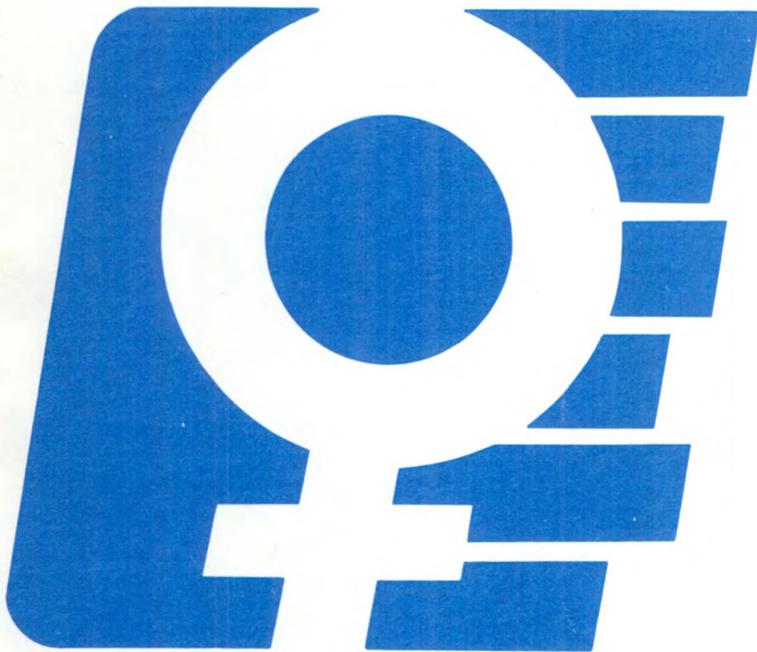


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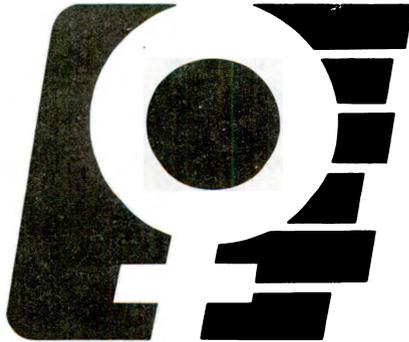
***Issues in Federal
Statistical Needs
Relating to Women***



*Research Papers Based
On the 1978 Conference
With Agency Responses*

*U.S. Department of Commerce
BUREAU OF THE CENSUS*

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***Issues in Federal
Statistical Needs
Relating to Women***

*Research Papers Based
On the 1978 Conference
With Agency Responses*

Barbara B. Reagan, Editor
Issued December 1979



U.S. Department of Commerce

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PREFACE

With the approach of the 1980 Census of Population and Housing, there have been increasing interest in and concern with the data needs relating to the status of women. It is imperative that reliable and pertinent information be available for making sound legislative decisions, for use in eliminating discrimination barriers, and for studying institutional changes. These data needs and concepts extend across all surveys and analyses done by agencies and organizations in both the public and private sectors.

It was felt appropriate in light of these objectives that the Bureau of the Census sponsor a conference on Issues in Federal Statistical Needs Relating to Women. The conference was held April 27-28, 1978, in Bethesda, Md. In addition to discussions of the papers presented, the conference permitted an exchange of ideas among those with extensive experience and interest in the field.

This volume contains the conference papers, revised to reflect the authors' responses to comments and discussion by participants of the conference. In addition, it contains responses from Federal statistical agencies to recommendations and issues raised at the conference. We are indebted to the authors and conference participants for the high quality of the conference and for the contribution they made to developing the data needs relating to the status of women.

The conference benefited from a Steering Committee composed of—

Barbara B. Reagan, Chair	Southern Methodist University
Elizabeth Abramowitz	The White House
Barbara A. Bailar	Bureau of the Census
Nancy Smith Barrett	Urban Institute
Francine D. Blau	University of Illinois
Ann D. Casey	Bureau of the Census
Marie D. Eldridge	National Center for Education Statistics
Joseph L. Gastwirth	George Washington University
Shirley Kallek	Bureau of the Census
Daniel B. Levine	Bureau of the Census
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Charlotte F. Muller	City University of New York
Janet L. Norwood	Bureau of Labor Statistics
Mollie Orshansky	Social Security Administration
Harriet B. Presser	University of Maryland
Carol Raykowski	National Association of Women Business Owners
Patricia Schroeder	U.S. House of Representatives
Eleanor C. Smeal	National Organization for Women
Phyllis A. Wallace	Massachusetts Institute of Technology

Particular thanks to **Barbara Reagan**, who provided the technical coordination and planning for the conference, and who was the technical editor for this volume. To all who participated in the conference and others who assisted in the project, the Bureau of the Census is extremely grateful.

Shirley Kallek
Associate Director for Economic Fields
Bureau of the Census

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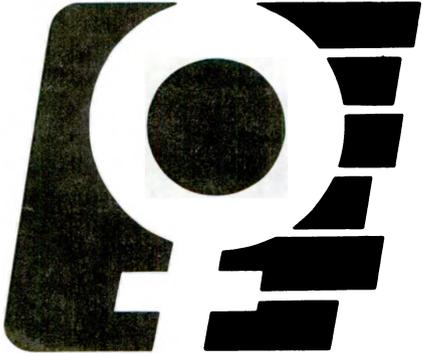
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I.
Introduction

CHANGING ROLES OF WOMEN AND STATISTICAL POLICY

Juanita M. Kreps
U.S. Department of Commerce

The theme for these remarks is change. This conference is about change—about the changing perception of women in society, about the need to find measures of the changing roles and economic status of women, about the changed role of the U.S. Department of Commerce (with regard to statistical policy), and about potential changes throughout the Federal Government in the wake of current events.

To introduce today's conference, there is, it seems to me, no better statement of purpose than the first paragraph of the conference paper prepared by Watts and Skidmore—and I would like to call your attention to that and quote the very first statement.

They say, "The statistical concepts used to describe our economy and society, and the methods used to collect data for their measurement, were designed when the world was assumed, by and large, to be made up of households with a particular family composition—a working husband (the breadwinner), plus a nonworking wife and two children, all dependent upon his earnings for their economic support. The membership of these families was considered fixed—the parental couple for the duration of their adult lives and the children until they, in turn, grew up and established their own similarly constituted families."

Then, this statement from the authors, which I would like to underscore, "Whether or not U.S. society ever really fit that description, clearly it does so no longer. Many of our statistical series, therefore, are data shoehorned into what has become an ill-fitting and constraining framework."

Or, one could take Nancy Barrett's same point in which she says, "Household surveys based on the assumption that the typical family consists of breadwinner husband, nonworking wife, and children are hopelessly out of touch with today's arrangements. Less than 16 percent of all families fit this stereotype. Over half the wives in husband-wife families are in the labor force, and over one-third of all families are headed by single adults."

So it goes. As an economist with a special interest through the years in labor markets, I have often seen the need for better statistics on the economic status of women, and, along with my graduate students, I have complained bitterly to all who would listen for better statistical information and for a more accurate interpretation of the data available. Particularly, I have in mind the consistent tendency to understate the labor force activity of women.

It has been heartening to learn, since coming to Washington, D.C., that my colleagues are at least as eager to obtain more detail and more objectively presented statistics in this area, and it will be a great satisfaction to me, as Secretary of Commerce, if I can help to fill the statistical voids and correct

the nomenclatural and categorical anachronisms that obscure or distort our understanding of what is really happening to women in America today.

Recently, some small progress has been made. The term "head of household" will not appear on the 1980 census forms. The President's task force on women business owners currently is assessing the inadequacy of statistics on women business entrepreneurs and the obstacles that they face in the marketplace.

This task force will soon make recommendations dealing with problems that women have in gaining access to capital markets, to training and technical assistance, and to Federal procurement. With the incorporation of the census of women-owned business into our 5-year economic census program, we will receive regular updates of this measure of women's economic status.

But, this conference on women's issues and Federal statistics has been called to discuss problems and solutions in other areas, and, in the course of this conference, I hope we will examine many types of economic and social statistics for our needs are broad and comprehensive.

I should like to note, briefly, a few that are of current interest. First, a comment on fertility trends. We have reasonably good statistics on childbearing trends, but we need to know much more about their implications. For the last two decades, fertility rates have been declining in the United States from the peak of the baby boom era in 1957 to an all-time low in 1976. Were women to continue to bear children at the 1976 rate, there would be fewer than 1.8 children per woman.

All of these figures we carry around with us, but although the 1977 fertility rate showed a slight rise over 1976, 1977 marked the sixth year in a row in which fertility rates were below the level needed for long-run replacement of the population. On the basis of monthly birth rates in the last half of 1976, a substantial rise in fertility was anticipated for 1977. Yet, that expectation was confounded by a sharp drop in the birth rate during the last half of the year.

Moreover, the provisional rate of births in January 1978 was close to the lowest in our history. The predictions as to what the future holds are little better than guesses, we have learned—by sad mistakes; but one thing does seem clear. Postponing marriage and childbearing is expanding women's educational and occupational options. Moreover, it may also expand the options of those women's children—when and if they have them.

A second category we ought to pay particular attention to is education and occupation. Statistics on educational levels reveal marked increases during the past few years in the numbers of women entering college. In the past, females

were less likely than males to fall behind in school, and, while in elementary grades that was the case, they were also more likely to graduate from high school.

But women were much less likely to go to college. Today, however, women in the 18- to 20-year age group are just as likely as men to enter college. Moreover, once in college, women are more likely to finish and more likely to enter graduate schools and receive advanced degrees than ever in the past.

These trends should produce for us a generation of women far better prepared for lifetime careers in the labor force than were their mothers or grandmothers. In looking ahead, we must concern ourselves with the ability of these college-educated women to find satisfying work opportunities, for surely, such women will be less inclined to take traditional female jobs—in clerical, secretarial, factory settings, etc. Those who do so, because they cannot find other jobs, will likely change the nature of those occupations.

One other point on education, about which many of us in the past have written, is that although many more women are entering college, many still choose courses of study that prepare them best for careers in teaching—not a field where future employment opportunities are, at the moment, particularly promising.

More thoughtful review of alternative careers, better data on occupational prospects, and better use of the data might help to avert an even more serious labor glut than already exists in certain professions. One might expect higher educational attainment among women to further the tendency toward small families and, perhaps, to lead to stable, longer marriages in the future. However, such evidence as we have suggests that this expectation is being realized only in part.

Statistics show that women who receive advanced degrees, who are, of course, also more often employed in the good jobs, are quite likely to get divorced. Analyses by Sawhill and others have been helpful in this general area, but we need additional data and analysis that will further clarify these interrelationships between education, careers, levels of job, and family lives of men and women.

As the third category, we ought to consider carefully what we know and don't know about income levels—poverty, in particular, and the way that is affected by the status of the head of household, if we are still allowed to use that term.

We need better statistics that depict the relationship of sex of family head to poverty. Notwithstanding the comic strip characterization of the credit card wielding middleclass woman as the source of all family overspending, the fact is that, on the contrary, we are in disproportionate numbers the victims of poverty.

You know the figures. More than one-third of all poor persons in 1976 were members of families headed by women with no husband present. Half of all poor children were members of such families. Nearly two-thirds of all children in families maintained by Black women were living in poverty. Beyond these statistics, we know very little about how members of female-headed families are affected by Federal program benefits, alimony, and child support.

These are but a few of the areas in which the changing role of women has created a need for better measurement and analysis. Clearly, we need detailed information on the special requirements of women in general, but, more especially, on certain subgroups of women by age, race, etc. The effective-

ness of public policy in dealing with issues affecting the status and the equality of women needs to be assessed.

We must be able to weigh the positive and the negative aspects of women's new roles and their new lifestyles. To the extent that job access is being denied, we need to calculate the resulting effects. Each of us can cite specific examples of women who have been denied opportunities because of prejudices and preconceived notions of what is properly considered "women's work." We need to know the extent of this pattern of thought and what the implications are.

Statistics do more than tell us what is happening. Statistics also cause things to happen. Our political system responds to problems, but it responds more quickly to problems that are documented clearly and, thus, elevated in the hierarchy of national priorities.

A vague sense of injustice is not adequate to attract attention and action. It takes statistics to influence Government's decisions. It takes statistics to determine the flow of dollars. Individual cases of discrimination can be ignored, rationalized, hushed up, or settled with little fanfare. It is much more difficult to ignore persistent and shocking statistics.

There are many questions which better statistics will help us to answer. Is the continued male-female earnings differential caused primarily by differences in educational attainment or work experience between men and women—or is there a large residue of difference left unexplained by these factors?

If discrimination is partially to blame, how can its extent and impact be better measured and better publicized?

As you know, the primary purpose of the conference is to determine what statistics we need in order to assess the social and economic status of women, as compared with the general population and other groups in it. We may recommend that some units of measure be changed, that an expanded universe of attributes be measured, or that traditional measures give way to a more contemporary assessment.

If this conference is a success, it will prompt Federal policymakers and statisticians to develop some new indexes of women's present status and their probable future. I am keenly interested—personally and officially—in the issues that will be discussed.

Within the past year, the U.S. Department of Commerce has been assigned responsibility for Federal statistical policy and standards—a function previously delegated to the Office of Management and Budget. This fortuitous blending of official responsibility and personal interest has given me, as Secretary of Commerce, an exciting new role. Commerce is not only the principal data collector for the executive branch but also now, the statistical policy coordinator. We will, therefore, be playing a key role—along with other Federal agencies—in determining what statistics are gathered by the Government and what proportion of the budget will be spent on obtaining the information.

The results of this conference will directly affect future positions taken by the Department of Commerce concerning these policies and standards. As chairperson of the Statistical Policy Coordination Committee, a Cabinet-level committee that advises and assists the President in making improvements in this whole general area, I shall be sensitive to any new ground that we break in the context of this conference.

But, more importantly perhaps, being personally committed to ending discrimination based on sex, I shall do

everything I can to eliminate the statistical deficiencies that stand between us and that goal.

In summary, then, I view this conference as a watershed between the obsolete and the useful. As our society has changed, our needs for information have also changed. It is hardly surprising that our statistical system has failed to keep pace with the times. This conference and the resulting final report are meant to tell us how to catch up and how to look ahead.

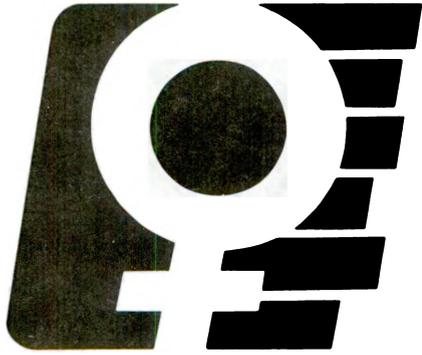
If we can get the proper resources, some needed statistical improvements can be made quickly through revised presentation of the existing data. To modify the data base itself requires more time and involves other considerations—privacy, paperwork burden, and response burden are among the constraints on any new data collection activity.

There are also questions of survey design, questionnaire wording, and evaluation—all of these must be addressed. Needless to say, we face budgetary constraints and the need to consider the data inadequacies of many groups, along with those inadequacies of data on women.

This conference needs to be concerned, therefore, with the practicality of implementation, as well as with the needs we face. Again, I share the frustrations that you experience as producers and users of the data, and I pledge you my commitment to listen and follow up after this conference in order to insure that the issues you raise will be adequately addressed.

You may recall the lines, “A single death is a tragedy; a million deaths is a statistic.” That quote, you may recall, comes from Joseph Stalin, who was one of the great statistic makers of all time, and although he is not my favorite prophet, his observation does contain a useful insight; to wit—statistics may be mute on the subject of human pathos, but they are the only language we have for describing trends and events of broad proportions.

Without statistics, we can weep over cases and wring our hands with sympathy for the plight of those within our scope, but we cannot marshal the collected emotions of society to produce change.



***II.
Income***

INCOME: INTRODUCTION

Joseph Gastwirth
George Washington University

The post-World War II era has witnessed a dramatic change in the participation of women in the labor market. In April 1950, only 28.3 percent of the women 16 years old and over worked or looked for work, while in March 1976, 46.8 percent were in the labor market. Moreover, the turnover ratio, the ratio of the number of persons in the labor market at any time during the year to the average labor force, has shown a significant decline, from 1.4 to 1.2 for women. Thus, not only are a greater percentage of women working than ever before, but women are more permanent members of the labor force.

In contrast with the dramatic changes noted above, the fact that females earn approximately 60 percent of the salary of men has remained virtually constant from 1955 to 1975 [1]. Although several factors may explain some of this earnings differential, e.g., women form a greater percentage of recent entrants to the labor force and women with children may prefer to work near home, I know of no study which has

explained the entire gap, even when the study focuses on a single occupation.

Rather than review the huge literature on wage equations, Nancy Barrett wisely has chosen to provide us with a survey of recent trends in female labor market activity and its implications for the collection and analysis of data. Her discussion of the effect that the increased role of women in the labor market has on the concepts underlying the Current Population Survey, on the special data required to properly study the labor market situation of women, and on the necessity of longitudinal data are well worth the serious consideration of policy-makers.

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DATA NEEDS FOR EVALUATING THE LABOR MARKET STATUS OF WOMEN

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Few people would question the significance of the unprecedented growth in female labor force participation over the past decade. Perhaps the most outstanding feature of the exodus from the home to the marketplace is the involvement of a large number of married women with children. Over half the Nation's children under 18 years old now have mothers who work.

The consequences of the growth of the female labor force for the labor market, family life, and household incomes have been documented and evaluated, and predictions of longer range trends and their effects proliferate.¹ But, regardless of one's assessment of these outcomes, the rapidly changing economic role of women necessitates a reconsideration of traditional data concepts in the area of income and employment.

Social scientists and policymakers often underestimate the importance of the choice of data concepts and the availability of data in analyzing social and economic behavior and in designing and implementing public policy. Data availability not only limits the hypotheses one is able to test and the questions one can answer, but data concepts often suggest the questions themselves or, at least, influence the researcher in terms of the way questions are formulated. Methodologists have long stressed the importance of theory to data gathering. However, we are now in such an age of empiricism that data have become the master of the theorist, rather than the other way around.

At no time is the need for testing new hypotheses and breaking out of traditional mindsets more crucial than in a period of rapid social change. Yet, it is at such a juncture that the data concepts and measures used in the past are no longer always relevant for analyzing new problems. This paper will address some of the data gaps associated with the increased participation of women in the labor force and will identify data needs for policy research in this area.

SOME RECENT TRENDS IN FEMALE LABOR FORCE PARTICIPATION

Between 1965 and 1976, the number of women working or looking for work increased by 12.2 million. This represented an increase in the female labor force participation rate from 39.3 in 1965 to 47.4 in 1976.

By far, the greatest increase in participation was among

wives living with their husbands, particularly those with small children. Between 1965 and 1975, the labor force participation rate of wives rose from 34.7 to 44.4. In 1960, the participation rate of married women with children under 6 years old was 18.6 percent. As shown in table 1, by 1965, it was 23.3 percent, and, by 1976, it had risen to 37.4 percent.

Along with the growth in participation of married women with children has been a trend to later marriages, fewer children, and increased incidence of divorce. For instance, the number of births per 1,000 women 15 to 44 years old dropped from 113.2 in 1960 to 63.0 in 1975. Furthermore, the proportion of all families headed by women has risen from 10.5 percent in 1965 to 13.3 percent in 1976. Since 1970, about 60 percent of the increase in female-headed families has been due to divorce [16]. These mothers have much higher labor force participation rates than wives. In March 1975, 74.7 percent of divorced women with children under 18 years old (and 66 percent of those with children under 6 years old) were in the labor force.

Although smaller families and marital instability have contributed to the growth of the female labor force, increased participation within family-status categories is responsible for most of the increase. George Perry, for instance, shows that of the 8.7 percentage point increase in female labor force participation between 1967 and 1975, an increase of 1.8 points was due to shifts among family-characteristic groups, while an increase of 6.9 points was due to increases in participation within family-characteristic groups [23]. In a similar analysis, Ralph Smith finds that 72 percent of the growth in the female labor force between 1971 and 1975 was due to increases in within-group participation rates [27].

One reason for the rapid rise in female labor force participation is that women are staying in the labor force longer. Labor force separation rates are much lower now than in the early 1960's, and the U.S. Department of Labor estimates a substantial increase in the work-life expectancy of women, particularly among married women with children [6]. These changes mean that, in addition to an increase in relative numbers, the character of the female labor force has changed as well. Instead of being an intermittent work force, lacking a commitment to a career or a desire to acquire seniority, and with little interest in long-term opportunities for advancement, women are increasingly demonstrating a disposition to continuous labor force participation, regardless of whether they marry and have children. This means the dead-end job, typically assigned to females under the assumption that they will

¹ See, for example, [1; 18].

Table 1. Trends in Labor Force Participation of Women, by Marital Status and Presence and Age of Children

(In thousands)

Year	Never married	Widowed, divorced, and separated		Married, spouse present		
		Total	Divorced	No child under 18 years old	Children 6 to 17 years old	Children under 6 years old
1960						
Labor force	5,401	5,270	1,222	5,692	4,087	2,474
Labor force participation rate	44.1	42.0	71.6	34.7	39.0	18.6
1965						
Labor force	5,912	5,536	1,523	6,755	4,836	3,117
Labor force participation rate	40.5	39.5	73.3	38.3	42.7	23.3
1970						
Labor force	6,965	5,891	1,927	8,174	6,289	3,914
Labor force participation rate	53.0	39.1	71.5	42.2	49.2	30.3
1975						
Labor force	8,464	6,932	2,881	9,701	6,791	4,437
Labor force participation rate	56.7	40.7	72.1	43.9	52.3	36.6
1976						
Labor force	9,083	7,181	3,146	7,860	7,270	4,424
Labor force participation rate	58.9	40.9	71.4	43.8	53.7	37.4

Source: Bureau of Labor Statistics.

soon drop out of the labor force, is no longer acceptable to many women.

As women extend their working lives and demonstrate a strong attachment to the labor force, there is a loss to the whole economy when employers continue to view them as intermittent workers. For instance, if employers continue to assume that women will drop out of the labor force to have children, they may be denied training opportunities in firms, or they may be barred from access to jobs where they will acquire on-the-job training. In the days when women's labor market activity was more sporadic, it may have been uneconomic to invest in large amounts of costly training. But, today, the average married woman with children will spend about 25 years in the labor force. Furthermore, a sizeable proportion will remain childless and maintain a work history comparable to that of men. Viewed in these terms, there clearly are long-term gains associated with providing better job opportunities to a pool of committed female workers with a wide range of skills and talents.

As the female labor force has grown rapidly over the past decade, the labor market has not been able fully to accommodate the change. For one thing, barriers to occupational mobility remain. For various reasons, women remain heavily

concentrated in relatively few stereotypically female occupations. In 1976, for example, over two-thirds of employed women held jobs as nurses, librarians, teachers, social workers, clerical workers, and service workers. As the female labor force has grown, women have crowded into these occupations, depressing wages and increasing unemployment. For instance, between 1965 and 1975, 44 percent of the growth in female employment was in clerical jobs. As a result, the proportion of all female jobholders in clerical jobs rose from 31.8 percent to 35.1 percent. At the time, clerical unemployment rose from 11.1 percent in 1965 to 14.6 percent in 1976, and the average clerical wage dropped sharply, relative to the average wage for the work force as a whole.

