Labor Force Reports, microfiche of CPS printouts	CPS data tapes for part	
By marital status: Married, spouse present Never married Widowed, divorced, separated	A	1955	CPS	Employment and Earnings, Special Labor Force Reports, CPS printouts	CPS data tapes for part	
By age, race, sex	A	1948, 1954, 1969	CPS	Employment and Earnings, Special Labor Force Reports, CPS printouts	CPS data tapes for part	
By household status, race, sex, age: [four age groups: 16-19 20-24 25-64 65 plus	A	1961, 1969	CPS	CPS printouts, Special Labor Force Reports		
By marital status, race, sex, age: [four age groups: 16-19 20-24 25-64 65 plus	A	1955, 1969	CPS	CPS printouts, Special Labor Force Reports		

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Data series	Frequency (note a)	Earliest record	Source	Publication	Data tapes (note b)	Other
Number employed by industry of employment:	A	1948	CPS	Employment and Earnings, "Handbook of Labor Statistics"	DAI for some	BLS data tapes for most
Agriculture						
Mining						
Construction						
Manufacturing:						
Durable goods						
Nondurable goods						
Transportation and public utilities						
Wholesale and retail trade:						
Wholesale trade						
Retail trade						
Finance, insurance, real estate						
Services:						
Private households						
Other service industries						
Public administration						
Number of unemployed persons by industry of last job:	A	1948	CPS	Employment and Earnings, "Handbook of Labor Statistics"		BLS data tapes for most
Unemployment (rate) by industry of last job:						
Agricultural wage and salary workers						
Nonagricultural wage and salary workers						
Mining						
Construction						
Manufacturing:						
Durable goods						
Nondurable goods						
Transportation and public utilities						
Wholesale and retail trade						
Finance, insurance, real estate						
Service industries						
All other classes of workers						
No previous work experience						

Data series	Frequency (note a)	Length of record	Source	Publication	Data bank (note b)	Other
Number employed by occupation:	A	1958	CPS	Employment and Earnings		CPS data tapes for part
White collar workers:						
Professional, technical						
Managers and administrators, except farm						
Sales workers						
Clerical workers						
Blue collar workers:						
Craft and kindred						
Operatives, except transport						
Transport equipment operatives						
Nonfarm laborers						
Service workers:						
Private household workers						
Service workers, except private household						
Farm workers:						
Farmers, farm managers						
Farm laborers, supervisors						
Number of unemployed persons by occupation of last job	A	1958	CPS	Employment and Earnings		CPS data tape for part
Unemployment rates of unemployed persons by occupation of last job	A	1958	CPS	Employment and Earnings		CPS data tape for part
White collar workers:						
Professional, technical						
Managers, administrators, except farm						
Sales workers						
Clerical workers						
Blue collar workers:						
Craft and kindred workers						
Operatives, except transport						
Transport equipment operatives						
Nonfarm laborers						
Service workers:						
Farm workers						
No previous work experience (no rate for this)						
Numbers of unemployed persons by reason for unemployment (SA)	M,A	1967	CPS	Employment and Earnings		CPS data tapes

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Data series	Frequency (note a)	Start of series	Source	Publication	Data bank (note b)	Other
Percent distribution of unemployed persons by reason for unemployment (SA) Job losers Job left Reentrant New entrant	W,A	[illegible]	[illegible]	Employment and Earnings		
Average duration of unemployment in weeks (SA). All ages 16+ Ages 16-19 (note c)	W,A	1948	CPS	Employment and Earnings	Wharton, [illegible] for part	CPS tapes for part
Distribution of total unemployed by duration (SA)	W,A	1948	CPS	Employment and Earnings	Wharton, [illegible] for part	CPS tapes for part
Distribution of unemployed youth 16-19, by duration. All durations Fewer than 5 weeks 5-14 weeks 15 weeks and over 15-26 weeks 27 weeks and over	W,A	1948	CPS	Employment and Earnings	Wharton, [illegible] for part	CPS tapes for part
Total unemployment rate by geographic area. 52 States	A	1976	CPS	"Geographic Profile of Employment and Unemployment," computer printouts		
SMSAs (26-35)	A	1978	CPS	"Geographic Profile," computer printouts	DRI in part	
Central cities (4-11) (note f)	A	1974	CPS	"Geographic Profile," computer printouts		
Percent of unemployed seeking full-time or part-time work (NSA)	W,A	1963	CPS	Employment and Earnings	Wharton, in part	CPS data tapes
Percent of employed nonagricultural workers with full-time jobs (SA)	W,A	1957	CPS	Employment and Earnings, [illegible]		CPS data tapes
Labor force time lost	W,A	1955, 1963	CPS	Employment and Earnings, "Monthly Labor Review"		CPS data tapes
Percent of families with more than one member in the labor force	A	1955	CPS	Special Labor Force Reports, microfiche		
Percent of the unemployed in families with an employed worker	A	[illegible]	CPS	Special Labor Force Reports, microfiche		
Number of people with one or more unemployment spells in year	A	[illegible]	CPS	Special Labor Force Reports, microfiche		