Another barrier is in opportunities for advancement. One reason that women's upward mobility is limited is their lack of training opportunities, stemming from the belief that women will be intermittent workers. Furthermore, traditional sex-role attitudes contribute to the opinion that men, not women, should be given supervisory responsibilities. Yet, the statistical evidence is clear that differences in opportunities for advancement over a person's working life are the principal reason why men's wages are higher, on the average, than women's. Although equal pay rules and equal employment

opportunity guidelines have narrowed the gap in entry-level pay between men and women, barriers to upward mobility remain and serve to depress women's wages in later years. While females in the youngest age brackets earn about 85 percent of similarly qualified males, the ratio drops to around 50 percent in middle years [4; 7].

As women have increased their labor force participation, strengthened their long-term job commitment, and sought more responsible job opportunities, the average earnings of full-time, year-round women workers have actually declined in relation to men's over the past decade, and the relative unemployment rate of women has increased. The passage of the Civil Rights Act of 1964 coincided with the emergence of more egalitarian views about sex roles and raised hopes that equal employment opportunity would be available as women's job market commitment became more like that of men. But although public attention to equal employment opportunity laws and affirmative action plans highlight individual success stories, the overall record is not encouraging. To the extent that lack of progress to date reflects inadequate information about the characteristics of women workers, improved labor market data relating to women workers will be an important vehicle for change. Furthermore, better data can aid analyses of the mobility barriers women face, providing a basis for policies that will facilitate and accelerate the adaptation of the labor market to the changing composition of the work force.

IMPLICATIONS OF GROWTH IN THE FEMALE LABOR FORCE FOR DATA COLLECTION

The growing propensity of women to work outside the home has two major implications for traditional labor market data concepts. First, household surveys based on the assumption that the typical family consists of a breadwinner husband, nonworking wife, and children are hopelessly out of touch with today's arrangements. Less than 16 percent of all families fit this stereotype. Over half the wives in husband-wife families are in the labor force, and over one-third of all families are headed by single adults.

A second factor necessitating changes in labor market data concepts is that data needs for analyzing women's labor market behavior and status are different from those used to analyze men's labor market behavior and status. Given the way our society is organized, nonmarket options remain more significant in the labor market decisions of women than men. Some measures of the factors influencing these options and how these are changing must be included in any explanation of women's labor market behavior. Then, too, snapshots of a woman's characteristics and her labor force status at a point in time (such as those obtained from the Current Population Survey) will not provide a complete picture. For men, once school is completed, life-cycle events usually have very little impact on the decision to participate in the paid labor force.² Further, since participation is usually continuous, age minus years in school can be accepted as a proxy for work experience. For women, on the other hand, a longer run view is

²As two-earner households become the rule, rather than the exception, men will undoubtedly begin to assume more responsibility for domestic activities. Hence, their labor market decisions may become increasingly predicated on factors like marriage, divorce, and the presence of children. This means that the inclusion of noneconomic variables and a life-cycle perspective will also be desirable for analyzing the labor market status of men.

required both to assess the relation between life-cycle transitions (such as marriage, childbirth, and divorce) and labor force participation as well as to obtain a profile of work experience. These factors are important not only in explaining participation behavior but also for understanding differences in wages, occupation, and other measures of labor market status between men and women.

Treatment of Women in Household Surveys

The most comprehensive source of data on income, employment, and other measures of labor force status is the Current Population Survey (CPS). The CPS is a survey of approximately 47,000 households conducted each month by the Census Bureau for the Bureau of Labor Statistics. It provides data on the labor force status of individuals as well as such characteristics as age, sex, race, marital status, number and age of children, hours of work, and duration of unemployment. The March and May surveys provide data on income, broken down by source. Furthermore, special supplements to the CPS are conducted from time to time, designed to provide more detailed statistics on special aspects of labor force activity.³

Although there are other sources of data on employment and earnings (data provided by firms, Social Security records, Internal Revenue data, and longitudinal surveys), the CPS is the most comprehensive source, in that it combines a wide range of information on the personal characteristics of workers with information on their labor force status and income. Thus, it can identify differences in earnings, employment, and labor market participation, by race, sex, age, marital and family status, education, and geographic area. A major limitation is that it provides only point-in-time estimates that do not permit tracking of individuals over extended periods.⁴

A problem with the tabulations provided by the Bureau of Labor Statistics and the Census Bureau from the household survey is that they make implicit assumptions about family structure that are becoming increasingly inconsistent with family patterns today. One example is the use of the term "household head" in describing the male in husband-wife families, regardless of whether the wife earns more than the husband or whether one or both tells the interviewer that the woman is the head.⁵

The January 1978 issue of *Current Population Reports*, Series P-60, defines household head as follows: "The head of a household is usually the person regarded as the head by members of the household. Women are not classified as heads if their husbands are resident members of the household" [30].

Apart from the analytical problems presented by this

³For a detailed description of Current Population Survey and its special supplements, see [33; 35].

⁴The Work Experience Survey, an annual supplement to the CPS conducted each March, asks the respondent about his/her labor force experience over the previous year. The WES is a valuable source of information about length of completed spells of unemployment and periods of labor force inactivity not available from the monthly survey. However, it does not provide a long-term picture of an individual's labor force experience. For a discussion and applications of the Work Experience Survey, see [2; 19].

⁵The Bureau of Labor Statistics is currently developing alternative ways of tabulating and publishing family data without the designation of a "head." However, the Census Bureau continues the practice. For a discussion of the family head concept, see [22].

practice, the psychological aspects should not be ignored. For many people, the fact that the Federal Government categorizes husbands as household heads in official surveys contributes to a belief in male dominance and demeans wives. However, the problems posed for analytical use of the CPS are also important. Many of the published data include information only on the head. For instance, much of the income data provided in the *Current Population Reports*, Series P-60, provide income breakdowns by age, race, educational level and work experience of the head only. Since wives are excluded from headship by definition, this means that information on the characteristics of wives by family income category is unavailable, regardless of whether the wife's earnings are the principal or sole source of the family's income.

Table 2 provides a breakdown of household characteristics in 1976. Less than two-thirds of all families are husband-wife families, and, in half of these, the wife is in the labor force. Designation of headship does not raise a problem for families headed by single adults, since women can be classified as head of household if they are not living with their husbands or fathers. Among husband-wife families, however, less than half of all husbands are the sole breadwinners. Further, about 10 percent of all employed wives are the only wage earners in their families and about 12 percent of wives earn more than their husbands. Presumably, information about those wives would be more relevant to many types of analysis than the information that is currently provided on the husband only.

Another problem is that preconceptions of stereotypical roles of family members can seriously bias responses. For in-

stance, the CPS *Interviewers Reference Manual* instructs the interviewer in asking "What was... doing last week?" to include the examples "working or something else" for adult males, "keeping house or something else" for "housewives," and "going to school or something else" for teens. If such leading suggestions condition the response, it is possible that jobless women and teens will report themselves as keeping house or in school, even if they are looking for work and in the labor force. Furthermore, if they have stopped looking for work because they think they can't find a job, they are less apt to show up in the official measure of "discouraged workers" than adult males. Adult males, on the other hand, are led into reporting themselves in the labor force or discouraged.

These considerations are only examples of the difficulties associated with making outdated assumptions about the "typical" family structure in the household survey. As a first step in evaluating Federal statistical needs as they relate to the labor force status of women, the Current Population Survey, its adjunct surveys, and various special household surveys that are conducted from time to time must be carefully reviewed with the purpose of eliminating concepts and practices that automatically place women in a secondary role. Furthermore, published tabulations should be revised to incorporate information about all adult family members, not husbands only.

Special Data Needs for Evaluating Women's Labor Market Status

Despite the rapidly growing number of adult females who work for pay outside the home, in our society women continue to have nonmarket responsibilities and options not typically assumed by men. Child care and other responsibilities often take women out of the labor force for periods of time. Furthermore, women sometimes are forced to relocate when the needs of their husband's career dictate, resulting in a job change and possibly a period of unemployment or labor market inactivity that is unrelated to their personal economic circumstances.⁶ Because of these considerations, data needs for analyzing women's labor market behavior and assessing women's relative labor market progress are different from those for males.

One example has to do with the lack of continuous labor force activity. For men, it can be presumed that labor force participation is continuous between completing school and retirement, barring disability. It has been fairly well established that job continuity is an important factor in earnings, as it allows acquisition of seniority, on-the-job training, and promotion. Furthermore, there is evidence that job changes are more conducive to advancement when there is no intervening period of labor force inactivity.

Two research issues require information about the continuous work history of individuals. One concerns the assessment of the penalties associated with dropping out of the labor force. That is, how much does a person lose by interrupting labor force activity for nonmarket work? The answer to this question requires comparing the labor market status

⁶ As women's labor market opportunities improve, it will become less common for family relocation decisions to depend solely on the husband's career objectives. However, studies show that in the recent past, husbands gain on average from a move, while wives experience added joblessness and reduced earnings. See [21].

Table 2. Characteristics of Households: 1976

Households	Number (thous.)	Percent
Total	72,900	100.0
Husband/wife	47,300	64.9
With children under 18	25,100	34.4
Wife in the labor force . . .	11,200	15.4
Wife not in the labor force	13,900	19.1
Husband only in the labor force	11,400	15.6
No children under 18	22,200	30.6
Wife in the labor force . . .	9,700	13.3
Wife not in the labor force	12,500	17.1
Husband only in the labor force	9,900	13.6
Female-headed (with others) . .	8,000	11.0
Male-headed (with others) . . .	2,500	3.4
Single-person	15,000	20.6
Female	9,600	13.2
Male	5,400	7.4

Note: Categories may not add to totals because of rounding.

Source: Compiled from statistics of the Bureau of the Census and the Bureau of Labor Statistics.

of individuals who are alike in all respects except for the continuity of their labor force activity or work experience.

Research on the consequences of dropping out of the labor force is important in assessing the amount of sex-based wage discrimination. It is sometimes thought that the main reason women's earnings are less than men's is women's intermittent labor force participation. If the loss in future earnings associated with leaving the labor force could be established, the proportion of the male-female wage differential attributable to intermittency could also be determined. Any residual would have to be due to other factors.

Assuming that the labor market exacts penalties for dropping out, research should also raise questions about the determinants of labor force attachment of women. What factors explain the propensity of some women to drop out and what changes might be expected to keep them in the labor force? For instance, one hypothesis is that higher wages for women will increase the opportunity cost of nonmarket work and increase their labor market attachment. If this is true, as barriers to equal employment opportunity break down, women's labor force attachment will strengthen, and the overall female labor force participation rate will rise, resulting in more rapid aggregate labor force growth.⁷

The results of such research would also have implications for individual firms. Employers express concern about potential high job turnover of women, assuming they will drop out to have children or relocate, according to their husband's career objectives. If women's expected job turnover is high, it would be wasteful to provide on-the-job training for women or to promote them to managerial and supervisory jobs. These attitudes, of course, produce a vicious circle to the extent that they result in relatively low pay for women workers and provide less incentive for women to stay on the job than for men. If it could be shown that women's job turnover could be reduced substantially by higher wages, employers may realize that they can attract stable and permanent women employees into career positions, thus increasing the potential pool of candidates from whom to select their top managers.

The snapshots provided in the Current Population Survey are clearly inadequate for answering questions such as those raised here. Instead, longitudinal data, that is, repeated observations on the same individuals over a period of time, are required. Furthermore, information on noneconomic variables, such as timing and spacing of children, changes in marital status, attitudes toward work, and importance of husband's employment needs in determining family location, to name only a few, all need to be incorporated in a complete analysis of women's labor market behavior and status.

Longitudinal Data

Two types of longitudinal data are presently available. The first combines earnings histories of individuals with information about their personal characteristics obtained from the Current Population Survey. One source of earnings data is the files of the Social Security Administration, which provide continuous employment and earnings histories for individuals. The Internal Revenue Service also has continuous records of individuals' incomes. Neither of these sources has comprehensive data on personal characteristics of the individuals, so that they need to be merged with information from the CPS

to make them of use for a wide range of applications. The merging procedure has, to date, been highly controversial, due principally to confidentiality problems and fears of consolidating Government information about individuals in a central source.

A merge between the CPS and Internal Revenue records was done for 1970. More recently, the 1973 CPS has been merged with Social Security records for that year. However, there have been many delays in making the merged data available and the public-use file was released only a few months ago. Currently, a merge of the 1975 CPS and Social Security records is underway, but Census Bureau officials are uncertain as to when they will be made available for public use.

Recent efforts at merging the CPS with existing longitudinal data files are encouraging, but delays and the rather erratic coverage to date pose difficulties for researchers who need continuity and reliability of access in their data sources. Neither of the merged data files is listed in the Census Bureau publications catalog or in the Census Bureau listing of available data files and special tabulations. Furthermore, conversations with Census Bureau officials suggest that gaining access to the files and using them will be time consuming and frustrating. Certainly, at the moment, they are not readily accessible for widespread research applications. Furthermore, they surely cannot be used by policymakers who require compilations and tabulations to meet immediate, day-to-day needs. At the moment, no formal tabulations are available from the merged data files.

A second important source of longitudinal data that provides detailed information on worker characteristics and attitudes, together with information on their labor market status and work experience, are two special projects that were established in the 1960's for the explicit purpose of monitoring the economic progress of population groups with special labor market problems. One of these projects is the National Longitudinal Surveys; the other, the Michigan Panel Study of Income Dynamics.

The National Longitudinal Surveys. The National Longitudinal Surveys of Work Experience (NLS) were begun in 1966 at Ohio State University under contract from the Employment and Training Administration of the U.S. Department of Labor. The interviews are conducted by the Census Bureau. Four demographic groups are studied: Mature women (30 to 44 years old at the inception of the study), older men (45 to 59 years old), and young men and women (14 to 24 years old). Each sample contains about 5,000 individuals.⁸ These groups were selected because many of the individuals in each cohort are at critical transition stages in their working lives. The young people are recent entrants to the labor force, many of the older women are likely to be returning to the labor force after a period of inactivity, and the older men are in their preretirement years.

Several waves or series of interviews have been conducted with each group since 1966. For instance, the mature women cohort has been interviewed seven times since 1967. Further, the survey for each cohort was designed to obtain information specific to the labor market problems faced by that group. For instance, the survey of older women focuses on problems associated with re-entry into the labor force after children are in school or grown, while for younger women, emphasis is on the transition from school to work and on the effect of

⁸ For a complete description of the National Longitudinal Survey and a compilation of the research results, see [41].

⁷ For a discussion of this possibility, see [26].

decisions about marriage and childbearing on labor market behavior.

The NLS has been an extremely useful source of data for analyzing the factors affecting life-cycle transitions of women and for assessing the effects of long-range measures of labor force activity on current status. One illustrative application of the NLS data on young women has been to assess the impact of early childbearing on later educational attainment, labor force status, and welfare dependency [15].

Data on the mature women cohort provide some insights into the effect of work experience on current labor market status. It was found, for instance, that women who currently worked full time, year round, and, in addition, worked at least 6 months out of every year since leaving school had a median wage or salary income in 1967 about three-fourths that of comparable men. The median wage or salary income of comparable women who had worked in only half the years since leaving school was only about half that of men. Thus, although there was clearly seen to be a payoff to continuous work experience, these data also show that the large differential in men's and women's wages is not due entirely to differences in work experience. In fact, the study concludes that after adjusting for differences in occupational status, education, and lifetime work experience, the wages of women, on average, are only about 62 percent as high as men [28].

Another valuable aspect of the NLS surveys is that they contain information about attitudes and preferences. These include questions about job satisfaction, attitudes about employment of wives, and perceptions of husband's attitude toward the respondent's working. Between 1967 and 1972, for instance, there was a significant increase in the proportion of women expressing favorable attitudes toward employment of married women with school-age children. There is also evidence that respondents perceived their husbands to be more favorably disposed to their working in 1972 than in 1967 [41].

Unfortunately, the small sample size of the NLS and the limited age groups covered severely restrict the usefulness of the data for universal applications or for making statements about the population as a whole. For instance, it is almost impossible to analyze the behavior of Blacks and other minorities, due to the small number of observations in various categories. Furthermore, the age limitations severely hamper the researcher's ability to draw long-range conclusions. For instance, in the early childbearing study, the oldest women in the final wave of interviews were only 27 years old. Consequently, it was impossible to assess the long-range economic situation of early versus late childbearers. Moreover, the fact that the surveys are conducted only annually and that there is often a delay of several years before the data are available restricts their usefulness for short-run policy analysis.

Currently, plans are underway to interview two new youth cohorts, each consisting of 6,000 young women and men, respectively, between the ages of 14 and 21 years old, with overrepresentation of Blacks, Hispanics, and low-income Whites. A new wave of the original cohorts is also in the planning stage. However, these efforts will not surmount the limitations associated with the small sample and limited demographic coverage. Although the NLS has provided a unique and highly valuable source of data for longitudinal analysis of certain cohorts, conclusions drawn can only be applied to the population at large with great hesitation. Surely they can in no way be considered a substitute for the Current Population Survey, which is much more universal

in coverage. Nor are they a substitute for data that could be obtained from merges of the CPS with Social Security and Internal Revenue records.

The Michigan Panel Study of Income Dynamics. The Michigan Panel Study of Income Dynamics is a longitudinal survey that has followed the economic situation of approximately 5,000 families in eight waves since 1968. The study was originally financed by the Office of Economic Opportunity and later by HEW. The sample overrepresents families at the bottom of the income distribution and minority groups and, hence, is a particularly good source of information on the poverty population and individuals with labor market disadvantages.

Because the sample is not limited to particular age groups, the data are suited to a wider range of applications than the NLS. However, because the total sample contains only 5,000 families, some categories contain a very small number of individuals. Like the NLS, the Michigan Panel Survey includes information on attitudes and noneconomic factors that potentially affect labor force behavior.

Because it oversamples the poverty population, some of the major applications of the Panel Survey, to date, have been in studies of welfare recipients, female-headed families, and child support payments.⁹ For instance, it was found that families headed by a female and not on welfare at the beginning of the study were much less likely to go on welfare than families with a male head who left during the course of the study [5].

Because of the small sample size, the Michigan Panel Study has limited applicability to the population as a whole. Furthermore, it contains only annual observations, and there are often years of delay before data are made available. Yet, both the NLS and the Panel Study have attributes that make them uniquely suited for analyzing the labor market status of women. Specifically, they were designed for the express purpose of combining life-cycle information, attitudinal and noneconomic data, information on personal and family characteristics of individuals, and traditional indicators of labor market status (employment, income, occupation, etc.). Merges of the CPS with longitudinal data files that have been collected with some other purpose in mind are more comprehensive in terms of sample size and length of the period covered but do not contain much of the information relevant to analyzing women's labor market behavior and status.

Longitudinal Data From the Current Population Survey. Another potential source of longitudinal data could be obtained by combining successive surveys of the CPS rotational sample into a longitudinal data file. Currently, each household is interviewed in 4 successive months, is out of the sample for 8 months, and then interviewed again for 4 successive months. Thus, if these surveys were matched, responses of a single household at various points in time would be available, providing a truncated longitudinal data base. Furthermore, supplemental surveys, such as the Work Experience Survey, could also be included in the match, providing a more comprehensive set of information on each household than is currently available in the CPS.

Such a match would have the advantage of being available monthly, making it more timely for short-run policy applications and analysis than the existing annual longitudinal surveys. However, households only remain in the survey for 16 months; therefore, the period observed in each household's life cycle

⁹ See, for example, [24].

would be much shorter than for the NLS or merges with Social Security and tax files.

Coordination. Because of the wide range of research applications associated with these longitudinal data sets, continuation and expansion of ongoing projects are highly desirable. Furthermore, there should be a systematic review and evaluation of longitudinal data needs and some coordination of existing efforts.

In undertaking this review, the special needs of the policy community should not be overlooked. To date, the policymaker only has access to the results of longitudinal surveys through research reports prepared for the most part by academicians. Furthermore, the surveys are only conducted annually, and there is frequently a delay in access. The planning exercise that would review longitudinal data needs should also assess the needs of policymakers and consider the publication of a regular document that would summarize, in tabular form, important findings from the longitudinal survey.

DATA NEEDS FOR LABOR MARKET ANALYSIS

The rapid growth of the female labor force and the official commitment to equal employment opportunity for women have given impetus to the search for a better understanding of why women continue to fare so poorly in the labor market. Not surprisingly, a host of explanations has been put forward. Some attribute the problem to a lack of suitable skills and work experience, some to the preferences of women for less demanding work, and some to attitudes of employers and coworkers who think that women should be paid less than men and work in subservient roles.

In order to study differences in labor market status between women and men, several alternative conceptual frameworks have been offered. One view is that the labor market is segmented on the basis of sex so that, for the most part, men and women are noncompeting groups. Women are concentrated in stereotypically female occupations that presuppose a fairly intermittent work force. Hence, these jobs offer little opportunity for advancement and wages and remain low, relative to those in the more hierarchical male occupations. When women do work with men, they are expected to hold subservient positions, and, hence, have less responsibility and earn less than men.¹⁰

Another view is that women and men compete in the same labor market, but that women have certain characteristics that cause employers to give them different (and usually less desirable) job assignments from men. These characteristics include a weaker labor force attachment due to domestic responsibilities, preference for clean and typically feminine work roles, and less (or inferior) prior work experience.¹¹

The policy implications of each of these models are different, but they hinge, to a large extent, on whether the failure of women to move into traditional male strongholds and achieve upward mobility is the result of the inevitable conflicts faced by working women themselves due to domestic responsibilities and a desire to perform work roles that are consistent with societal expectations of femininity. The alternative explanation is that women's lower labor market status results from the discriminatory behavior of employers or coworkers who resist the encroachment of women onto previously male turf.

¹⁰ For an example of this viewpoint, see [3].

¹¹ For an example of this viewpoint, see [17].

Household Data

Most of the available data for analyzing the labor force status of women comes from households. We have a wealth of information about household characteristics and labor force status from the Current Population Survey and some limited information about household attitudes and preferences from the smaller scale longitudinal surveys. These allow us to relate such variables as education and work experience to labor market outcomes for men and women. Based on household data alone, a large "unexplained" residual between men's and women's earnings remains after these factors are accounted for. Further, while nontraditional attitudes held by women have been found to be associated with higher labor force participation and employment in male-dominated occupations, traditional attitudes held by women cannot account entirely for their disproportionate representation in low-paying, female-dominated sectors of the economy.¹²

Establishment Data

Another potential source of information on women's employment and wages would come from employers, rather than households. Employment and wage data from firms are collected by the Bureau of Labor Statistics in its establishment survey. This survey is, according to BLS, "the largest monthly sampling operation in the field of social statistics" [36]. In March 1974, it covered 158,400 establishments reporting on 31,637,000 employees (41 percent of the total working in nonagricultural firms). The establishment survey provides current information on wage and salary employment, hours, earnings, and labor turnover in nonagricultural firms, by industry and geographic location.

With the exception of employment, none of the data provided by establishments is broken down by sex. At one time, labor turnover data were given by sex, but the breakout was discontinued in the 1960's.

There are a number of reasons why establishment data broken down by sex would be extremely useful. For one thing, there are known reliability problems with household reports of earnings.¹³ Among the reasons for this is that a single family member (often the wife) reports earnings for other family members, and these may not be known with certainty. Some people are also reluctant to report income for fear of being monitored by the Internal Revenue Service. Establishment reports of earnings are generally viewed as more reliable (although the coverage is somewhat different from the household survey). Several studies have compared earnings, reported by households, with establishment reports, and there is indeed some discrepancy [14; 38]. However, because establishment data are not available by sex, it is not possible to ascertain whether the reliability of CPS earnings reports varies systematically by sex. There is evidence that CPS reports of unemployment and labor force participation have systematic biases by sex, and, thus, there is reason to expect that this may be the case for earnings reports as well [19].

Because it is generally agreed that the validity and reliability of establishment data on earnings and hours worked are superior to similar data elicited from household interviews, it would be highly desirable to obtain them classified by

¹² For a discussion, see [41].

¹³ These problems are described in [38].

sex. The weekly earnings series from the establishment survey, when compared with prices, is widely used as an indication of how workers are faring in a wage-price context, and the extensive sample facilitates comparisons among geographic areas.

There are, however, other reasons for wanting establishment data classified by sex. As mentioned earlier, models that try to account for differences in labor market status between women and men often require data that can only be supplied by firms. Turnover rates, for instance, are said to be higher for women, an allegation sometimes given as an explanation for why women acquire less on-the-job training and have less upward mobility within firms. If turnover rates could be made available by job category, it would be possible to separate the effect of lower female wages (since low wages are generally associated with high turnover) from male-female differences in turnover at the same wage level within job categories.

Another need is for data on part-time employment by industry. Although the establishment survey provides average hours worked, it is not possible to ascertain whether a reduction in average hours is due to a cutback in hours for full-time workers or an increase in the proportion working on part-time schedules. Presently, the only source of data on part-time workers is the Current Population Survey, and the definitions currently used in the CPS are ambiguous and controversial.¹⁴

A final candidate for inclusion in the establishment survey is information on employer attitudes about women. It has been widely accepted that household surveys designed to obtain information about women's labor market behavior should contain questions about attitudes toward work and potential conflicts between domestic responsibilities and labor market participation. Such questions appear not only on private surveys, but on Federal Government data collection instruments, such as the National Longitudinal Surveys.

One possibility would be an experimental supplement to the establishment survey that would cover only a subsample of the firms in the regular monthly survey. This would permit an assessment of firms' attitudes about such things as female-male differences in job attachment, career commitments, and occupational choice, to mention only a few. To date, we have learned a lot both about women's attitudes toward labor force participation and how these attitudes have changed over the past decade. We know these changes have been marked, particularly for mothers of young children. However, we know very little about whether employers' perceptions of women workers have kept pace with the growth of the female labor force. The BLS establishment survey would be an excellent source of such information.

In addition to providing valuable information, requiring a sex classification in the establishment survey might serve to heighten awareness on the part of firms regarding the extent of existing inequities. There is evidence of widespread overestimation of the gains that women have actually made since affirmative action guidelines have been promulgated. Then, too, such information would allow firms to measure and assess their own progress in affording equal opportunity to women.

PRACTICAL ISSUES

So far, this paper has focused on conceptual and theoretical issues. However, the researcher or policymaker who uses

¹⁴ For a discussion, see [13].

Federal statistics to evaluate the labor force status of women often encounters practical problems that should be identified. Although the needs of these constituencies are different, the frustrations are often similar.

Access

The researcher or policymaker who wants to gain access to information other than that published in *Employment and Earnings* and *Current Population Reports* faces an uphill battle. It is difficult to find out what information is available. For example, the Census Bureau catalog for 1977 makes no mention of the CPS-Social Security merge file, despite the fact that Census Bureau personnel give assurances that a public-use file is available. Similarly, the Census Bureau contracts work to outside organizations, and often these activities are not publicly announced, nor are the data obtained made available to the general public.

In the past, it has often been assumed that researchers or policymakers with specialized interests will have developed a familiarity with data sources in their area of specialization. However, increased use of economy-wide econometric models, access to computer technology that has rapidly expanded the use of multivariate statistical analysis, and the development of more sophisticated Federal budget planning and measurement techniques have made both the research community and the policy community much more data oriented than ever before. Furthermore, as the increase in the number of women workers has necessitated the use of nontraditional data (not found in *Employment and Earnings* and the *Current Population Reports*), economists have had to become familiar with new data sources.

One step in the direction of improving Federal statistics relating to women is to evaluate access channels and revise catalog publications to improve the availability of statistics already collected.

Duplication

This paper has suggested a number of areas in which Federal data gathering efforts and published tabulations should be modified. However, there are also duplications that could be eliminated. Cost savings by eliminating duplications could at least partly offset the higher costs of obtaining new data and preparing new tabulations.

One example is the duplication provided by tables in the *Employment and Training Report* prepared by the Employment and Training Administration and the *Handbook of Labor Statistics* published by the Bureau of Labor Statistics. The *Handbook* is more comprehensive, but less timely, than the *Report*. Presumably, these two efforts could be integrated.

Other examples of duplication surely exist. These should be reviewed as part of the effort to consolidate information and facilitate access by data users.

Consistency

Inconsistencies in statistical series exist that pose problems for researchers. For instance, CPS data published by the Census Bureau in the *Current Population Reports* include individuals 14 years old and over, while CPS data published by the Bureau of Labor Statistics in *Employment and Earnings* cover individuals 16 years old and over. This incon-

sistency means that the Census Bureau's earnings data are not strictly comparable with the BLS employment data.

Another type of inconsistency occurs when categories differ by sex. For instance, detailed occupational categories are sometimes different for women and men. This makes it impossible to examine relative wages by occupation or the effects of differences in occupational distributions of men and women on their relative earnings.

Special Needs

This paper has focused on a few areas in which a major effort should be made to accommodate Federal statistics to the rapid growth and changing character of the female labor force. There are, however, a multitude of minor problems that could be rectified fairly easily. Some involve the need for tabulations of data currently available only on tape. For instance, median earnings of full-time, year-round workers, classified by age and sex, are not regularly available in tabulated form, despite the fact that differences in age-earnings profiles of men and women are an important factor in the overall male-female earnings differential.

In other cases, the need is for questions to be added to surveys or categories redefined. On the proposed "long form" for the 1980 census, for instance, a single question lumps together data on the respondent's income from unemployment compensation, veterans' payments, pensions, and alimony and child support. Growing concern with the inadequacy of alimony and child support—a situation that has made many families dependent on welfare as a result of marital disruption—means that improved data on this particular income source are urgently needed. Similarly, there is evidence that the average pension income of elderly women is probably less than that of men, but comprehensive data are unavailable. Breaking out the various components of what is now essentially a residual income category would provide much-needed information about these sources of income and open up a policy debate and a wide range of research possibilities.

While this paper has focused on more general issues, the fact is that these seemingly minor details most often make the critical difference in day-to-day research and policy evaluation. As Federal data-collection agencies become sensitized to broad statistical issues relating to women, they should not overlook small changes that would have a great and immediate payoff to the research and policy community.

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COMMENTS

Isabel V. Sawhill

National Commission for Manpower Policy

The word Economy, or Oeconomy, is derived from οἰκός, a house, and νόμος, law, and meant originally only the wise and legitimate government of the house for the common good of the whole family. The meaning of the term was then extended to the government of that great family, the State.

In the family, it is clear, for several reasons which lie in its very nature, that the father ought to command.

There is nothing of all this in political society, in which the chief is so far from having any natural interest in the happiness of the individuals, that it is not uncommon for him to seek his own in their misery.¹

It was in speaking thus that Jean Jacques Rousseau, the intellectual father of the French Revolution and of modern democracy, assumed that the despotism of a male head of family is almost always benevolent, while that of a head of state is usually not. One infers from further reading of the essay from which the above quote is taken that a major difference between the two situations lies in the fact that the citizens of the family are principally women and children, while the citizens of the state are, of course, other men. An interesting footnote on all of this is that Rousseau was supported by a woman for 10 years of his life. In any case, his ideas, as handed down to us over the past two centuries, have had a pervasive influence, although I believe the winds of change are blowing once more, and that the papers prepared for this conference surely represent the dawning of a new age of enlightenment. And, although I say this partly tongue in cheek, there is a sense in which the title of the conference does not adequately capture its significance. It might more appropriately have been called "Federal Statistical Needs Relating to a Changing Society," for, as I read them, these are not a parochial set of papers, and they focus as much on the changing roles of men and children as on the changing roles of women.

Since I agree with almost all of what Nancy Barrett has said in her paper, I have chosen to comment on some more general issues relating to the measurement of income. Income is, of course, the most commonly used measure of economic welfare, although its imperfections in this regard are well known. For present purposes, the most important problems can be classified as follows:

- **Income does not include the value of time spent in non-market activities.** We need to know more about the amount of time devoted to such activities and how to value it.
- **Income is usually measured at a single point in time.** We need to find better ways of distinguishing between current and permanent or lifetime economic status.
- **Income is usually aggregated over individuals who are members of the same household or family.** More information is needed about the distribution of welfare within the family and variations in welfare associated with family size and composition.

In each of these three areas, improvements in current concepts and measures would have quite specific implications in helping us to better understand differences in the status of women and men. It is some of these implications which I would like to discuss.

NONMARKET ACTIVITIES

As every student of elementary economics knows, the national income does not include the value of leisure, housework, volunteer work, or other nonmarket activities. Thus, when a man marries his housekeeper or a woman marries hers, for that matter, the value of the GNP automatically falls even if nothing else changes. As the major producers of goods and services outside of the market place, women's status is very much affected by this flaw in our ability to measure the value of these contributions. It is often assumed that because we do not measure nonmarket contributions, we thereby tend to undervalue them, but the opposite interpretation is also possible: As John Kenneth Galbraith has observed, we may find it socially convenient to tell people who wash dishes and change diapers that theirs is the highest calling—a belief which no one can challenge as long as there is no commonly accepted or objective yardstick to apply. It has been suggested that housewives could find out how much they are worth by hiring themselves out as domestics in one another's households. Although this might improve their status and their financial independence, it would also subject them to all kinds of taxes, as employed women everywhere have already discovered. Thus, while the status and independence associated with having one's own paycheck probably tend to propel women into the paid labor market, even when their real contribution is no greater on the job than at home, the taxes which get deducted from that paycheck have the opposite effect; on balance, it is not clear whether women would work more or less outside of the home if the Census Bureau were to somehow manage to attach a dollar value to the

¹ Jean Jacques Rousseau, "A Discourse on Political Economy," in *The Social Contract and Discourse* (New York: E.P. Dutton and Co., 1950), pp. 285-287. Copyright by E.P. Dutton and Co. Reprinted with permission.

housewife's services. If, on the other hand, the socially perceived status of the housewife is actually as high or higher than her real contributions warrant, then any attempt to value these contributions, subject them to taxation and to invidious comparisons with wages in other occupations, would release a flood of new entrants into the labor force.

Thus far, attempts to place a price tag on the homemaker's contribution have failed to come up with a conceptually or practically valid standard. It is argued that using the wages of paid housekeepers is like using the price of sack cloth to value a fashion designer's creation, and that using a woman's foregone earnings in the market assumes that these can be accurately estimated and applied to measuring productivity within the home. I don't know whether this is an area in which further conceptual and empirical work would prove to be fruitful. However, it seems to me that it would be useful to have, at a minimum, more descriptive information on hours devoted to nonlabor market uses of time. In addition, I think we should explore what could be learned from data on reservation wages—that is, the wage which each nonemployed individual feels would be required as a minimum to accept a paid job.

PAST, PRESENT, AND FUTURE INCOME

The need to rely primarily on cross-sectional census materials has caused us to focus on differences in income between households, but when one begins to follow the same households through time with the newer types of panel data, one finds substantial and previously unsuspected changes in their economic fortunes occurring over time. As a result, we are much more sensitive than in the past to the fact that one year's income is not a good indicator of expected income over a lifetime.

However, here again the sex differences are revealing. For men, the best predictor of lifetime income is education and other measures of human capital formation. For women, by contrast, human capital investments are a relatively poor predictor of earnings and, I suspect, an even worse predictor of their permanent family income. As much as some of us might wish it otherwise, what matters most for women is their marital, and not their labor market, status.

Women are particularly hard hit by divorce. Even the reasonably affluent often fall into poverty as the result of marital disruption, a fact which has only recently come to light due to the greater availability of longitudinal data.²

The reason that women tend to experience a relatively sharp drop in economic status following divorce is that they usually retain custody of any children and must bear the full burden of supporting them on their own limited earnings. Studies based on the Panel Study of Income Dynamics indicate that these support responsibilities are not shared, to any great extent, by men. Of those women who are eligible to receive assistance from their children's fathers, about two-fifths have never received such help, and those that do can count on an average of only \$2,000 a year in child support

or alimony [1]. Moreover, in a study which I completed last summer, I estimated that a substantial proportion of current welfare outlays could be eliminated if fathers shared fully in the support of children with whom they no longer live because of a divorce or separation [1]. With some demographers now estimating that almost half of all children will spend some time in a single-parent family in the future, the whole issue of parental support responsibilities is a critical one. Yet, adequate data for studying this important topic do not exist. At the risk of moving beyond what current data will support, but in an attempt to support the need for better data, I would like to hypothesize that inadequate child support by absent parents is a major determinant of poverty and welfare dependency among families headed by women. At present, we do not even have good descriptive data on child support and alimony, much less the capacity to analyze the whole process of inter-household transfers of income.

Perhaps equally important is the need to explore further the lifetime variability of family income with longitudinal data. I believe what we would discover is that these changes in economic circumstances are greater for women than for men, because they are closely related to major demographic events, such as divorce or childbearing, which impact on women more than on men. Such data might even shift attitudes about a married woman's right to subsidized education, training, and employment if it became clear that today's secondary earners are often tomorrow's breadwinners and that, for this reason, current family income is an inadequate measure of lifetime need.

It is, of course, not feasible to conduct a longitudinal survey on a large sample of individuals, but it would be feasible, and almost as useful, to collect more retrospective information on marital status, fertility, and labor force experience, and even on income. It also seems to me that it would be worth examining closely what we have learned from longitudinal studies with an eye to incorporating a few new variables into regular census surveys, where such variables have proved their worth on a smaller scale.

THE INDIVIDUAL VERSUS THE FAMILY

My final set of comments has to do with the appropriateness of measuring income on a family or a household rather than an individual basis. Data on the degree of equality or inequality in the income distribution are usually measured by examining the proportion of households which fall into different income categories. Looked at in this way, there has been little change in the degree of inequality over the post-war period, in spite of numerous efforts to eradicate poverty and improve the lot of the disadvantaged. One apparent reason for the near constancy of measured inequality is that individuals have used some of their increased affluence to purchase more independence—that is, they are living in smaller and smaller families or households. Elderly parents who used to live with their grown children now have their own apartments; teenagers can better afford to establish separate households; and, in general, there are fewer multi-family households and more multihousehold families as Watts and Skidmore point out. As they also argue, this burgeoning array of independent and constantly shifting living arrangements necessitates more attention to the individual as a unit of analysis. This is partly because larger aggregations are too unstable to be analytically tractable and partly be-

²For example, among middle-aged women whose marriages ended between 1967 and 1972, the proportion of families below the poverty level increased from about 10 percent to over 25 percent for Whites and from 44 percent to almost 60 percent for Blacks. See Lois Shaw, "Economic Consequences of Marital Disruption," paper presented at the Secretary of Labor's Invitational Conference on the National Longitudinal Surveys of Mature Women, January 26, 1978.

cause economic welfare depends not only on total income but also on how many people must share it and in what ways. This is not meant to suggest that there are not good reasons for aggregating income across individuals who pool their resources within households or families. But, it might be useful if every adult were asked about (1) the source(s) of their income (if any) and (2) the estimated proportion of their income used to support other individuals.³

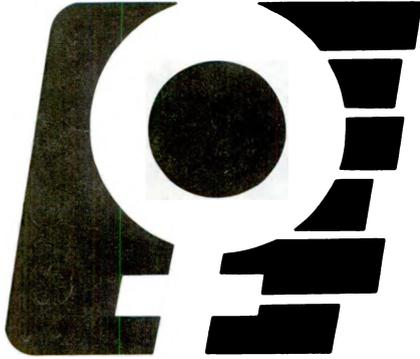
As a final comment, I would like to underscore the need to revise the practice of assuming that married households

are always headed by a male. As Nancy Barrett has suggested, this is both symbolically offensive and increasingly inaccurate. More than two centuries ago, the American colonists, taking their cue from Rousseau, complained about taxation without representation. This same democratic ideal has now filtered down from the political to the household economy. Those who have been statistically disenfranchised would like to be counted.

REFERENCE

³In a family unit with complete pooling of resources, this might entail simply aggregating family income and dividing it up into per capita shares. Each adult's contribution would then be their income minus their per capita share of the family's total resources.

1. Gordon, Nancy M.; Jones, Carol A.; and Sawhill, Isabel V. "The Determinants of Child Support Payments." Urban Institute Working Paper 992-05, June 1977.



III. Occupation

ON THE USE OF OCCUPATIONAL STATISTICS

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Social and economic policy initiatives on the part of Government are presumably inspired by a collective interest in the well-being of certain identifiable groups in society. While there is no unique measure of the well-being of households or individuals, income seems to be everyone's favorite proxy. Where women and minorities are concerned, Government policy is largely concerned with income derived from labor market earnings. In view of the abundant data available on income and earnings, and the policy importance attached to household incomes, what role can data on occupational affiliation play in the formation of public policy? It is the purpose of this paper to describe the types of data that would be useful for research on the occupational affiliation of women.

INTRODUCTION

Logically prior to a discussion of occupational data needs is some explicit or implicit theoretical framework of the role of occupation in earnings formation. One has to have some idea of what questions to ask before a decision can be made about what types of data ought to be collected and disseminated. At the most fundamental level, we have to decide what constitutes an occupation. There are any number of ways to assign occupational codes and titles. Presumably, the purpose of occupational codes is to convey something about what people do in their jobs. Occupational titles also convey information about wages and socioeconomic status of individuals.

In a study by Welch and MacLennan [20], it was found that 98 percent of the wage variance captured by 298 census occupation titles could be explained by condensation of the titles into nine broad categories. As these authors point out, efficiency dictates that, for a given number of occupational titles, the maximum amount of information be conveyed, or, for a given amount of information, the least number of titles should be used. It is not the purpose of this paper to suggest more appropriate occupational classification schemes; however, I will argue later that, within the current system of occupational titles adopted by the Bureau of the Census, data at the 3-digit level are necessary to study occupational mobility.

Because it is the vehicle by which the returns to human capital investment are realized, occupational affiliation is central to the human capital investment process. Indeed, occupation is a major means by which investment is possible. Apart from mandatory general education, a human capital investment decision is tantamount to selection of an occupational goal. In fact, it is the association of occupations with reasonably well-defined preparatory requirements and earnings opportunities that provides the individual with the information necessary to make investment decisions (occupa-

tional choices). These decisions are conditional upon the individual's preferences, aptitudes, and resources.

CONCEPTUAL FRAMEWORK

A person's earnings capacity can be expressed as the product of his or her embodied human capital times the market rental rate per unit of human capital. Apart from innate ability, embodied human capital is acquired as a result of an investment process undertaken by the individual. In general, the optimal human capital investment to be undertaken each year is determined by the solution to a lifetime utility maximization problem in which one faces various resource and technological constraints. Human capital augmenting investments are usually dichotomized into schooling and postschooling investments. The latter consists largely of on-the-job training (OJT).

In addition to human capital investments that raise earnings by increasing one's stock of human capital, there are investments that increase earnings by raising the market rental rate applicable to one's existing stock of human capital. The most familiar example is that of migration. Presumably, migration (in and of itself) has no effect or, at most, a negligible effect on one's human capital stock; however, one's current stock may be more highly valued elsewhere. Similarly, worker mobility between firms in the same labor market can also be viewed as an investment directed toward moving the services of one's human capital stock to where they are more highly valued. Job search theory is another manifestation of an investment process whereby workers seek the highest remuneration to their existing human capital stock subject to the appropriate resource constraints.

Although for some analytical purposes it may be appropriate to lump all human capital together, in actuality, embodied human capital is not a homogeneous entity. One's embodied human capital can be thought of as a vector of skills, traits, innate abilities, etc. Each element of the vector is associated with a given market rental value per unit of the skill. The vector of market rental values varies across occupations.¹ Thus, different skills and traits in a given occupation are associated with different market rewards. Also, a given

¹ Strictly speaking, the vector of market rental values varies across employers for the same occupational category. The differential rental values represent compensating wage differentials attributable to differing work environments. As a practical matter, it is simply not feasible to deal with occupational subcategories defined at the firm level. Necessity dictates a great deal of occupational aggregation. Even so, the *Dictionary of Occupational Titles* (DOT) lists approximately 20,000 entries.

skill or ability is associated with different market returns across occupations. In this hedonic approach, it is assumed that the market rental rates for various skills are determined by demand and supply conditions separately for each occupation.