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Data series	Frequency (note a)	Length of period	Source	Publication	Data tape (note b)	Other
By race	A		CPS	"Current Population Report"	NBER in part, Chase in part, DRI in part	CPS data tapes in part
White		1968 (note c)				
Black		1968				
Other		1968				
By sex	A	1948	CPS	"Current Population Report"	NBER in part, Chase in part, DRI in part	CPS data tapes in part
Male						
Female						
By race, age, sex	A	[illegible]	CPS	"Current Population Report"	NBER in part, Chase in part, DRI in part	CPS data tapes in part
Average weekly earnings of production or nonsupervisory workers on private payrolls	A	1946	Establishment survey--BLS	Employment and Earnings, "Handbook of Labor Statistics"	NBER, DRI, Wharton	BLS establishment data tapes
Average weekly hours of production or nonsupervisory workers on private payrolls	A	1948	Establishment survey--BLS	Employment and Earnings, "Handbook of Labor Statistics"	NBER, DRI, Wharton	BLS establishment data tapes
Percent of workers receiving seven or more paid holidays:	S	1959	BLS employee compensation survey	"Employee Compensation in the Private Nonfarm Economy"		
All employees						
Office employees						
Nonoffice employees						
Percent of workers receiving 2 or more weeks of paid vacation:	S	1959	BLS employee compensation survey	"Employee Compensation in the Private Nonfarm Economy"		
All employees						
Office employees						
Nonoffice employees						

Data series	Frequency (note a)	Length of record	Source	Publication	Data bank (note b)	Other
Percent of population with work experience in past year:						
Total	A	1959	CPS	Special Labor Force Reports		
By sex, male, female						
By age,						
16-17						
18-19						
20-24						
25-34						
35-44						
45-54						
55-59						
60-64						
65-69						
70-plus						
By sex and age						
Percent reporting different degrees of overall satisfaction with the job:	Irregular	1969, 1973	Survey Research Center, University of Michigan	"The 1969 Survey of Working Conditions," "The 1972-73 Quality of Employment Survey"		
Very satisfied						
Somewhat Satisfied						
Not too satisfied						
Not at all satisfied						
Rates of incidence of occupational injuries and illnesses, private sector:	A	1972	BLS--Occupational Injuries and Illnesses Survey	Press releases		
Private sector						
Agriculture, forestry, fisheries						
Mining						
Contract construction						
Manufacturing						
Transportation public utilities						
Wholesale and retail trade						
Finance, insurance, real estate						
Services						

a Frequency. M--monthly, Q--quarterly, A--annual, B--biennial.

b Data banks of privately run econometric models, available to subscribers. The ones examined included Data Resources, Inc.--DRI, Cybernetics and Chase Econometric Associates--Chase, Rapidata and National Bureau of Economic Research--NBER, and Wharton Economic Forecasting Associates, Inc.--Wharton.

c Not seasonally adjusted series. Monthly and quarterly values of certain CPS series are adjusted for seasonal variation. This is an unadjusted series.

d Seasonally adjusted series. See note c.

e Seasonally adjusted monthly data on average duration [illegible]

f The District of Columbia is listed with the States [illegible] nearly [illegible] are available now.

g Data are available [illegible] 1968.

h Data on blacks and other [illegible] are available [illegible] there are enumerated separately only since 1972.

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