In addition to variation in market rental rates, occupations can be characterized by variation in their minimum and maximum skill requirements. Each occupation specifies minimum skill requirements that a prospective worker must satisfy as a necessary condition for employment. Each occupation can also be distinguished by the maximum levels of various skills beyond which no additional pecuniary award is earned. At any point in time, one's potential wage in a particular occupation can be expressed as

$$w_t^0 = \beta_t^{0'} \tilde{K}_t^0 \quad \text{when } K_t^{\min 0} \leq K_t \quad (1)$$

$$= 0 \quad \text{otherwise}$$

where

$\beta_t^{0'}$ is a $1 \times N_k$ vector of market rental rates appropriate to each skill in occupation 0 at time t

\tilde{K}_t^0 is a $N_k \times 1$ vector of an individual's compensable skills in occupation 0

K_t is a $N_k \times 1$ vector of the individual's entire skills

$K_t^{\min 0}$ is a $N_k \times 1$ vector of minimum skills required for employment in occupation 0 at time t

$K_t^{\min 0} \leq K_t$ if and only if $K_{it}^{\min 0} \leq K_{it} \forall i, K_{it}^{\min 0} \in K_t^{\min 0}, K_{it} \in K_t$

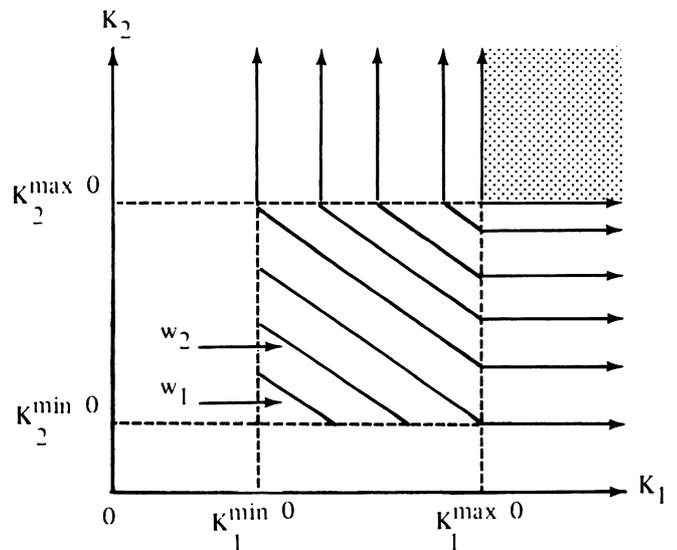
$\tilde{K}_{it}^0 \in \tilde{K}_t^0$ such that

$\tilde{K}_{it}^0 = K_{it}$ for $K_{it}^{\min 0} \leq K_{it} \leq K_{it}^{\max 0}$, where $K_{it}^{\max 0}$ is the maximum level of skill i that is compensable in occupation 0, and $\tilde{K}_{it}^0 = K_{it}^{\max 0}$ for $K_{it} > K_{it}^{\max 0} \forall i$

For some occupations, it may be necessary to modify the notion of maximum compensable levels of skills. For example, in some occupations there may be no theoretical upper limit to the amount of any relevant skill that is rewarded. In practice, however, individuals do not receive infinite wages. Resource constraints put an upper limit on the quantity of skills that can be provided to the market by an individual. One who is in possession of a scarce talent may be highly rewarded in the market, but this is the effect of supply and demand forces on the market rental rates of skills rather than the absence of a maximum compensable level of skills. Thus, it should do no great violence to the facts to assume an upper limit on each skill beyond which additional levels of skill add nothing to the individual's wage.

In order to better illustrate the uses of the framework set out by expression (1), let us consider the simple case of an occupation which utilizes only two skills. For notational convenience, the time subscript is dropped. Each of the wage isoquants (selected from an infinite number of isoquants)

Figure 1



in figure 1 depicts differing combinations of skill levels which yield a given wage at fixed market rental rates, i.e., $dw^0 = 0$. As we move out in a generally northeasterly direction along the wage isoquant map, we encounter isoquants that depict combinations of skill levels representing successively higher wage levels up to some maximum. The lowest wage paid in the occupation is represented by the wage isoquant that consists of the single point $(K_1^{\min 0}, K_2^{\min 0})$. On the other hand, the maximum attainable wage is represented by an isoquant that is actually a region defined by the set S^{\max} :

$$S^{\max} = \left\{ (K_1, K_2) \mid K_1^{\max 0} \leq K_1 \text{ and } K_2^{\max 0} \leq K_2 \right\} \quad (2)$$

The region is bordered by a Leontief-type relationship whose corner is $(K_1^{\max 0}, K_2^{\max 0})$. Thus, the maximum attainable wage is associated with all pairs of skill levels in which the skill in each category exceeds the maximum skill level for which additional market returns can be earned. In figure 1, the slopes of all wage isoquants intermediate between the minimum and the maximum wage are given by

$$dK_2/dK_1 = -\beta_1^0/\beta_2^0 \text{ for } K_1^{\min 0} < K_1 < K_1^{\max 0} \text{ and}$$

$$K_2^{\min 0} < K_2 < K_2^{\max 0}$$

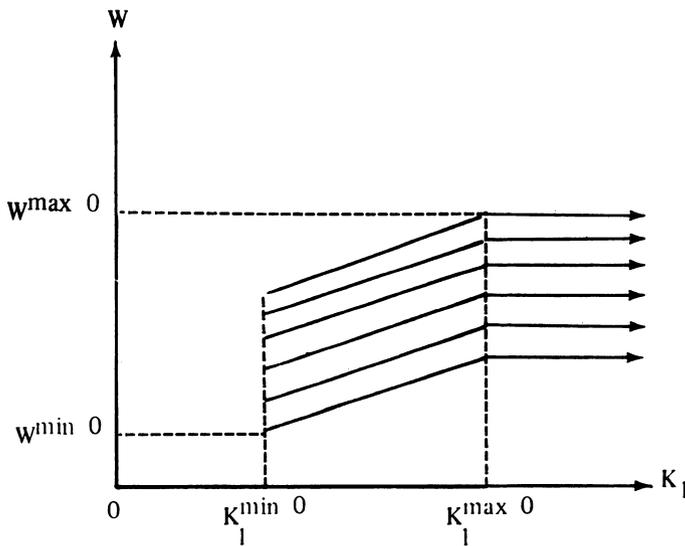
$$= 0 \text{ for } K_1^{\max 0} \leq K_1 \text{ and } K_2^{\min 0} < K_2 < K_2^{\max 0}$$

$$= \infty \text{ for } K_1^{\min 0} < K_1 < K_1^{\max 0} \text{ and}$$

$$K_2^{\max 0} \leq K_2 \quad (3)$$

Figure 2 depicts the relationship between the potential wage in an occupation and the amount possessed of a particular skill holding constant the level of other skills. Again, it is assumed that there are only two skills involved and that the market rental rates are fixed. Expression (1), evaluated at

Figure 2



$(K_1^{\min 0}, K_2^{\min 0})$ and $(K_1^{\max 0}, K_2^{\max 0})$, corresponds in figure 2 to $w^{\min 0}$ and $w^{\max 0}$, respectively. The slopes of the wage/skill (K_1) profiles in figure 2 are given by

$$\begin{aligned} \partial w^0 / \partial K_1 &= \beta_1^0 \text{ for } K_1^{\min 0} < K_1 < K_1^{\max 0} \text{ and } K_2^{\min 0} \leq K_2 \\ &= 0 \text{ for } K_1^{\max 0} \leq K_1 \text{ and } K_2^{\min 0} \leq K_2 \end{aligned} \quad (4)$$

Therefore, for a given value of K_2 greater than or equal to $K_2^{\min 0}$, the wage will rise along a particular wage/skill profile for increases in K_1 above $K_1^{\min 0}$. Also, for a given value of

K_1 greater than or equal to $K_1^{\min 0}$, increases in K_2 between $K_2^{\min 0}$ and $K_2^{\max 0}$ will raise the wage as one moves to successively higher wage/skill profiles.

An interesting application of this framework concerns the differential effects of a legislated minimum wage on various occupations. In the presence of a minimum wage law, the lowest attainable wage in an occupation cannot fall below the legal minimum. In occupations in which the legal minimum wage is binding, minimum skill requirements can simply be raised in order to render the value of a set of minimally required skills equal to the legal minimum wage. Expression (1) can be easily modified to reflect conformance of the minimum skill requirement with legally mandated minimum wages. Increases in the minimum wage can, thus, lead to unemployment of those whose skills no longer satisfy the new standards. Consequently, one can expect the employment effects of minimum wages to vary substantially across occupations. Also, to the extent that the occupational distribution differs between men and women, the effects of the minimum wage may be different for men and women.

Possible unemployment effects can be easily demonstrated with the simple two-skill example previously introduced. Imposition of a legal minimum wage that exceeds an occupational wage when expression (1) is evaluated at $(K_1^{\min 0}, K_2^{\min 0})$ changes the minimum skill requirement of the occupation. The minimum skill requirements would now have to be satisfied by any combination of K_1 and K_2 that lies on the wage isoquant corresponding to the legislated minimum wage. Consequently, all those individuals whose skill bundles fall below the legal minimum wage isoquant are rendered unqualified for employment in the occupation. This outcome is depicted in figures 3 and 4 for the wage isoquant map and the wage/skill profiles, respectively. In figures 3 and 4 w^m denotes the legal minimum wage. The minimum skill requirements are changed by the legal minimum wage from $(K_1^{\min 0}, K_2^{\min 0})$ to

Figure 3

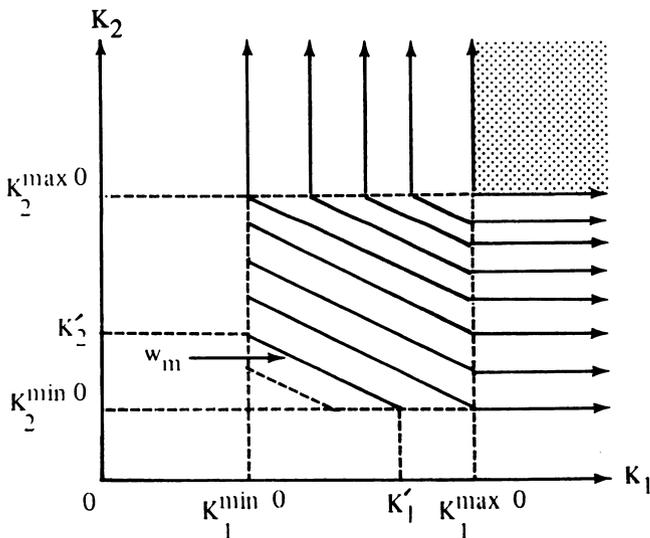
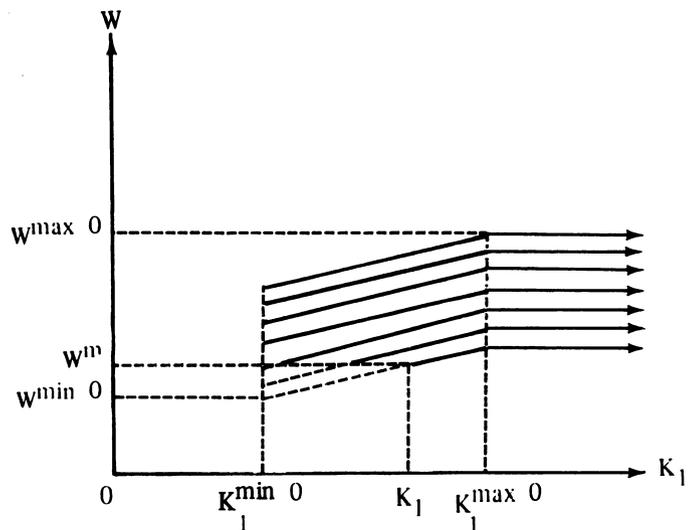


Figure 4



$$S^{\min} = \{ (K_1, K_2) | w^m = \beta_1^0 K_1 + \beta_2^0 K_2, K_1^{\min 0} \leq K_1 \text{ and } K_2^{\min 0} \leq K_2 \} \quad (5)$$

If $K_2 = K_2^{\min 0}$ then minimum qualifications require $K_1' \leq K_1$ where

$$K_1' = (w^m - \beta_2^0 K_2^{\min 0}) / \beta_1^0 \quad (6')$$

Similarly, if $K_1 = K_1^{\min 0}$, then minimum qualifications require $K_2' \leq K_2$ where

$$K_2' = (w^m - \beta_1^0 K_1^{\min 0}) / \beta_2^0 \quad (6'')$$

Another potential area of application for the conceptual framework introduced in this paper is the secondary labor market of dual labor market theory. Jobs in the secondary labor market are characterized as low paying and relatively insensitive to additional skill and effort on the part of the worker. (See [5; 7].) These jobs are regarded as dead-end jobs, and women and minorities are overrepresented in them. No real social problem is raised by those who are employed in these jobs for only a brief transitory phase of their working lives, e.g., college-student dishwashers. Social issues are raised, however, when women and ethnic minorities exhibit a disproportionately larger share of the permanent attachments to the occupations in which these jobs are mainly clustered. The precise separation between primary and secondary jobs is arbitrary, but it does involve comparisons between occupations of maximum attainable wages and maximum compensable levels of skills.

Within the conceptual framework adopted in this paper, the investment outlay required of an individual to attain any desired wage level in any particular occupation is determined by the production function relationships governing the production of the elements of K_t . The individual combines his or her own time with other inputs to produce various forms of human capital. Each type of human capital is subject to a depreciation rate which can vary over time. The net change in one's vector of human capital characteristics can be described by

$$\Delta K_t = Q_t - D_t K_t \quad (7)$$

where

Q_t is a $N_k \times 1$ vector of gross additions to human capital with a typical element Q_{it}

D_t is an $N_k \times N_k$ matrix of human capital depreciation rates with diagonal elements δ_{it} and 0 values for all off-diagonal elements

K_t is our $N_k \times 1$ vector of human capital characteristics

ΔK_t is a $N_k \times 1$ vector of net changes in human capital whose typical element is ΔK_{it} , where $\Delta K_{it} = Q_{it} - \delta_{it} K_{it}$

It is customary to view formal education as a period of complete specialization in general human capital formation. All of the individual's available time is assumed to be allocated to the production of general skills during this phase of the life cycle. However, it is reasonable to suppose that the degree of generalization diminishes at successively higher levels of education. One's education, if pursued beyond the legal minimum level implied by the various State laws mandating education up to a specified age, becomes increasingly specific to either a single occupation or cluster of occupations. After completion of the formal schooling phase, an individual's investment in human capital largely consists of OJT.

For analytical convenience, it is customary to treat post-schooling investment activity as separable from earning a living. That is to say, one can choose his or her allocation of time between OJT and earnings. The costs of OJT are the foregone earnings plus any direct costs. However, it is not difficult to imagine that some joint production takes place in which human capital formation automatically accompanies production for earnings. In the extreme case in which all postschooling human capital formation is characterized by joint production with earnings, once one opts for a given occupation, his or her wages in the occupation will rise up to some maximum with increases in the skill vector attendant upon the normal work routine. It would not be possible, for a given number of hours engaged in nonmarket time, to raise earnings by devoting more work time to earning and less to OJT.

Once an individual has completed formal schooling, generally the most efficient way to acquire occupation-specific human capital is to be employed in the desired occupation. The case in which one can produce human capital on the job depends on one's abilities and aptitudes as well as occupational-specific technological conditions governing human capital formation on the job. Over a wide age range, we should expect to observe less occupational mobility as one grows older. As a worker's skill mix is increasingly specialized toward maximizing his or her earnings in a particular occupation, the larger the reduction in the wage that would be experienced if the skill vector were evaluated according to the wage structure of any feasible alternative occupation. This wage reduction must be balanced against any future benefits to be derived from occupational mobility. With any positive rate of discount, the present value of the net return from a change in occupation will fall the shorter the remaining period over which returns can be collected. This is reinforced if a worker must divert time away from earning on the new job in order to invest in those skills important in the alternative occupation.

We are now in a position to evaluate discrete changes in a worker's wage rate. The general expression for a wage change is

$$\Delta w_t = \Delta \beta_t' \tilde{K}_{t-1}^0 + \beta_{t-1}^{0'} \Delta \tilde{K}_t + \Delta \beta_t' \Delta \tilde{K}_t \quad (8)$$

where

$\Delta \beta_t'$ is a $1 \times N_k$ vector of changes in market rental rates

$\Delta \tilde{K}_t$ is a $N_k \times 1$ vector of changes in human capital characteristics

Consider first a change in the market rental rates for a given occupation without any change in an individual's human capital. The change in market rental rates could occur in one's current labor market or result from a move to another labor

²The effects of unions on wages can be analyzed in a similar, though not necessarily identical, manner to minimum wage laws.

market. Under either of these circumstances, we can express the resulting wage change as

$$\Delta w_t^0 = \Delta \beta_t^{0'} \bar{K}_{t-1}^0 \quad (9)$$

where

$$\Delta w_t^0 = w_t^0 - w_{t-1}^0$$

$$\Delta \beta_t^{0'} = \beta_t^0 - \beta_{t-1}^0$$

If the change in market rental rates is due to a change in occupation, which may or may not involve geographic migration, the terms in (8) have the following interpretation:

$$\Delta w_t = w_t^1 - w_{t-1}^0$$

$$\Delta \beta_t' = \beta_t^1 - \beta_{t-1}^{0'}$$

$$\Delta \bar{K}_t = \bar{K}_t^1 - \bar{K}_{t-1}^0$$

In the event that the change in occupational affiliation does not involve changes in maximum compensable skill levels, or, if such changes do not affect the individual, $\Delta \bar{K}_t = 0$ and expression (8) simplifies to

$$\Delta w_t = \Delta \beta_t' \bar{K}_{t-1}^0 \quad (10)$$

Finally, we consider the effects of changes in human capital characteristics on the individual's wage in a particular occupation. The change in the wage may now be expressed as

$$\Delta w_t^0 = \beta_{t-1}^{0'} \Delta \bar{K}_t^0 \quad (11)$$

where

$$\Delta \bar{K}_t^0 = \bar{K}_t^0 - \bar{K}_{t-1}^0$$

Apart from changes in maximum compensable skill levels, the change in the wage will be attributable to the influence of net investment in human capital. For any given human capital component, as long as the gross production of that form of human capital exceeds the amount lost through depreciation, net investment will be positive.³ As long as one has not reached a maximum compensable skill level, positive net investment for any component of human capital will contribute to the individual's wage growth. We would expect that, as one grows older, wage growth would diminish. The effects of depreciation coupled with a finite time horizon over which to collect the returns from further investment yield successively smaller net investments.

In general, the proportionate wage change can be expressed as

$$\Delta w_t / w_{t-1} = \gamma_{t-1}^{0'} \Delta Z_t \quad (12)$$

where

$\gamma_{t-1}^{0'}$ is a $1 \times N_k$ vector whose typical element is

$$\gamma_{it-1}^0 = (\beta_{it-1}^0 \bar{K}_{it-1}^0) / w_{t-1}^0, \text{ and } \sum_i \gamma_{it-1} = 1$$

³In terms of equation (7), $\Delta K_{it} = Q_{it} - \delta_{it} K_{it} > 0$.

ΔZ_t is a $N_k \times 1$ vector whose typical element is

$$\Delta Z_{it} = (\Delta \beta_{it} / \beta_{it-1}^0) + (\Delta \bar{K}_{it} / \bar{K}_{it-1}^0) + (\Delta \beta_{it} / \beta_{it-1}^0) (\Delta \bar{K}_{it} / \bar{K}_{it-1}^0)^4$$

Thus, the proportionate wage change is a weighted average of the proportionate changes in market rental rates, human capital characteristics, and the product of proportionate changes in rental rates and human capital. The weights correspond to each human capital component's proportionate contribution to the wage in the base period. Depending on the source of the wage change, some of the proportionate changes in ΔZ_t may be set equal to zero.

From the construction of the proportionate wage change in (12), it is clear that a person's actual wage path and potential wage paths over time are going to be somewhat erratic. This is in contrast to the usual impression of a smooth, concave, wage/experience profile derived from highly simplified models of human capital formation. The reason for this is that we are considering more varied sources of wage changes. Changes in net investment in a homogeneous stock of human capital give way to changes in net investment in a vector of human capital attributes. Furthermore, we are considering changes in market rental rates due to occupational mobility, structural changes in occupations, and to autonomous growth in productivity. Consequently, while the wage path may be concave, it need not turn down after reaching a peak. To take a simple illustrative example, suppose autonomous growth in productivity raises the market rental rates by a constant proportion, i.e., $\Delta \beta_{it}^0 / \beta_{it-1}^0 = g > 0, \forall i$. For an individual in a given occupation, it can be shown that the proportionate wage growth is

$$\Delta w_t^0 / w_{t-1}^0 = g + (1 + g) \gamma_{t-1}^{0'} \Delta \bar{Z}_t^0$$

where

$\Delta \bar{Z}_t^0$ is a $N_k \times 1$ vector whose typical element is

$$\Delta \bar{Z}_{it-1}^0 = \Delta \bar{K}_{it}^0 / \bar{K}_{it-1}^0$$

Thus, we can say that

$$\Delta w_t^0 / w_{t-1}^0 \geq 0 \text{ as } g / (1 + g) \geq - \gamma_{t-1}^{0'} \Delta \bar{Z}_t^0$$

Accordingly, one's wage could be maintained even if average net investment were negative so long as autonomous productivity growth were just sufficient to offset the weighted-average of net investments. The proportionate change in the real wage is obtained by subtracting the proportionate change in the price level from each side of equations (12) and (13).

In a labor market characterized by downward money-wage rigidity, occupational mobility may be a means of facilitating downward wage adjustments. Suppose the weighted average net investment rate of a worker were negative and greater in absolute value than the autonomous productivity rate of growth. Such circumstances would indicate a fall in an individual's money wage. In the presence of institutional arrange-

⁴It is assumed that β_{it-1}^0 and $K_{it-1}^0 \neq 0$. In the event that this condition is not satisfied, the base value for the proportionate change can be easily modified to avoid division by zero.

ments which inhibit an employer from lowering the money wage of an employee in his or her current job, various alternatives suggest themselves. First of all, rising demand for the firm's product may allow sufficient growth in the price of the firm's output to bring about the desired reduction in the employee's real wage to the firm. Secondly, an employee could be moved to another job within the firm and, thereby, come under another wage structure. Thirdly, the employee could be forced to quit or be fired. In this instance, the individual may either leave the labor force, which can be viewed as an occupational change, or seek employment in another occupation. If a worker is forced by circumstances to resort to occupational mobility and wishes to avoid frequent changes in employment, he or she would tend to opt for feasible occupational alternatives in which skill depreciation is relatively unimportant. Such would be the case in an occupation in which the important components of human capital depreciate very slowly or in which the maximum compensable skills are well below the individual's current skills. In the latter instance, depreciation of an individual's human capital would have no effect on the wage so long as the person is on the horizontal segments of the wage/skill profiles depicted in figure 2.

Downward money-wage rigidity can be an important factor when firms in a labor market experience a decline in the demand for their output. To the extent that a reduction in market rental rates would have cushioned the employment decline, downward money-wage rigidity will lead to greater employment declines. These employment reductions can entail cutbacks in the work week and/or in personnel. To varying extents, the future wages of those experiencing a reduction in employment will be adversely affected. The reduced work week means less net investment and a layoff can mean negative net investment. Consequently, a worker's human capital is not as great when full employment resumes as it would be if he or she remained fully employed at a temporarily lower wage. Hence, the wage rate after the resumption of full employment is smaller than it would otherwise have been. An individual unemployed or out of the labor force for a lengthy period can experience a considerable amount of skill depreciation.

Casual empiricism suggests that the longer an individual remains unemployed, the lower the probability that he or she will find employment. The idea is that the depreciation of human capital renders an individual less employable. In our framework this means that the probability of finding a job in the vicinity of one's previous wage is lower, especially in one's previous occupation. Also, as an unemployed worker's skills depreciate, the number of jobs in which a worker's vector of skills meet the minimal requirements is reduced. The remaining feasible occupational alternatives may be so unattractive that the unemployed worker leaves the labor force. This scenario is quite applicable to structural unemployment. The policy prescription has been to facilitate geographic and/or occupational mobility. In the case of desired occupational mobility, job training programs are the usual recommendation. Upon completion of job training instruction, immediate placement is imperative, otherwise the worker is likely to find him or herself in the same set of circumstances that prevailed prior to the instructional period.

Thus far, little has been said about occupational earnings as opposed to wage rates. I have assumed a fixed number of annual hours of work so that any change in earnings was solely the result of a change in the hourly wage. A completely general approach would treat lifetime consumption, leisure,

human capital investment, and desired hours of market work as endogenous. The identities describing occupational earnings, absolute change in earnings, and proportionate change in earnings are given below by (14), (15), and (16), respectively.

$$Y_t^0 = w_t^0 h_t \quad (14)$$

$$\Delta Y_t = h_{t-1} \Delta w_t + w_{t-1}^0 \Delta h_t + \Delta w_t \Delta h_t \quad (15)$$

$$\Delta Y_t / Y_{t-1}^0 = \Delta w_t / w_{t-1}^0 + \Delta h_t / h_{t-1} + (\Delta w_t / w_{t-1}^0) (\Delta h_t / h_{t-1}) \quad (16)$$

where

Y_t^0 = annual earnings in occupation 0 in year t

h_t = annual hours worked in year t

ΔY_t = change in earnings

Δh_t = change in hours worked

If, in the latter phase of the work life, individuals value leisure very highly, the reduction in time allocated to OJT may be insufficient to accommodate a rising demand for leisure. The consequence would be that hours of work would fall. (See [9].) If the absolute value of the proportionate reduction in labor supply just equals, and then surpasses, proportionate increments in the wage rate, observed earnings will peak and then decline.

DATA NEEDS

Now that the formal analytic apparatus is set in place, I will proceed to explore issues relating to data needs concerning the occupational affiliation of women. Although neither the vector of market rental rates nor the vector of compensable skills is directly observed, the analytical framework adopted in this paper focuses upon the effects of their mutual interaction on things that can be observed, i.e., occupational wages and occupational distribution. The analysis of the preceding section provides a way of looking at wage changes as the product of occupational mobility, human capital formation, and structural changes which affect the rewards to different skills across occupations. Accordingly, the essential features of the analysis suggest data needs of the following types: Longitudinal wage and employment histories of individual women, an annual time series on the occupational wages and distributions of women workers at a sufficiently disaggregated level, and more local labor market specific data on occupational wages and distributions of women workers. A detailed discussion of these data needs follows.

First, I would observe that concern with the occupational attachment of women is largely motivated by the sizeable earnings gap between the sexes. After adjusting for sex differences in average full-time hours worked, women's median earnings in 1971 were only 66 percent as much as those of men [4]. This implies a sex-earnings differential of 52 percent when using the median earnings of women as the base. According to my own study [13], there is evidence that the gap has actually been widening over a period of at least 20 years.

The average wage for a group of workers at a point in time

can be expressed as a weighted average of the average wages in a completely exhaustive and mutually exclusive set of occupations. The weights are the proportions of workers who are in the various occupations. Thus, we have

$$\bar{w}_t = n'_t \bar{W}_t \quad (17)$$

where

\bar{w}_t is the average wage at time t

n'_t is a row vector of the proportion of workers in each occupation

\bar{W}_t is a column vector of the average wage in each occupation

It is easy to decompose the wage gap between men and women into the male-female difference in occupational distribution and the sex difference in wages within occupation

$$\Delta w_t = \Delta n'_t \bar{W}_{ft} + n'_{ft} \Delta \bar{W}_t + \Delta n'_t \Delta \bar{W}_t \quad (18)$$

where

Δw_t is the male-female wage difference at time t ($\bar{w}_{mt} - \bar{w}_{ft}$)

$\Delta n'_t$ is a row vector of the male-female difference in the proportion of workers in each occupation.

$\Delta \bar{W}_t$ is a column vector of male-female wage differences, by occupation

The first term in (18) indicates how much of the wage difference stems from sex differences in occupational distribution, and the second term indicates how much of the difference is due to sex-wage differences within occupations. The last term in (18) is just a second-order term of differences that arise because of the discrete nature of the wage decomposition.

For any given occupation, the average wage is obtained by evaluating the occupational wage structure at the values of the effective human capital components averaged across individuals comprising the occupation

$$\bar{w}_t^0 = \beta_t^0 \bar{K}_t^0 \quad (19)$$

where

\bar{w}_t^0 is the average wage in occupation 0

\bar{K}_t^0 is a column vector of the mean values of the effective human capital components

It is clear that the male-female wage difference in each occupation can be expressed in terms of sex differences in human capital components and sex differences in market rental values for human capital. Sex differences in market rental values within the same occupation are clearly discriminatory. One might imagine that one of the human capital characteristics considered by employers is the sex of the worker. This component takes on the value 1 if the worker is male and zero otherwise. Associated with this sex dummy variable is a positive market rental value. This would be sufficient to generate a sex-wage bias. More generally, we might posit a sex bias in the entire vector of market rental values.

Empirically, we could estimate separate wage equations for each sex in each occupational category. The differential reward for characteristics, such as experience or age, could then be estimated. However, sex differences in the estimated coefficients may not be accurate indicators of sex differences in market rental values. This is because a year of experience may represent different skill acquisitions or human capital investments between men and women. Thus, even if a male and a female were of the same age or experience cohort, they could still differ in their vector of human capital components. This difference itself may be attributable to differential opportunities for OJT, but now sex bias is more subtle because of the obvious difficulty in directly measuring human capital.

According to the occupational crowding hypothesis [3], women are confined to a relatively narrow range of occupations which depresses the wages in these occupations for both men and women. In our framework, this means that the market rental rates of human capital are depressed in these occupations. Any observed wage differentials between men and women in these occupations would be mainly the result of differing skill vectors. Many women in the early stages of the working life would have much higher future wages if they were employed in nontraditional, male-dominated occupations. However, as time goes on, opportunities for skill enhancement diminish as women remain in the traditional female occupations. There is also the possibility that certain female occupations are close substitutes for higher paying male occupations. In a variant of the shell game, occupational titles are juggled around in order to mask wage discrimination as occupational differentiation.

Estimation of the contribution of different occupational distributions and wage differences within occupations to the overall sex difference in wages is somewhat arbitrary. The level of occupational aggregation will influence estimates of the relative importance of each of the two sources of the sex difference in wages. As an extreme example, if all workers were lumped together in a single occupational category, none of the sex-wage differences could be attributed to different occupational distributions. At the other extreme, occupational categories could be made to correspond to each job. For some jobs, the minimal skill requirements may include the restriction that all workers be of the same sex. Under such circumstances, perfect job segregation would dispose of wage differentials within occupations as a source of the overall male-female wage differential. Unavoidably, the level of occupational disaggregation used for data collection purposes is the product of compromise.

Changes in the overall male-female wage differences stem from changes in sex differences in occupational distribution and changes in sex-wage differences within occupations. There are any number of ways to summarize these effects over time. One possibility is to adopt the occupational similarity index used by the Council of Economic Advisors [4]. The value of the index at time t (I_t) is computed by

$$I_t = (1/2) \sum_j |\Delta n_{jt}| \quad (20)$$

where

Δn_{jt} is the difference between the fraction of male workers who are employed in the j^{th} occupation and the frac-

tion of female workers who are employed in the j^{th} occupation

The value of the index can range from zero (identical occupational distributions) to one (perfect occupational segregation). It might be useful to discover those macroeconomic factors that can explain movements in the index over time. Unfortunately, the level of occupational disaggregation needed to meaningfully detect changes in occupational similarity is readily available only in census years. Annual data on occupational distribution, by sex, are published only by very broad occupational category. Consequently, occupational movements within broad categories can only be detected in census years. Similarly, earnings data by sex, by occupation, are available on the same basis as occupational distribution data—a great deal of detail in census years but only broad occupational categories in the interim.⁵ In addition to more occupational detail on an annual basis, it would be very helpful to have data on average or median occupational wage rates by sex. Earnings of year-round full-time workers is a proxy for the wage rate, but there still remain sex differences in the average annual hours of work, even among these workers.

While economy-wide occupational data are very useful for assessing general movements in the occupational affiliations of women workers, in and of themselves, they do not provide the information needed to implement effective public policy, nor do they enable individual women to respond to new occupational opportunities. Information needed for individual choices as well as for the operation of programs to assist women in finding new occupational opportunities must be available at the level of the local labor market. The importance of this consideration is easily grasped by viewing the same problem in another context. Does a low unemployment rate for the United States as a whole signify prosperity for Appalachia? Or to put it another way should economy-wide expansionary fiscal and monetary policy be adopted in order to lower the unemployment rate in Appalachia? Efficient resource allocation requires that information be available at the local level.

The monthly Current Population Survey (CPS), conducted by the Bureau of the Census, cannot be used to obtain occupational data at the level of the local labor market. This is, of course, because the sample size is only large enough to achieve statistical reliability for nationwide aggregates. Fortunately, detailed occupational data are available at the local labor market level for census years. From census data, one can compute detailed occupational distributions across detailed industry categories. These fractions have been incorporated into an industrial-occupational (I-O) employment matrix by the Bureau of Labor Statistics (BLS) for the United States as a whole. The I-O matrix is defined over 200 industries and 400 occupations. Many State departments of employment security, in cooperation with the BLS, have developed similar matrices on a statewide basis and, in some instances, at the local labor market level.

Forecasts of occupational employment are obtained by applying the I-O matrix to industry employment forecasts obtained from econometric models of the national, State, and local economies. At the present time, there is no classifi-

cation by sex. Thus, while overall occupational employment can be forecast in a given area, there is no current effort to obtain these forecasts separately by sex. If the occupational-industry employment distribution from the census were differentiated by sex, the potential number of entries in the I-O matrix would double from 80,000 entries to 160,000. Naturally, there would be many null entries for local areas. And, in any event, the availability of computer information retrieval systems makes the task a manageable one.

Unfortunately, a problem still remains even if occupational forecasts can be obtained for women at both the national and local levels. The occupational distributions that existed at the time of the census are incorporated into future forecasts. Strictly speaking, distributional trends cannot be picked up, let alone seasonal and cyclical movements in occupational distributions. At the present time, some of the States, in cooperation with BLS, update their I-O matrices once during the intercensal period to incorporate perceived trends in the occupational distribution. More frequent updating of the I-O matrix is necessary to improve the accuracy of occupational forecasts, as well as to provide researchers with the data needed to understand the process underlying staffing patterns in industry. Obviously, a complete national census cannot be conducted any more frequently than every 10 years. Nevertheless, State offices of employment security can and do survey local employers to obtain current information on employment by occupation.

There continues to exist an important need for research on occupational choice and occupational mobility among women. The economist's systematic treatment of occupational choice goes at least as far back as Adam Smith, with refinements continually being made. In recent years, there have been studies which examine the link between expected lifetime labor force participation and the occupational affiliation of women [15; 16; 21]. According to Zellner, those occupations which involve only modest wage-growth possibilities but relatively high wages for low experience levels would tend to be more attractive to individuals who anticipate relatively little labor force participation over the lifetime. Occupations which offer ample opportunities for wage growth but which offer relatively low wage possibilities for low experience levels tend to pay off for those contemplating full-time labor force participation over the working life. According to Polachek, those who anticipate intermittent labor force participation would tend to be attracted to occupations in which skill depreciation is relatively unimportant. In the absence of exceptionally strong nonpecuniary rewards, it simply does not pay to invest in skills which rapidly depreciate during prolonged absences from the labor force if one expects to spend lengthy or frequent spells out of the labor force.

While the above approaches attempt to explain the occupational affiliations of women on the basis of lower expected lifetime labor supply and intermittent labor force participation, they are not meant to imply that discrimination has nothing to do with the occupational choices of women. Labor force participation and occupational choices are the results of constrained utility maximization. Where women are concerned, labor market discrimination or the anticipation of discrimination obviously influences the constraints. In order to better understand the determinants of occupational choice and occupational mobility, we require longitudinal data at the household level. The National Longitudinal Survey of mature women is an example of the type of survey data that is needed.

⁵For empirical evidence on the roles of occupational distribution and sex differentials within occupations in the overall male/female wage differential, see [13].

Since theories of human capital formation and occupational mobility are based on life cycle models, it is imperative that socioeconomic data on women over their working lives be made available for research.

CONCLUDING REMARKS

In order to ask the right questions about the occupational affiliation of women, it is necessary to have some sort of theoretical frame of reference. Very little is known about the technological conditions governing the formation of skills on the job, and much more needs to be known about occupational choice and mobility. As a small step toward asking the right questions, a simple framework has been presented which links together occupational affiliation, human capital formation, and wage rates. It affords a means of discussing both theoretical and empirical issues that relate to the occupational attachments of women.

Data limitations can be found at both the macroeconomic and microeconomic levels of analysis. For the purposes of

understanding and predicting changes in occupational distribution among women, annual data on detailed occupational distributions must be made available. Similarly, detailed occupational data should be made available on a more frequent basis for local labor markets. Public policy aimed at enhancing the occupational opportunities for women cannot be made fully operational merely on the basis of economy-wide statistics, nor can individuals really respond effectively to information on U.S.-wide averages. Finally, comprehension of how individuals choose occupations and subsequently form marketable skills depends upon the availability of longitudinal data on individual households.

Although many individuals may not directly consult official statistics in deciding upon human capital investments, they do form perceptions of occupational opportunities from a variety of sources which include information disseminated by public agencies. The purpose of the statistics is to facilitate resource allocation by making information available to the public and policymakers and to enable researchers to better understand the process of occupational choice and earnings generation.

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COMMENTS

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In gathering today to discuss possible changes in the census occupational statistics, we join a long and distinguished line of predecessors. For the tradition of reviewing and adjusting the decennial census arose with its inception. To set the historical stage for our analysis of occupational statistics as they apply to women, let me begin with a quotation:

Interest in the subject to women's position in the economic world, and particularly in her position as a producer, is so universal that all details of that relationship take on a considerable importance. But curiosity concerning the fact is satisfied only with great difficulty both because there is a dearth of material, and because of the unorganized form in which data as exist are to be found, and the heterogeneous character of the sources from which they must be drawn [1, p. 14].

More than 70 years have passed since these criticisms were made. Yet, the issues we shall raise today are not very different from the ones disturbing Abbott and Breckenridge. In the years since 1906, numerous changes have been made in the occupational census [24]. Most recently, the 297 3-digit census occupation categories used in 1960 were expanded to 441 in 1970 in order to try to reduce the large number of workers who, in 1960, ended up in the "n.e.c." (not elsewhere classified) categories within the major occupational groups. Many job titles were shifted about to increase homogeneity among specific categories.¹ Some of the added job titles reflected the growth of new, technologically innovative occupations, such as computer related jobs. In one occupational group of great importance to women, "clerical and kindred workers," the expansion of 3-digit categories from 28 in 1960 to 48 in 1970 was a response to the occupation's growth, technological change, and increased specialization of function within the group [27]. Since the 1970 census, the Census Bureau has moved to eliminate sex stereotyping in the occupational titles [20]. One hopes that the references to employee as "he" will also be eliminated in the 1980 questionnaire.

What other revisions should be made for the 1980's? Clearly, before making any new recommendations, we must step back and deal with the more fundamental issue: What kinds of questions do we want the data to answer? Oaxaca's paper provides one response to this query. He focuses on the relationship between occupation, skill formation, and earnings and argues persuasively that occupational data are important

¹ See [15]. For a discussion of some of the main concerns in revising the 1960 occupational system, see papers by Hodge and Siegel; Greene; Lewis; and Cain, Hansen, and Weisbrod in [3].

in order to more fully understand the relationship between earnings and human capital accumulation. But, there are a multitude of other questions most social scientists and the general public want to be able to answer by examining occupational data.

QUESTIONS TO BE ANSWERED WITH OCCUPATIONAL DATA

In my view, we want occupational data by sex for three purposes, their relative importance not necessarily being reflected by the order in which they are discussed.

First, most people want occupational data for report-card purposes; they want to compare the distribution of women and men across occupations in order to determine if women have made progress, vis-a-vis men, where progress is measured along a variety of dimensions, including, among others, income, status, and power. This is the purpose Abbott and Breckenridge had in mind when they indicated they were interested in women's position in the economic world.

The second major use of the data is to test theories. Social scientists wish to ask whether the data provided by Government statistics confirm the relationships posited by particular theories and to what extent existing theories are successful in explaining women's position in the labor force. The use of occupational data to test aspects of the human capital theory was the topic Oaxaca explored in his paper.

Finally, social scientists, educational planners, and the general public are interested in using occupational statistics for planning purposes, to predict which occupations are likely to require expansion or contraction in the future. Such predictions, we expect, will be useful to individuals in making occupational choices and to educational planners in deciding what types of training to provide.

These, then, are the three major uses to which we wish to put occupational statistics: Reporting progress, testing theory, and making forecasts. To what extent are the current data useful for these purposes? And what types of improvements would more adequately meet these three needs? We begin with the report-card function of the data.

I wish to thank Kathryn Poss for excellent research assistance and members of the Education and Work Seminar at the Stanford School of Education, especially Michael Imber, Henry Levin, Russell Rumberger, Joan Talbert, and David Tyack, for helpful discussion of this topic.

EXAMINING PROGRESS: THE REPORT-CARD FUNCTION

While there are very few who would argue that men and women should be distributed across occupations in precisely the same proportions, most agree that the current distribution reflects the unnecessary and undesirable interference of sex-role stereotyping in men's and women's occupational choices and in employers' hiring decisions. These stereotypes, which intervene on both the supply and demand sides of the market, not only reduce overall productivity but also cause inequities, by sex, in income, decisionmaking power and job autonomy. Thus, we test for diminution in occupational segregation, not because we believe that such diminution is desirable for its own sake, but because we expect that a lessening of occupational segregation would be likely to result in improvements in resource utilization and a more equitable distribution of income, power, and autonomy between the sexes.² In my view, however, the current data on occupations, by sex, are not entirely satisfactory for measuring progress in either resource utilization or sex equity along the dimensions mentioned.

First, it must be remembered that the occupational data we have are obtained from individuals who classify themselves into occupations. While difficulties stemming from this procedure may be smaller than those in, for example, some Latin American countries, where individuals tend to classify themselves by their academic degree regardless of their current job, there are, nonetheless, problems inherent in having Americans classify their own occupations. For example, social scientists have noticed the decrease in the proportion of Black women domestics and the increase in their employment in service occupations. It may well be that the statistics overstate this trend. It seems likely that some women who work both as domestics and as service workers in hotels may report themselves as being in the higher status service occupation, even if they work primarily as domestics. Similarly, the boundary line between high-level clerical occupations and low-level administrative occupations is quite porous. How much of the increase in women managers represents merely an increased propensity for clerical workers to classify themselves as administrators? Clearly, any system of classification of occupations is arbitrary and employers may also sometimes have incentives to shade their responses to questions about employees' occupational classification, as, for example, on EEOC forms. However, it would seem particularly useful for the Census Bureau to increase its efforts to study the comparability of individual and employer occupational classification and then to make such studies available.

The second major problem in using the census data to measure progress stems from the fact that, while these data provide information on the characteristics of job holders by occupation, they do not provide information, with the exception of an industry designation, on the characteristics of the occupation itself. Abbott and Breckenridge noted this in 1906: ". . . the census of so-called occupations is not a census of occupations, as such, but of occupational groups. . . . From

²Although Oaxaca and others stress the connection between occupation and income, it seems to me that, to most social scientists and certainly to the general public, issues of equity in prestige, decisionmaking power, and job autonomy are also important. I omit the matter of prestige from the discussion because of the dispute within the sociological literature about whether or not there are sex differences in prestige among employed persons. See [14; 26].

it we can learn how many, who, in connection with what general industries, but not what" [1, p. 40].

The *Dictionary of Occupational Titles (DOT)* does, indeed, contain information on some occupational characteristics, but the *DOT* classification system has been different from that used by the Census Bureau. Thus, researchers interested in the utilization of skills and/or training or wishing to test whether recent changes in women's occupational attainment have resulted in a closer fit between women's training and their use of that training in their jobs have been seriously hampered. In the Fall of 1977, however, the U.S. Department of Commerce issued the *Standard Occupational Classification Manual* [28]. Combining census data on the sex composition of occupations with *DOT* data on job content should be possible for the 1980 census.

With respect to measuring changes in income equity, by occupation for men and women, the census data are also deficient. Table 4 of the 1970 Subject Report *Occupation by Industry* provides us with information for both sexes, separately, on the mean earnings in 1969 of employed persons with earnings in 1969 according to industry, by occupation. However, since there is considerable variation, by sex, in the number of hours of employment, it is difficult to use these data to measure progress toward income equity within an occupation. Average annual wage rates by sex, by occupation, are required, and the standard deviations associated with the average rates should also be made available.

The problem of measuring progress toward equity in decisionmaking power or job autonomy is even more difficult. For example, suppose we find, as indeed we do, that the proportion of managers who are women is increasing. The usual interpretation of this finding is that decisionmaking power and job autonomy are becoming more equitably distributed between the sexes. But, such conclusions are hardly warranted.

At the 2-digit level of information (the level at which our annual data are presented and the level at which EEOC data are collected), an increase in the proportion of managers who are women says virtually nothing about the redistribution of decisionmaking power or job autonomy. The components of the 2-digit category "managers and administrators, except farm" are too dissimilar to reach conclusions about these matters. College presidents, corporate officers, and cabinet officials are all managers and administrators, as are funeral directors, office managers, superintendents and elementary school principals.

Even at the 3-digit level, it is difficult to draw firm conclusions about decisionmaking power or job autonomy. For example, the manager of a chain store or franchise operation generally has much less decisionmaking power than the manager of an independent store. Yet, both are included under census code 231, "sales managers and department heads, retail trade." And those of us in academia are all familiar with the substantial diversity within the census category 235, "school administrators, college." Suppose, by way of illustration, that, in these times of budget stringency, a retiring associate dean (male) is replaced by an administrative assistant (female). The statistics would indicate that the percentage of women college administrators had increased. Yet, it would certainly not be the case that the decisionmaking power (or, indeed, the status or income) formerly accruing to men had now been redistributed to women.

The solution to this problem cannot, in my judgment, be

met through the usual census publications. What is required to measure progress in the redistribution of decisionmaking power between the sexes is a series of carefully executed case studies which directly examine this matter in instances where women have moved into formerly male positions.

TESTING OF THEORY

We turn now to the use of occupational statistics to test theory. Oaxaca has given us a useful discussion of the way in which occupational data can be used to test several aspects of human capital theory. His observation that investment in specific human capital is tantamount to making an occupational choice provides a nice link between the discussion here and the way in which human capital theory is usually framed. His model also provides us with some specific testable relationships between earnings, human capital accumulation, and occupation. In Oaxaca's view, testing of his model would require only two relatively modest changes in the occupational data now provided: The publication of average annual wage rates by sex, by occupation, and the publication, on an annual basis, of 3-digit occupational information by sex.

However, the human capital theory is no longer the only one in town. Moreover, there are some aspects of human capital theory testing that Oaxaca has ignored.

There are currently several different theories which seek to explain the female/male wage differential. Although earlier work on this topic, by Fawcett and Edgeworth, highlighted the connection between sex differences in pay and sex differences in occupation, with the exception of Bergmann, modern neoclassical theoreticians have not emphasized the role of occupational segregation in determining the F/M pay differential [6; 7; 12; 13]. Rather, neoclassical explanations of the sex-salary differential have stressed, on the demand side, either the taste for discrimination (women are paid less than men in order to compensate employers for the disutility of hiring women) or statistical discrimination (women are paid less than men to compensate risk averse employers for the less reliable information which is available about women employees). On the supply side, neoclassicists have relied on the human capital construct (sex differences in pay reflect sex differences in human capital) [2; 4; 5; 17; 19; 25].

Segmented labor market (SLM) theorists, on the other hand, have, as their appellation suggests, made the relationship between occupational segregation and pay differentials a central focus of their work [8; 11; 21]. The two key elements of their approach are as follows. First, either to enhance efficiency, or, in the more radical versions, to achieve social control, employers find it useful to segment the work force so that men and women are assigned to mutually exclusive job ladders. Second, the job evaluation process within internal labor markets assigns higher wages or salaries to those job clusters reserved for males. While persisting pay differentials, by sex, are an anomaly for the neoclassical model, in the SLM theory, they are a fully expected outcome.

The need for information on job content in order to test SLM theories is clear. For whether the theories divide occupations into two, three or four segments, they are basically trying to distinguish "good" from "bad" jobs and to relate this distinction to differences in earnings. Several studies have used the *DOT* to try to distinguish so-called primary and secondary jobs.³ It would also be useful to compare the

quality of working conditions of female-typed and male-typed jobs. Again the ability to translate easily between the *DOT* and census categories is critical. In addition, since one of the most important determinants of a "good" job is its potential for increasing earnings with experience, testing SLM theories would be greatly aided if, for each 3-digit occupation, we had information not only on the average wage rate but also on the average wage rate of employees with low, medium, and high levels of experience. Such observations would supply a far more accurate picture of the relative desirability of particular occupations than we can obtain at present.

A second issue dealt with by SLM theories is the stability of occupational segregation. The 1/1000 sample of the 1970 census asked not only the respondent's present occupation but also his or her 1965 occupation. This information has permitted some interesting observations to be made on the mobility out of secondary jobs for various groups [9]. It is hoped that the 1980 census will continue to ask about the occupational history of respondents in the 1/1000 sample.

Occupational history of a different sort would be particularly useful in testing the human capital theory proposition that women earn less than men because they pay a penalty for discontinuous labor force participation. This hypothesis has been tested using the smaller samples from the National Longitudinal Survey and the University of Michigan Panel of Income Dynamics [10; 16; 17; 18; 23]. If a question on past labor force behavior were asked in the 1/1000 census sample, it is likely that the penalty hypothesis might be more definitively investigated.

FORECASTING

The final purpose of census occupational data that we will consider is forecasting. Here, I can only agree with Oaxaca that more research is required on the determinants of initial occupational choice by young men and women and changes in those choices over the life cycle. In particular, it would be interesting to trace the extent to which young people obtain and use census information on occupations and income, as well as census forecasts on future occupational needs. It would also be interesting to monitor the relationship between changes in the sex composition of occupations and the job choices made by young people.

I also agree with Oaxaca that forecasts of future occupational requirements need to be made at the local level. Since educational planning and retraining of unemployed workers are carried out by States and/or counties, occupational forecasts must correspond to the need for information at those levels. I am not clear, however, why Oaxaca thinks that occupational employment should be forecast by sex. I would prefer to see forecasts made in terms of need for personpower, with the assumption that the job openings could be trained for and obtained by individuals of either sex.

CONCLUSION

Let me conclude with two points. First, it is clear that several of the problems I have discussed concerning occupational statistics are relevant to all of the purposes I have outlined. However, I have specifically sought, in my comments, to emphasize that census occupational information is desired for many purposes; for only by keeping these several purposes firmly in mind can suggestions for altering census

³ For example, see [9; 22].

categories be evaluated. For example, Oaxaca cites a study by Welch and MacLennan which suggests that the detailed census occupational titles ought to be abandoned in favor of a classification scheme using only nine categories [29]. This proposal is defended by the authors on the grounds that these nine categories capture 98 percent of the wage variance in male wages. Not only does this proposal totally ignore the issue of sex differences in occupations, it also fails to recognize the forecasting function of occupational statistics and the fact that theory testing involves more than simply testing the relationship between occupation and income. Proposals for altering census occupational categories need to be evaluated con-

cerning their effects on all three of the functions outlined.

Second, I wish to support Oaxaca's suggestion that 3-digit level occupational information, by sex, be published annually. Clearly 3-digit level statistics are required for forecasting. Moreover, while I have indicated that frequently occupational data are used to make unwarranted claims (especially concerning progress for women vis a vis men), I prefer to have journalists and others reach conclusions based on the more accurate 3-digit statistics than on the 2-digit level numbers currently being published. As I have tried to suggest, changes in the sex composition of 2-digit categories can be extremely misleading.

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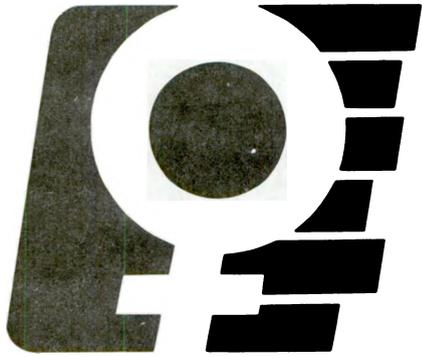
RESPONSE TO DISCUSSANT'S COMMENTS

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My discussant, Myra Strober, suggests that forecasts of local labor market occupational employment should not be made separately for men and women workers. Her concern is motivated by the possibility that the results of these forecasts could be mistakenly construed as evidence that women do not seek employment outside the traditionally female occupations. I do not deny that some may be tempted to make this inference. However, people can, and do occasionally, attempt to make this inference on the basis of currently available statistics. Yet, this does not prevent us from making the data available.

It must be understood that forecasts indicate some likely state of events that will occur in the future if things continue

as they have in the recent past. In the context of separate occupational employment forecasts for men and women, a forecast of occupational distributions that are viewed as undesirable should put into motion various policies aimed at facilitating the opening up of nontraditional occupations to women. This should provide an attractive alternative to the current practice of passively examining past data to discern the effects of past policies. The only individuals who might lose by an active policy of attempting to head off dire predictions of occupational distributions would be the forecasters themselves, whose forecasts would be rendered inaccurate to the extent that policy intervention is successful.



***IV.
Discrimination***

DATA NEEDS RELATING TO FIGHTING EMPLOYMENT DISCRIMINATION AGAINST WOMEN

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Among those social scientists who have tried to follow trends in the labor market position of minorities and women in the United States, it is probably fair to say that there is a consensus that although some progress has been made over the last decade, a great deal more needs to be done. We have not yet brought a fair share of qualified minority people and women into jobs from which they have been traditionally excluded, and we have not yet made fair hiring, promotion, and pay the norm rather than the exception. It would not be correct to say that lack of adequate data has been a chief cause of the slow progress we have experienced. However, the collection and dissemination of relevant data by the Government are of substantial importance in the continuing attempt to reduce discrimination, and an improved program of providing useful information might well make a considerable contribution toward a more efficient and more vigorous enforcement effort.

Data which bear on issues relating to employment discrimination are important in two contexts: One set of data is useful in setting national attitudes and policies, and another (overlapping) data set is needed for dealing with situations of individual employers and particular groups of their employees. In this paper, the first part deals with the adequacy and availability of the kinds of data needed for the direction of national policy and the second part, with data needs for use in connection with individual work establishments.

DATA NEEDS IN SETTING NATIONAL POLICY ON DISCRIMINATION

Probably the most important use of economic data relating to discrimination is their direct use in public discussions of the situation of groups which have been targets of discrimination, to motivate ameliorative policies on their behalf. Data which are used as ingredients to research may also end up having a policy influence, depending on the relevance of the research and the researcher's flair for exposition.

The kinds of information (classified by race and sex) of most importance for direct use in public policy discussion and in research relating to discrimination are—

1. Distribution of employment by occupation
2. Unemployment rates
3. Wage rates or wage income
4. Characteristics of individuals, by group (such as education, measures of labor market attachment, and experience), which must be accounted for before a verdict

on the extent of employer discrimination can be drawn up

5. Labor turnover statistics (separations, accessions, and promotions) which provide information on opportunities for personnel movement (which may tend to be administered by employers in a discriminatory or non-discriminatory way)

The first three items constitute the prime indexes of a group's success or failure in the labor market. They, plus the next two, are also major ingredients to research on the labor market problems of discriminated-against groups. In the United States, concern for the position of Blacks in the labor market has been largely fueled by monthly releases of unemployment rates. Annual income surveys, which have been used as proxies in the absence of good wage-rate data, have also played a part. With respect to women, it is probably the income survey results and the data on occupational distribution by sex which have had the most influence in arousing women to their situation and educating the public to their labor market problems.

Having delineated the major kinds of information which are needed to the context of the debate and decisionmaking over national policies, it is appropriate to ask—

- How often should each kind of data be made available?
- What industries and occupations should be broken out?
- What geographic areas should be distinguished?
- How well do published data cover the needs?
- What are some of the other problems with published data?

The answers to these questions depend on an assessment of the balance of costs and benefits and are not going to be the same in all times and places.

Occupational Breakdowns in Macrodata

Data on sex differences in the distribution of employed persons by current occupation are central to all discussions of discrimination. While some employers discriminate by denying equal pay for equal work, the most common form of

Some of the material in this paper draws on a review by the author being prepared for the National Commission on Employment and Unemployment Statistics.

discrimination is an unwillingness to hire or promote women into types of jobs from which they have traditionally been absent. Disparities by sex in unemployment rates and wage incomes follow from the practice of discrimination in hiring and promotion, but the primary practices themselves are most clearly revealed in the occupational data.

Women in the United States tend to be excluded from jobs which have a supervisory or management component, or from which supervisors are chosen. They also tend to be excluded from jobs in which there is a significant and lasting component of learning-by-doing. Published occupational breakdowns should make these exclusions clear and also to make it possible to chart progress in breaking down exclusionary practices. The present 31-occupation breakdown, by sex and age, shown monthly in *Employment and Earnings* is excellent. It would be very desirable if this were published on a race by sex by age basis. (See table A-21 from *Employment and Earnings*, reproduced on p. 45.)

Industry Breakdowns of Employment Data

In the past, the employment of women by a particular industry depended largely on the distribution of the industry's jobs by occupation. The measure of an industry's progress is not how many women it employs, but how many it has hired for nontraditional jobs. Thus, the industry data most valuable for policy purposes would be data available on an occupation by industry by race by sex basis. The currently published breakdown giving occupation by industry monthly (table A-24 of *Employment and Earnings*) for all workers would be valuable if broken down monthly by race by sex by occupation by industry.

When the enforcement agencies focus on a particular industry's (for a particular firm's) employment practices, it frequently makes sense to organize the employment data for that industry in a way which relate to the particularities of that industry. (This is discussed below.) However, there are times when data organized for enforcement purposes become (or can be made) highly relevant to public policy discussions on the problem of discrimination—its forms, its consequences, and the potential remedies. Data of these kinds sometimes have an immediacy which aggregate monthly time series lack. Relatively minor use has been made of such data for policy purposes, and most writers on policy issues, including economists specializing in research in the area of discrimination, seem oblivious to its potential. (See the recent deposition (under oath) by a highly respected researcher specializing in the economic careers of women workers in which he argued that females have had an equal opportunity with males to be employed in all jobs.¹) The organized publication of the data made available and put into the public domain as a result of court or regulatory proceedings (as in the Liberty Mutual case or the AT&T case) would be highly desirable.

Data on Wages or Income and on Earners' Characteristics

Information by race and sex on basic hourly wage rates paid, although it would clearly be useful in many research contexts (including, but certainly not limited to, studies of discrimination), is most notable by its absence in the United

States. Only the Area Wage Surveys of the Bureau of Labor Statistics offer actual wage rates, and these are only for a scattering of particular occupations. These data are available by sex but not by race for local labor markets and are obtained from employers. The surveys provide no information on worker characteristics beyond sex. It is perhaps ironic that an astute observer of labor markets believes that the publication of such data actually encourages and aids in employer wage discrimination by sex, since employers allegedly use them in deciding what wages to offer [2]. The U.S. Department of Labor should perhaps consider the truth to this assertion, and consider discontinuing their publication. They have been little used in research.²

The major source of U.S. Government data on wage payments used extensively in research on race and sex bias has been data deriving from the *Current Population Reports*, which give wage income. These data are available annually in published form (Series P-60), and tapes are made available to researchers, which give data on individuals, so that it is possible to relate an individual's wage income to his or her hours, occupation, industry, education, age, family status, etc. Similar information has been provided by the Survey of Economic Opportunity.

The surveys of the National Longitudinal Survey provide wage data and are particularly rich in variables relating to the characteristics of the earners and include information on work history, attitudes, numbers and ages of children, and a host of other topics. They also provide data on individuals at different points in time. Another source of these kinds of data is the surveys done by the Survey Research Center at the University of Michigan.

Geographic Breakdowns in Macrodata

For purposes of national policy against discrimination, geographic breakdowns of unemployment statistics by race and sex are important where there are suspected to be significant differences in the degree of discrimination by region. In the case of sex discrimination, it is not unlikely that such regional differences would develop, although they do not seem of importance now. Since 1970, State and metropolitan area breakdowns of employment and unemployment by sex by major occupation and by race by occupation have been available annually in the BLS publication, *Geographic Profile of Employment and Unemployment*. It would be an improvement if the data could be published on a race by sex by occupation basis.

The antidiscrimination agencies which use geographic differences to allocate resources among regional offices can presumably rely, to some extent, on establishment-level data the agency should be collecting, as discussed in the next section.

Vacancy Data

We currently have no data on vacancies that are occasioned when the installation of a worker in a job lags behind the job

¹ Deposition of Solomon William Polachek in the case of *Lemons et al. v. The City and County of Denver*, March 24, 1978, U.S. District Court for the District of Colorado, p. 12.

² The most notable use has been of the data on office occupations in [1].

Employed Persons, by Occupation, Sex, and Age

(In thousands)

Occupation	Total		Males, 20 years and over		Females, 20 years and over		Males, 16-19 years		Females, 16-19 years	
	Oct. 1976	Oct. 1977	Oct. 1976	Oct. 1977	Oct. 1976	Oct. 1977	Oct. 1976	Oct. 1977	Oct. 1976	Oct. 1977
TOTAL	88,697	92,230	49,215	50,610	32,430	34,109	3,756	4,076	3,296	3,436
White-collar workers	44,387	46,332	21,291	21,946	20,871	22,032	611	658	1,614	1,696
Professional and technical	13,612	14,251	7,734	8,069	5,736	6,031	65	70	76	81
Health workers	2,343	2,534	809	876	1,519	1,649	3	3	13	8
Teachers, except college	3,224	3,196	898	905	2,302	2,278	3	5	21	8
Other professional and technical	8,045	8,521	6,027	6,288	1,915	2,104	59	62	42	65
Managers and administrators, except farm	9,463	9,981	7,507	7,715	1,892	2,168	37	58	27	39
Salaried workers	7,757	8,036	6,160	6,218	1,536	1,726	34	56	27	36
Self-employed workers in retail trade	905	957	656	662	247	291	2	2	--	3
Self-employed workers, except retail trade	801	988	690	836	110	152	1	--	--	--
Sales workers	5,592	5,727	2,867	2,966	2,073	2,163	252	247	400	352
Retail trade	3,096	3,093	960	953	1,576	1,604	189	202	371	334
Other industries	2,496	2,634	1,907	2,013	497	558	63	45	29	19
Clerical workers	15,721	16,373	3,183	3,196	11,170	11,670	257	284	1,111	1,223
Stenographers, typists, and secretaries	4,408	4,686	86	75	3,951	4,241	10	7	361	363
Other clerical workers	11,313	11,687	3,097	3,121	7,219	7,429	247	277	750	860
Blue-collar workers	29,354	30,536	22,144	22,827	4,779	4,987	2,030	2,260	401	462
Craft and kindred workers	11,486	11,969	10,582	10,932	473	564	393	430	38	44
Carpenters	1,077	1,214	999	1,113	8	7	67	92	4	2
Construction craft, except carpenters	2,393	2,390	2,280	2,278	23	18	92	96	--	--
Mechanics and repairers	3,031	3,243	2,860	3,072	28	52	143	119	--	2
Metal craft	1,200	1,256	1,154	1,200	20	25	24	29	2	1
Blue-collar worker supervisors, not elsewhere classified	1,477	1,549	1,357	1,382	109	155	9	10	3	2
All other	2,307	2,318	1,931	1,887	285	307	59	84	31	39
Operatives, except transport	10,131	10,459	5,567	5,646	3,734	3,849	582	653	248	311
Durable goods manufacturing	4,533	4,801	2,899	3,011	1,381	1,453	178	239	74	99
Nondurable goods manufacturing	3,245	3,328	1,239	1,205	1,776	1,841	115	127	115	155
Other industries	2,353	2,330	1,429	1,430	577	555	289	287	59	57
Transport equipment operatives	3,362	3,499	2,938	3,056	235	257	178	175	11	11
Drivers, motor vehicles	2,843	2,933	2,464	2,553	219	234	149	136	10	10
All other	519	566	474	503	15	22	29	39	1	1
Nonfarm laborers	4,376	4,609	3,057	3,193	337	318	878	1,002	104	96
Construction	751	873	590	693	11	10	144	172	7	--
Manufacturing	1,055	1,066	830	814	120	109	100	132	4	12
Other industries	2,570	2,669	1,637	1,687	206	199	634	697	93	86
Service workers	12,031	12,485	3,689	3,749	6,284	6,607	823	900	1,235	1,228
Private household workers	1,177	1,191	13	23	890	946	9	21	265	200
Service workers, except private household	10,854	11,294	3,676	3,726	5,394	5,661	814	879	970	1,028
Food service workers	3,975	4,179	730	735	2,066	2,151	509	570	670	723
Protective service workers	1,257	1,291	1,144	1,174	82	101	25	11	7	5
All other	5,622	5,824	1,802	1,817	3,246	3,409	280	298	293	300
Farm workers	2,925	2,878	2,091	2,087	496	483	291	257	47	50
Farmers and farm managers	1,550	1,493	1,433	1,373	102	112	14	9	1	--
Farm laborers and supervisors	1,375	1,385	658	714	394	371	277	248	46	51
Paid workers	1,015	1,074	630	683	158	161	194	192	33	37
Unpaid family workers	360	311	28	31	236	210	83	56	13	14

NOTE: Reproduced from U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, November 1977, p. 34.

-- Not applicable.

being opened up, which occurs either through worker separation or through the job being newly created. Vacancy data are useful because, when added to employment estimates, they allow estimates of the total stock of job slots. Such information, in conjunction with labor turnover information, is useful in studying the dynamics of the labor market and in contrasting the workings of a nondiscriminatory labor market with a discriminatory one. Vacancy data were published for a number of years in the United States (in *Employment and Earnings*), but they have been discontinued, resulting in lost opportunities for research. To be maximally helpful, they should be available by occupation and industry.

Labor Turnover Statistics

Labor turnover statistics have a special place in antidiscrimination efforts. There is very little sentiment for displacing sitting jobholders to take care of members of discriminated-against groups, even if the jobholders are acknowledged to have gotten their job through a discriminatory process. The focus of antidiscriminatory efforts is, therefore, on the hiring and promotion which are now going on or will go on in the future. It is only through affecting the hiring and promotion process (the distribution of the *flows* of employees into particular job categories) that the distribution of *stocks* (the distribution of sitting employees by race by sex by job) will be affected.

Labor turnover and, in particular, accessions to employment or to a different status within a firm, provide the opportunity for change. It is extremely important for policy purposes to know the extent of such opportunities and the extent to which they have been used in a nondiscriminatory way.

In the United States, at the present time, the information available on labor turnover is totally inadequate for purposes of antidiscrimination policy. The U.S. Department of Labor publishes turnover data monthly for detailed manufacturing industries and selected nonmanufacturing industries from industry sources. For these data to be useful for antidiscrimination purposes, they would have to be broken down by race by sex by major occupation.

Another source of labor turnover data is the presently unpublished gross flow tabulations, which are based on the monthly survey of households and follow the transitions of individuals, by race, sex, and age, from their industry, occupation, and employment status in one month to their status in the subsequent month. Unfortunately, the interpretation of these data is made difficult by problems with those parts of the questionnaire of the Current Population Survey relating to labor force status—problems which have been known to exist for at least 20 years but, nevertheless, persist. Clearing up these problems to make these data usable would be a great step forward.

Problems With Currently Published Series

A major problem with the published data on unemployment is that some of the methods of collecting and editing them seem to result in minimizing the gravity of the situation of discriminated-against groups.

The following are instructions given to interviewers asking about labor force membership:

In asking item 19 ["What was . . . doing most of last week, working or something else?"], include the example which seems most appropriate plus the words "or something else" to give the respondent some choice in this answer. For adult males, say "Working or something else"; for housewives, "Keeping house or something else"; and for teen-agers, "Going to school or something else." If none of the examples seem particularly appropriate, use "Working or something else." Mark the circle which best describes the person's chief status during survey week.

On the same page of the manual, the interviewer is told that a woman might say that "her husband wouldn't permit [her to do paid work]." This would seem a tipoff to a possible problem of sexism and/or out-of-dateness of the manual's author(s). The entire manual ought to be examined for indications of this problem. Certainly, the same question should be asked of persons of both sexes, and interviewer discretion should be minimized.

Finally, some of the nomenclature used in reporting data on unemployment has an unfortunate "blame the victim" flavor, and helps to sustain attitudes inimical to improvement in the situation of minority males and women. In particular, I refer to the title of table A-13 in *Employment and Earnings*, "Unemployed Persons, by Reason for Unemployment, Sex, Age, and Race." In trying to understand that this title is an offensive misrepresentation, it is useful to distinguish between the occasion of a person's entering the state of unemployment (job losing, job leaving, entry, or reentry) and his or her persisting in that state long enough to be counted, perhaps more than once, because of failure to find an acceptable job. Once this distinction is made, it is obvious that the "reason" for the person's being unemployed is a complex one and that part of that "reason" may involve discrimination if the person is a member of a group disfavored by employers. I would, therefore, suggest substituting the words "by occasion of entry into" for the words "by reason for."

DATA NEEDS ON THE FIRM OR ESTABLISHMENT LEVEL FOR COMPLIANCE AND ENFORCEMENT PURPOSES

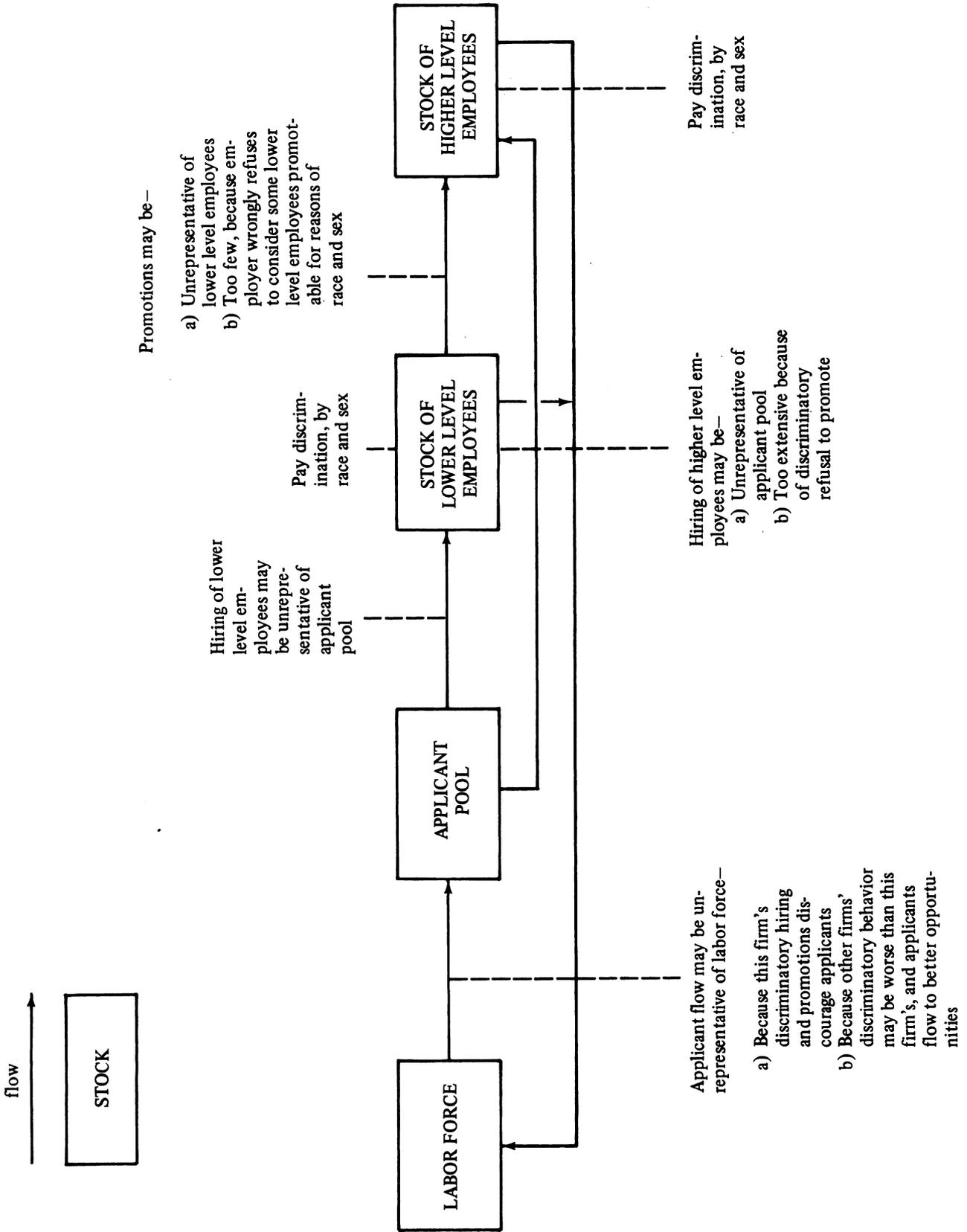
In discussing the information needs concerning individual firms, it is helpful, at the outset, to distinguish stocks (the labor force, the applicant pool, and the body of employed persons) and flows (the flow of applicants into the applicant pool, hires, promotions, and separations). The relations of the stocks and the flows are shown in the chart on page 47, and the possible ways in which discriminatory acts can affect the flows are indicated.

The kinds of information which both the firm itself and the enforcement authorities need to know relate to (1) what the firm is doing and (2) what a reasonable standard of nondiscriminatory behavior for this particular firm might be, so that the firm's actual behavior can be compared to that standard.

Information on Firms' Behavior

In the United States, it has been the practice of the Equal Employment Opportunity Commission to ask firms to supply annually data on stocks of employed persons, by race by sex

Occasions of Discrimination



by nine broad occupations. The only other data the firm is asked to give are the number of "formal on-the-job trainees," by race by sex, with "white collar" trainees distinguished from "production" trainees. The information requested on trainees comes near to being information on flows, since the trainees are presumably in transition to being full-fledged occupants of jobs requiring training. However, the present questionnaire obviously stops short of requiring information on all flows on a systematic basis, which would be highly desirable.

By law, these individual-establishment data are not available to the public, and only summaries by industry or area are published, except in the case of Government contractors. It would be highly desirable if all of the information reported by individual establishments (including the information on flows, recommended previously) were available to the public so that a firm's workers would know that they could get the information by going down to their public library or making a routine call to the regional office of the Equal Employment Opportunity Commission. The knowledge that this information was easily and routinely available might influence firms to structure their personnel activities in such a way as to obey the law.

The rationale usually given for keeping firm and establishment data confidential relates to the harm a firm might suffer if its "trade secrets" were exposed to the eyes of its competitors. The kind of information that could injure a firm would presumably be that which gave the rival some hint concerning new moves the firm was making that would affect its competitive position: A new plant, a new product line, a new technology, a planned change in amounts produced, etc. It is hard to see that the publication of the kinds of data which would be helpful in matters relating to employment discrimination would adversely affect a firm's competitive position and that, in any case, the public interest in reducing employment discrimination should be controlling here. Perhaps the publication might be in terms of percentage distributions of stocks and flows, by race by sex, rather than absolute numbers, which would retain the information content necessary for matters relating to discrimination but reduce the information content concerning other matters.

It would also be helpful if information on average wage rates by race by sex within occupation were collected and published by the enforcement agency. This would help to detect pay discrimination and would also be helpful in showing the extent to which women and Blacks were making progress within broad occupational groups. Again, absolute dollar amounts are not essential; all that would be required for antidiscrimination purposes would be the ratio of the wage for each race/sex group to the wage for White males within the major occupation group.

Setting Standards of Nondiscriminatory Behavior

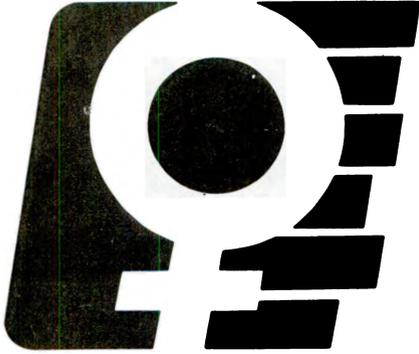
The most important information which is relevant to the determination of what should, under a nondiscriminatory regime, be expected to go on in an individual firm concerns the availability of members of each race/sex group who can be deemed competent to fill various jobs. In the United States, information which relates to these issues, by local labor market, is issued annually.

The most important issue relates to competence. If employers are allowed to take the view that the pool of persons from whom they chose need include only those already in the occupation or that the pool from which applicants are drawn should have the same race/sex composition as those already in the occupation, then very little progress can be expected. Since discrimination by race and sex in the United States has been pervasive, the current distribution of persons by occupation reflects that history. The key to an understanding of this matter is that there is always recruitment into an occupation of persons who are inexperienced in that occupation; if this were not so, natural processes would reduce the occupation to zero. The issue is to define the pool of new entrants in a nondiscriminatory way and to insist that the employer has an obligation to induct new entrants from that pool, where a sole or major reliance on the pool of persons experienced in that occupation would continue to produce a stock of persons which excluded members of certain race/sex groups.

It should be the responsibility of the enforcement agency to issue guidelines as to the race/sex composition of the (nondiscriminatory) pool of persons who might be eligible to be new inductees into each broad occupational group. These guidelines might take into account valid educational criteria, as well as regional availability of persons, by race/sex. Ideally, for each firm for which the enforcement agency issues a report on its record on hiring, promotions, and employment, information on the appropriate composition of the pool of inductees, tailored to the establishment's local labor market conditions, could be issued. This would be maximally useful to the public and, in particular, to employees of and applicants to those firms in being able to satisfy themselves that they have been dealing with an establishment which was abiding by the law.

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V.
***Household
Structure***

HOUSEHOLD STRUCTURE: INTRODUCTION

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Federal agencies have been collecting data for many decades on various aspects of family and household structure in the United States. Trend data on such measures as the timing and stability of marriages, the timing of births and family size, the composition of households, and the characteristics of household "heads" reveal that we are now in a period of rapid social change. We are currently experiencing unusually high rates of marital instability; out-of-wedlock childbearing has been on the rise (yet, overall, women are having fewer children than ever before); and there has been a dramatic rise in the number of father-absent families—that is, women with children living alone or with other relatives. These trends, as well as others, are documented in the two papers for this session: One by Farley and Bianchi, and the other by Watts and Skidmore. These papers discuss some of the implications of these trends for individuals and for the family's economic welfare. Watts and Skidmore also discuss some inadequacies in the presentation of social statistics, including criticism of the "head-of-household" concept, and offer for consideration a new household classification system.

Rather than elaborating further on the many important changes in the family noted by the authors of these papers, I would like to speak to the broader issue of the relationship between homework and marketwork and the need for comparable data for men and women in this context. Interest in this issue emanates from the premise that men and women cannot participate equally outside the home if their work loads inside the home differ substantially. We are familiar with the traditional view of the division of labor between the sexes: Men assume the responsibility of economic provider and women assume the responsibility of home maintenance, including childrearing. This view is becoming less and less a reality. The increased participation of women in the labor force in recent decades has considerably eased men's role as provider. To what extent has this been complemented by the increased participation of men in home maintenance to ease women's role in this sphere? The paucity of national data on the extent to which both men and women participate in childrearing and household tasks is glaring. Resistance to collect such data may well reflect the resistance of men to engage in such activities. Yet, this issue is critical to the survival of the family and may, in part, explain the low rates of childbearing, as well as the high rates of marital instability.

Not only do we need to assess the differential participation of men and women in familial roles but also the effects of such differential participation on the status of women vis-a-vis

men outside the family. For example, to what extent are child-rearing and household tasks constraining to both men's and women's educational attainment, labor force participation, and occupational mobility? Questions such as this require that we have comparable data for men and women. We need to assess differences between spouses, as well as between men and women in the aggregate, so that the family context can be evaluated.

It is the childrearing demands, more so than housekeeping, that seem to be the major constraint on female achievement outside the home. One mode of easing this constraint (and of sharing familial rewards) is for men to play a greater role in the day-to-day activities of childrearing. Another mode (which seems to meet with less resistance) is to arrange for nonparents to care for the children. This is the mode adopted by most employed women with young children. National data are available on the types of child-care arrangements employed women make. (See for example [1; 2; 4; 5; 6; 7; 8].) But we also need to consider the extent to which women and men who are not employed are constrained from seeking employment because of the unavailability of child care at reasonable cost. The June 1977 Current Population Survey included a supplement on child care that permits an analysis of this issue for women with preschool-age children (see [3]), but this is only a modest start toward understanding a highly complex issue. In the future, more detailed questions need to be asked of both men and women. We also need to explore the child-care search process, which for parents (particularly women) is such an integral part of the job search process.

Nonmarried parents with children (most commonly women) are especially burdened by the multiple demands of marketwork and homework. The costs of child care may not be much less than the mother could earn herself. For the never-married mother, public assistance is often the only feasible option. For the divorced or separated mother, dependence on public assistance is often contingent upon the extent to which she receives child support or alimony from the child's (or children's) father. The absence of national data on the extent of paternal support for children reared by non-married mothers is, again, glaring. We need to know not only the amount of court-ordered payments, but the actual amounts paid and for how long. Moreover, we need data on the socioeconomic characteristics of both the providers of child support and alimony and the recipients. Only then can we assess the economic burden of childrearing for both sexes in the absence of marriage, relative to one's ability to pay, and

the extent to which underpayment places demands on the taxpayer in the form of public assistance.

In summary, I would like to stress the need for national data for both men and women in the following three areas:

1. The extent to which married men and women participate in household and childrearing tasks.
2. The extent of child-care constraints on the educational attainment, employment, and occupational mobility of men and women.
3. The extent to which child support and alimony are provided (by socioeconomic characteristics of the provider) and received (by socioeconomic characteristics of the recipient).

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HOUSEHOLD STRUCTURE AND WELFARE: COMMENTS ABOUT RECENT TRENDS AND DATA NEEDS

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INTRODUCTION

During the last 20 years, substantial changes have occurred in family structure in the United States, changes which have implications for welfare trends. In brief, the proportion of people living in traditional husband-wife families has declined, while the proportion living in families headed by women has risen. Since families with women as heads typically have per capita incomes lower than those in husband-wife families, this shift represents a change from families which are economically secure to families in more precarious economic situations.

The first part of this paper examines recent changes in family composition, while the second part describes economic implications of these alterations and explores why income levels differ by type of family or household. Since there are large and persistent racial differences in both family structure and welfare, data are analyzed separately for Blacks and Whites. The final section describes changes in data collection which would permit us to better measure the changing composition of families and their welfare.

RECENT TRENDS IN FAMILY AND HOUSEHOLD COMPOSITION

Changes in family and household living arrangements may be most succinctly summarized by examining trends in marital status, family or household headship, fertility, and the living arrangements of young children.

Changes in Marital Status

The most dramatic shifts regarding marital status are the delays in first marriage among the young and the increasing propensity for marriages to be dissolved by divorce. Among both men and women, Whites and Blacks, sharp declines are evident in the proportion of people who marry at early ages. Among Whites under 25 years old, the proportion who have never married is presently lower than at any previous date since World War II [15, table 104; 20, table A]. For instance, in 1950, 68 percent of the White women 20 to 24 years old reported they had married, whereas in 1978, only 57 percent of the White women in this age range had married. Data about the marital status of Blacks are available since 1890 and, at

present, a record low proportion of Blacks under 25 years old have married.

The studies of Preston, Weed, and others demonstrate a secular trend toward increasing divorce [2, pp. 54-59; 6, pp. 74-80; 9, pp. 15-19; 10, p. 457; 11, p. 1 and table 1; 18, table 10; 29]. Approximately 20 percent of the marriages contracted in the 1920's ended in divorce, but current rates imply that upwards of 50 percent of the marriages of the 1970's will eventually be dissolved in this fashion. If increases in divorce rates are matched by rises in the remarriage rate, the increase in divorce will not alter the proportion of adults in the marital status categories associated with discord. However, if the divorce rate rises when the remarriage rate is constant or falling or if the interval between separation and remarriage lengthens, the proportion of adults who are married and live with their spouses will decline. Glick and Norton show that through 1970 the divorce and remarriage rates rose concurrently, but since then, the divorce rate has increased, while the remarriage rate has fallen [8, p. 303; 9, fig. 1].

Because of these changes, a decreasing share of adults is married and living with a spouse and an increasing share is divorced or separated from their spouses. Table 1 presents age standardized data showing the proportion of adults in each marital status category in 1960 and 1976. Among White women, the proportion living with husbands changed from 65 to 63 percent, but the proportion who were currently divorced rose from 3 to 6 percent. Changes among Black women are much greater. In 1960, just under one-half of the Nation's adult Black women were married and living with their husbands, but by 1976, this declined to about 4 women in 10. Throughout this period, the proportion of Black women who were either separated from their husbands—that is, married-spouse-absent or divorced—rose from 15 percent in 1960 to 22 percent in 1976. Trends among men are quite similar, particularly the rise in the proportion divorced or separated.

The analysis of data was supported, in part, by a U.S. Department of Labor grant to Suzanne Bianchi, "Racial Inequality in Family Welfare, 1960 to 1976," Grant No. 91-26-78-24.

Table 1. Percent Distribution of the Population 15 Years Old and Over, by Sex, Marital Status, and Race: 1960 and 1976

(Data have been standardized for age using the age distribution of the population in 1960 as the standard)

Sex and marital status	Whites			Blacks		
	1960	1976	Change	1960 ¹	1976	Change
WOMEN						
Total	100.0	100.0	-	100.0	100.0	-
Single	17.3	17.3	-	16.9	22.6	+5.7
Married, spouse present	65.1	63.2	-1.9	48.4	40.5	-7.9
Married, spouse absent	2.8	2.8	-	11.2	13.0	+1.8
Widowed	12.3	11.2	-1.1	19.2	16.0	-3.2
Divorced	2.5	5.5	+3.0	4.3	7.9	+3.6
MEN						
Total	100.0	100.0	-	100.0	100.0	-
Single	23.6	22.8	-.8	26.6	27.1	+.5
Married, spouse present	69.0	69.2	+.2	56.7	52.8	-3.9
Married, spouse absent	2.0	2.0	-	8.6	9.5	+.9
Widowed	3.6	2.3	-1.3	6.0	4.4	-1.6
Divorced	1.8	3.7	+1.9	2.1	6.2	+4.1

- Entry represents zero.

¹Data for 1960 refer to non-Whites.

Source: Bureau of the Census, *Current Population Reports*, Series P-20, No. 105, table 3; No. 306, table 1.

Family and Household Composition

A consequence of delayed marriage and increased divorce is a substantial change in the distribution of household or families by type. According to current definitions by the Bureau of the Census, all occupants of a dwelling unit are defined as a household. A family consists of two or more persons who are related by blood, marriage, or adoption and who share a residence in the same dwelling unit [23, pp. 300-301]. Families are classified into three types: Those headed by married couples, those headed by women who live with one or more relatives but not their husbands, and those headed by men who do not live with their wives [7, pp. 210-212]. The majority of families headed by women—74 percent of the White and 85 percent of the Black in 1976—include dependent children but some consist of sisters or other relatives who share a household [17, table 9].

Perhaps the most sensitive indicator of the changing living arrangements of adults is the shifting distribution of families by type. Figure 1 shows 1960 to 1978 trends in the proportion of families which were husband-wife families and the proportion headed by women. At all dates a small share of families—under 5 percent—was headed by men who did not live with their wives.

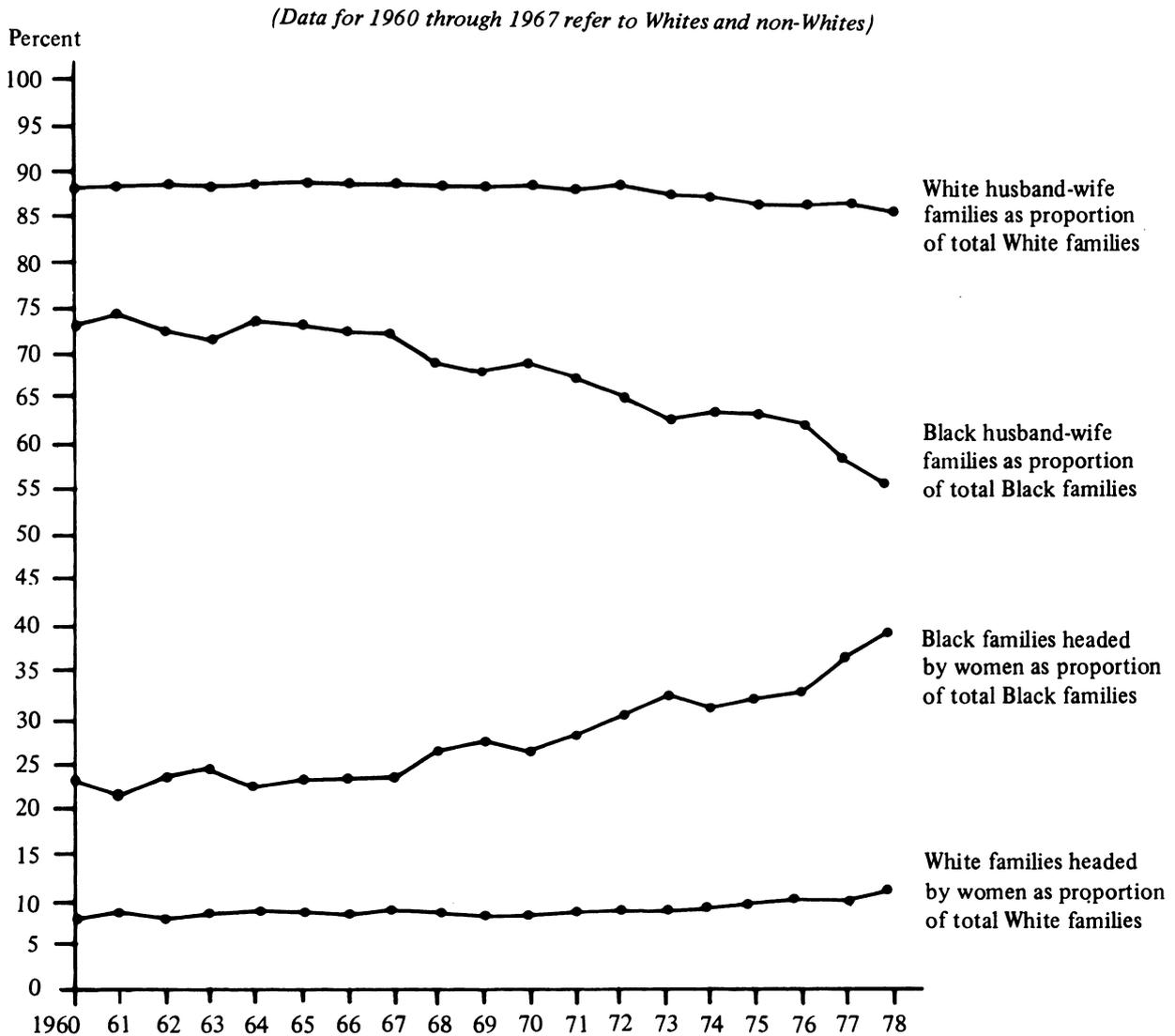
Among Whites, the share of families which were husband-wife families declined moderately, from 89 percent in 1960 to 86 percent in 1978, while the proportion headed by women rose from 9 to 12 percent [16, table 4; 22, table 1]. Changes among Blacks have been more pronounced. The proportion of families headed by husbands and wives declined 18 per-

centage points in this 18-year span, that is, from 74 percent to 56 percent. There has been a corresponding increase in the share of Black families with women as heads, and in 1978, just under 4 Black families in 10 were headed by women. This is higher than during the Depression or any previous date for which tabulations are available [5, table 3].

The changing distribution of families by type—illustrated in figure 1—results from shifts in the marital status of adults and the increasing tendency of women to head their own families rather than living with husbands, relatives, or friends. Ross and Sawhill [12, pp. 94-99] contend that economic changes in recent years have made it easier for women to head their own families or households. They point to the increased labor force participation of women, the higher wages some women receive, and increases in the amount and availability of welfare payments. While there is ambiguity about whether these changes in themselves lead to marital disruption, it is reasonable to assume that women who experience marital disruption or who bear an illegitimate child are now more able to head their own families than similar women were 20 years ago.

Increases in family headship by women are sharp, and table 2 summarizes these trends. Women have been classified by their marital status, and the proportion who headed their own families is shown for 1960 and for 1977. In 1960, fewer than 30 percent of the women who were then divorced or separated from their husbands were heading families, but by the late 1970's, 60 percent of the Black and about one-half of the White women were doing so. In brief, it used to be that once a couple terminated their marriage, the woman usually lived

Figure 1. Husband-Wife Families and Families Headed by a Woman as a Proportion of Total Families, by Race: 1960 to 1978



Source: Bureau of the Census, *Current Population Reports*, Series P-20, Nos. 106, 122, 125, 139, 153, 164, 173, 191, 200, 218, 233, 246, 258, 276, 282, and 307; Series P-60, Nos. 107 and 116.

Table 2. Percent of Women 14 Years Old and Over Who Head Families, by Marital Status and Race: 1960 and 1977

Marital status	Whites			Blacks		
	1960	1977	Change	1960 ¹	1977	Change
Single	3.3	3.0	-0.3	3.5	15.1	+11.6
Married, spouse absent	27.1	49.5	+22.4	27.6	64.2	+36.6
Divorced	29.3	48.9	+19.6	29.9	62.0	+32.1
Widowed	30.2	21.2	-9.0	36.2	42.6	+6.4

¹ Data for 1960 refer to non-Whites.

Source: Bureau of the Census, *1960 Census of Population*, PC(2)-4B, table 2; *Current Population Reports*, Series P-20, No. 323, table 6.

with her relatives or her own parents. Today, she is likely to head her own family. There has also been a rise—especially sharp among Blacks—in the proportion of single women heading families, perhaps reflecting the increasing tendency of women to retain the children they bear prior to their marriage.

Fertility and Childbearing

Since 1957, fertility rates in the United States have declined rapidly. The annual number of births peaked at about 4.3 million in 1957 and, by 1975, sank to 3.1 million—a decline of 28 percent [24, table 1; 26, table 1-2]. Because the female population grew in this interval, the decline in fertility rates was even sharper. The total fertility rate, for example, dropped from about 3.8 births per woman to 1.8, a decrease exceeding 50 percent [21, fig. 1-4].

The decline in fertility in the United States has largely been a drop in childbearing within marriage, since the fertility rates of those women who are not married are currently higher than they were in the early 1950's. Legitimate and illegitimate general fertility rates for Whites and non-Whites were calculated for 1950 to 1975 [4, fig. 3B]. Among women who reported they were married, the frequency of childbearing increased rapidly after 1950 and attained a peak in 1957 for Whites and the next year for non-Whites. Since that time, childbearing within marriage has declined, and the legitimate fertility rates for both races in 1975 were about two-thirds as great as those of 1950.

Fertility rates for women who are not married follow a different pattern. The maximum rates were reached at later dates, and the recent drops have been smaller. Among both races there have been modest decreases, but in 1975, which is the last year for which data are available, the illegitimate general fertility rates were much higher than comparable rates 25 years earlier; indeed, the White rate in 1975 was twice that of 1950, and the non-White rate was 49 percent greater [21, ch. 5; 28, pp. 20-24].

The changing fertility rates have two pronounced effects upon family organization and living arrangements. First, an increasing proportion of women bear a child prior to marriage. Approximately 4 percent of the White women who married for the first time in the Depression decade bore a child before marriage. Among those first marrying in the early 1970's, 6 percent had a child prior to the wedding. For Blacks, the change was even greater; from 18 percent with a child before marriage among those married in the 1930's, to 38 percent for those first marrying in the 1970's [19, tables 27, 28].

Second, there has been a substantial shift in the distribution of births by legitimacy status. In 1950, about 1 birth in 25 occurred to an unmarried woman, but, in 1975, about 1 birth in 7 was illegitimate. Similar trends are evident for both races, but the rise in the proportion illegitimate has been greater among Blacks. In 1950, 18 percent of the Nation's non-White births were delivered to unmarried women, but by 1976, this increased to 50 percent. Among Whites, the change was from 2 percent illegitimate in 1950 to 8 percent in 1976 [25, table 12; 27, table 1-29].

The Living Arrangements of Young Children

Because of increased illegitimacy and marital disruption, young children are now much less likely to reside in house-

holds with both their parents than children were some years ago. Bureau of the Census tabulations provide only a limited amount of information about this topic.

Figure 2 indicates the proportion of children who either lived with both their parents—real or adoptive—or with their mothers only; that is, they lived in families which included their mothers but not their fathers. These data have been standardized for age to adjust for the shifting age distribution of children brought about by declining fertility.

This figure succinctly portrays the very large racial difference. At all dates, a much higher proportion of White than Black children lived with both their parents, but this proportion has decreased among both races. About 9 White children out of 10 in 1960 were in families with both their parents, but by 1977, this fell to 85 percent. A greater shift occurred among Blacks and the decline was from about two-thirds living with both parents in 1960 to less than one-half in 1977. The major offsetting change has been the increasing propensity of children to live in families headed by their mothers. In 1977, 42 percent of the Black children and 12 percent of the White children were in such families.

There have been small fluctuations in the proportion of children living with their fathers only, and at all dates, about one percent of the Whites and 2 percent of the Blacks were in this status. Since 1960, there has been a modest decline in the proportion who live with neither parent, but the racial difference remains great. About 11 percent of the Black, contrasted to only 2 percent of the White children, live with neither of their own parents [20, table 5].

The changes reported in this section of the paper may be summarized by noting that a decreasing share of the population lives within husband-wife families and an increasing fraction live in either families headed by women or as primary individuals—that is, they live apart from any relatives. Data from the public use samples of the 1960 census and from the March 1976 Current Population Survey were analyzed to classify the population by type of household. Table 3 reports recent changes in the proportion of people—adults and children—living in households which contained husband-wife families, other types of families, or households headed by primary individuals.

The declining proportion in husband-wife families is evident for both races; a drop from 87 percent in such households for Whites in 1960 to 80 percent in 1976 and an even larger change, from 72 percent to 55 percent, among Blacks. For both races, the proportion in households which contained families headed by women rose.

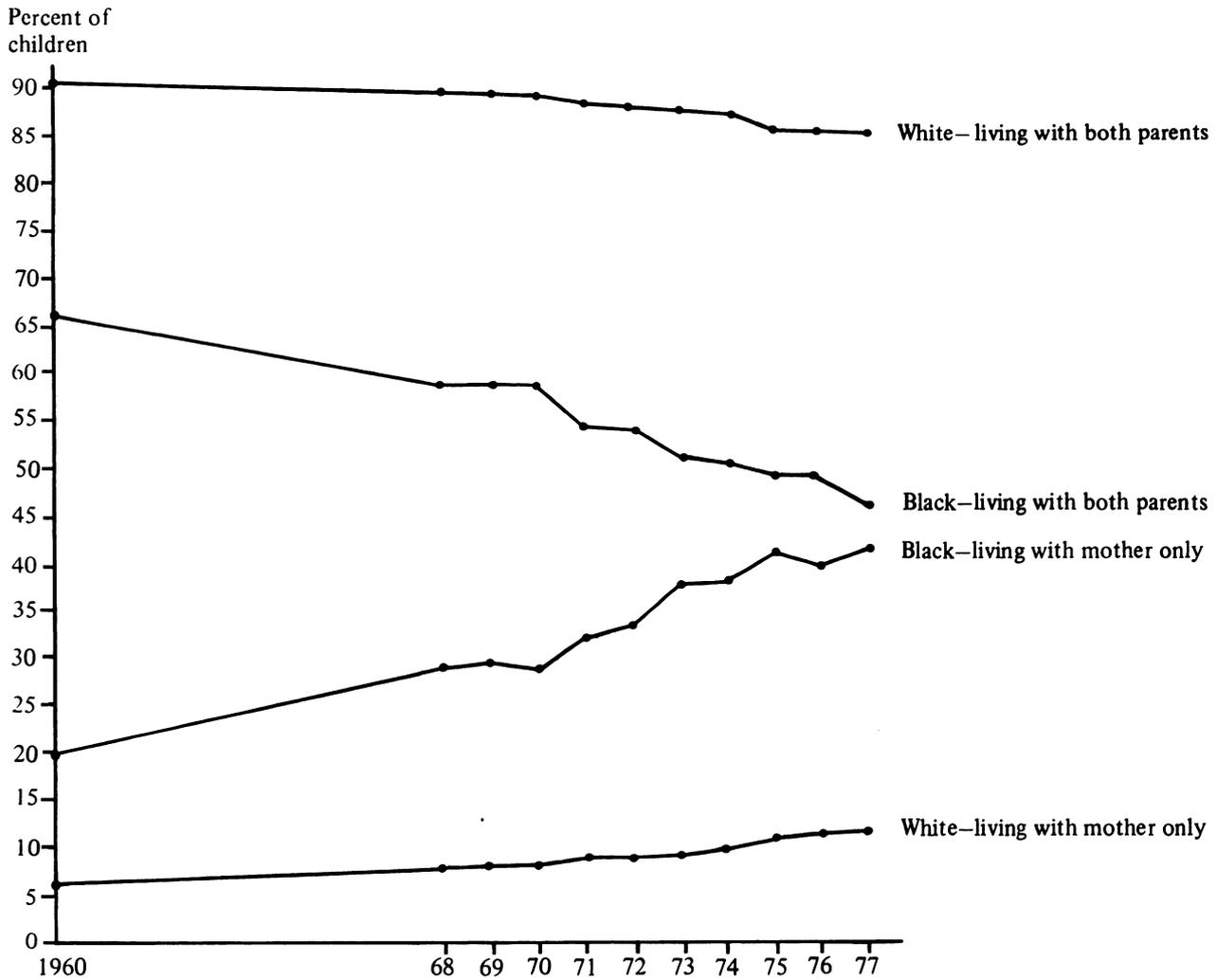
ECONOMIC TRENDS AND IMPLICATIONS OF THE CHANGING LIVING ARRANGEMENTS

In the United States, income levels are much higher in households which include a husband-wife family than they are in households headed by women. Recent shifts in family structure imply a change away from the type of living arrangements where welfare levels are highest and into households where economic conditions are less secure.

Information about trends over time in the welfare of persons—as measured by income—in different types of households is shown in table 4. Data from the 1960 Public Use Sample and from the March 1976 Annual Demographic File were used to determine the per capita income of persons living in different types of households. Since the majority

Figure 2. Proportion of Children Under 18 Years Old Living With Both Parents or Living With Their Mother Only, by Race: 1960 to 1977

(Data for 1960 refer to Whites and non-Whites)



Source: Bureau of the Census, 1960 Census of Population, PC(2)-4B, tables 1, 2, and 19; Current Population Reports, Series P-20, Nos. 187, 198, 212, 225, 242, 255, 271, 287, 306, and 323.

Table 3. Percent of Population Living in Households, by Type of Household and Race: 1960 and 1976

Type of household	Whites			Blacks		
	1960	1976	Change	1960	1976	Change
Total	100	100	-	100	100	-
Husband-wife family	87	80	-7	72	55	-17
Female-headed family	6	9	+3	19	32	+13
Male-headed family	2	2	-	3	3	-
Female primary individual	3	5	+2	3	5	+2
Male primary individual	2	4	+2	3	5	+2

- Entry represents zero.

Source: Bureau of the Census, 1960 Census of Population, Public Use Sample Tape; Annual Demographic File, March 1976.

Table 4. Per Capita Income, by Type of Household and Race: 1960 and 1976

(Constant 1975 dollars)

Type of household	Whites			Blacks		
	1960	1976	Change	1960	1976	Change
Total	3,466	5,041	+1,575	1,699	2,911	+1,212
Husband-wife	3,413	5,002	+1,589	1,693	3,210	+1,517
Female-headed	3,266	4,197	+913	1,422	2,031	+609
Difference between husband-wife and female-headed	147	805	(X)	271	1,179	(X)

X Not applicable.

Source: Bureau of the Census, 1960 Census of Population, Public Use Sample Tape; Annual Demographic File, March 1976.

Table 5. Sources of Income, by Type of Household and Race: 1960 and 1976

(Constant 1975 dollars)

Type of household and source	Whites			Blacks		
	1960	1976	Change	1960	1976	Change
ALL HOUSEHOLDS						
Average income.	11,218	14,335	+3,117	6,525	9,222	+2,697
From earnings.	9,950	11,841	+1,891	5,807	7,461	+1,654
From nonearnings.	1,268	2,494	+1,226	718	1,761	+1,043
HUSBAND-WIFE HOUSEHOLDS						
Average income.	12,562	17,110	+4,548	7,667	12,796	+5,129
From earnings.	11,406	14,748	+3,342	7,077	11,273	+4,196
Earnings of husband.	9,110	11,395	+2,285	5,007	7,332	+2,325
Earnings of wife.	1,407	2,447	+1,040	1,227	3,007	+1,780
Earnings of other adults.	839	838	-1	797	883	+86
Earnings of teenagers.	50	68	+18	46	51	+5
From nonearnings.	1,156	2,361	+1,205	590	1,523	+933
FEMALE-HEADED HOUSEHOLDS						
Average income.	6,266	7,414	+1,148	4,382	5,835	+1,453
From earnings.	4,518	4,419	-99	3,405	3,746	+341
Earnings of female head.	2,801	3,262	+461	1,731	2,719	+988
Earnings of other adults.	1,692	1,127	-565	1,626	992	-634
Earnings of teenagers.	25	30	+5	48	35	-13
From nonearnings.	1,748	2,995	+1,247	977	2,089	+1,112

Source: Bureau of the Census, 1960 Census of Population, Public Use Sample Tape; Annual Demographic File, March 1976.

of individuals—94 percent of the Whites in 1976 and 92 percent of the Blacks (see table 3)—lived in either households with husband-wife families or households headed by women, data are shown for only these two types of households. Female-headed households include families headed by women as well as female primary individuals. The data collected in 1960 and 1976 refer to income received in the previous year. To control for inflation, figures are shown in constant 1975 dollars [1, pp. 76-86].

We observe, first, a general rise in welfare. Per capita income among Whites increased by about \$1,600, and in 1976, the typical White household had a per capita purchasing power approximately 45 percent greater than it did 16 years earlier. Among Blacks, there was a slightly smaller increase in per capita income and the racial difference in income, which was large at the start of this interval, increased. This racial gap widened from approximately \$1,800 at the start to \$2,100 in 1976.

Second, there were improvements in per capita income for both husband-wife and female-headed households. We can be certain that the economic gains of the last two decades have not been restricted to husband-wife households. However, the gains have been greater in husband-wife households, and thus, the economic gap, which separates households headed by women from husband-wife households, widened. In 1960, per capita income for those women and children who lived in female-headed households was only \$147 inferior to that of husband-wife households, but by 1976, the difference had grown to \$805. Among Blacks, the change was from a difference of \$271 to a difference of \$1,179. For both races, this per capita gap increased by a factor of 5 in this short period of time.

We wished to further explore reasons for the widening gap in the economic welfare, illustrated in table 4, and thus, we disaggregated the income of households. Once again, the Public Use Sample tape from the census of 1960 and the 1976 Annual Demographic File were analyzed, and income was divided into earnings and nonearnings. The latter component includes monies received from governmental transfer programs, from rents or royalties, as well as benefits from retirement programs or alimony. In husband-wife households, earnings were divided into those received by the husbands, by the wives, by other adults 18 years old and over who lived in the household, and by teenagers under 18 years old. In households headed by women, earnings were disaggregated into those received by the women, by other adults in the households, and by teenagers. Again, figures are adjusted for inflation and represent the 1975 purchasing power of the dollar. The income levels are shown for the average households of each type. Of course, not all households in each category received income from all of the sources which are listed.

Average income levels increased in households for both races and in both husband-wife and female-headed households. The gain in average income among Whites—\$3,117—exceeded that for Blacks—\$2,697. However, for both husband-wife households and those headed by women, Blacks showed greater gains than Whites. This apparent anomaly came about because of the rapid shifts in the distribution of Black households by type. As indicated in figure 1 and table 3, there was a shift away from husband-wife households and thus, even though the incomes of specific types of Black households have increased faster than those of comparable White households, the average income of all Black households rose less rapidly than that of all White households. Had there been

no shift in the distribution of Black households by type between 1960 and 1976, the income of total Black households would have risen more rapidly.

Within husband-wife households, income levels have risen in the last 16 years largely because of greater earnings by both husbands and their wives. The relative increase in earnings has been greater for wives than for husbands and this primarily reflects the growing labor force participation of married women [1, table 7-2]. At both dates, the earnings of other adults and teenagers contributed only a small fraction of a household's total earnings.

Changes in the income of households headed by women are very different. In White households, earnings have actually declined, while in Black households, they increased only a bit. There has been a rise in the earnings of women who head these households, but this has been offset by a decreasing contribution from the earnings of other adults who live within these households. This reflects the changing nature of female-headed households. In 1960, a much higher proportion of the female-headed households included two adults than in 1978 [1, table 4-7]. Apparently, this comes about because women who have children but no husband are now much more likely to live by themselves than with their own mothers or with other relatives.

Increases in nonearned income played an important role in maintaining the welfare of households headed by women. Indeed, the average income of households with White women as heads would have decreased if there had not been a rapid rise in nonearned income. By 1976, nonearned income accounted for upwards of 40 percent of the income of households headed by women.

We conclude that husband-wife households have increased their average incomes largely because of greater earnings by both husbands and wives. Households headed by women report more modest improvements in income, because the earnings of the women who head these households have risen less and because the earnings contributions of other adults in these households have declined.

DATA NEEDS

When considering data needs, it is appropriate to focus upon fundamental questions. First, how rapidly is household or family status changing, and how long do individuals typically spend in various types of households? Second, how adequately do present measures assess the economic well-being of households of different types?

Changes in Household and Family Composition

Data from the Current Population Survey (CPS) provide valuable information about household composition and income at one point in time, but they supply little information about changes over time for the same households. Many important questions cannot readily be answered from present data sources such as—

1. How rapidly does household composition change?
2. Are there important socioeconomic or geographic differentials in the marriage or divorce rate?
3. What is the typical interval between separation and remarriage, and does this vary by social or economic characteristics?

4. How long do children typically spend in single-parent households?

The current longitudinal design of the CPS insures that one-half of the housing units sampled any March are also visited the next year. This does not guarantee that the same individuals are contacted sequentially. It should be possible to make certain that some fraction of the persons interviewed one March are also interviewed the next year. The experiences of William Sewell with high school seniors in Wisconsin [13, ch. 2], James Morgan with his panel study of income dynamics [3, app. A], and Deborah Freedman with Detroit area wives first interviewed in 1962 [14] suggest that the difficulties of locating most recent movers are not excessive.

If sequential data were obtained from a sample of 20,000 or 30,000 households, it would be possible to calculate birth rates, marriage rates, and separation or divorce rates controlling for a variety of demographic characteristics.

These data would facilitate an analysis of changes in household welfare. An investigator could then determine the extent to which poverty is reduced by declines in household size, as opposed to changes in earnings or transfer payments. Information about rates of change in family composition could be used with analytic techniques, such as multiple decrement life tables, to ascertain the average intervals children and adults the economic gap between the types of households.

The Composition of Household Income

Do the questions which are asked in the CPS surveys and the decennial census allow us to adequately measure differ-

entials in the economic welfare of families of various types? At present, the questions focus upon earned income and monetary transfer payments. There are no questions about rent subsidies or the use of specific programs, such as food stamps and free lunches in schools. We know little about whether divorced parents frequently receive gifts or non-monetary income from their estranged spouses. It may be that families headed by women obtain these benefits more frequently than husband-wife families, and thus, the present indicators may overstate the gap in income levels.

The welfare of any household depends not only upon its current income but upon the resources which it might tap if specific needs suddenly arose. These resources might include benefits from insurance or from the possible sale or conversion of assets. The CPS does not gather information about these sources of potential income. If extensive insurance coverage is more common among husband-wife families and if they typically possess greater tangible assets than families headed by women, the current estimates may understate the economic gap between the types of households.

To determine the annual income of a household, we sum the income reported in March of one year and assume that those funds were available to the family in the previous year. We do not know how long each of the income recipients lived within that household during the previous year or whether an earner was in a given household when he or she had earnings. If there were a longitudinal component to CPS, we might be able to assess whether it is appropriate to assume that all income reported by household members in March of one year was available to that household throughout the previous year.

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HOUSEHOLD STRUCTURE: NECESSARY CHANGES IN CATEGORIZATION AND DATA COLLECTION

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An alternative future . . . would require the study of the entire structure of work and family life as it affects women, men, and children [as a prerequisite for] active planning for change. Such a future is unquestionably optimistic and idealistic, but it is not beyond the realm of the possible if we have the national will to press for it.¹

The statistical concepts used to describe our economy and society, and the methods used to collect data for their measurement, were designed when the world was assumed, by and large, to be made up of households with a particular family composition—a working husband (the breadwinner), plus a nonworking wife and two children, all dependent upon his earnings for their economic support. The membership of these families was considered fixed—the parental couple for the duration of their adult lives and the children until they, in turn, grew up and established their own similarly constituted families. Whether or not U.S. society ever really fit that description, clearly it does so no longer. Many of our statistical series, therefore, are data shoehorned into what has become an ill-fitting and constraining framework.

In this paper, we first show how household structure and the behavior of household members have been changing. We then discuss inadequacies in the current presentation of social statistics and argue that the individual should be the central focus. Third, we discuss the principles and problems involved aggregating individuals into households and families and recommend a new schema for household classification. Finally, we make some suggestions for new data collection. Our purpose, thus, is to delineate the data we need for adequate “study of the entire structure of work and family life as it affects women, men, and children.”

RECENT TRENDS IN THE BEHAVIOR OF INDIVIDUALS IN HOUSEHOLDS

The first trend to be pointed out in any discussion of changing social behavior is usually the increasing labor force participation of women. This trend is most marked for married women and includes mothers of small children. Accompanying this trend, in contrast, is a secular decline in the labor force participation of men.

¹ Quoted from *Women Working: Toward a New Society*, by Alan Pifer, President, Carnegie Corporation of New York, in the foundation's 1976 annual report.

In 1955, only 32 percent of the civilian labor force were women. By 1976, the female civilian labor force accounted for 41 percent of the total. The changing patterns for married women have been a major factor. Participation rates for wives increased by almost two-thirds between 1955 and 1976—from 28 to 45 percent. (Rates for husbands actually decreased from 91 to 82 percent over the same period.) This increased labor force participation is characteristic of women of all ages, though most marked for those younger women. By 1976, for instance, half the married women 25 to 34 years old were in the labor market. Nor is this increase due to the fact that fewer families have children. The labor force participation of wives with children 6 to 17 years old increased from 35 percent in 1955 to 54 percent in 1976. For wives with children under 6 years old, the rate more than doubled, from 16 to 37 percent.

As a consequence of this marked change, there has been a steady increase in the proportion of multi-earner families, including increased proportions of husbands whose earnings are not the sole support of their wives and children. Of the husbands in the labor force in 1955, less than one out of four had wives in the labor force, and two out of five had one or more family members in the labor force. By 1976, two out of four had wives in the labor force, and three out of five had one or more family members in the labor force. Note that these changes took place during a period when average family size was decreasing. In 1955, 38 percent of the husbands with jobs had at least one family member also working. By 1976, this figure had increased to 55 percent.

Other earners in the family have also provided increasing insulation against the consequences of job loss by the husband.

The first section of this paper is based on Harold W. Watts and Felicity Skidmore, The Implications of Changing Family Patterns and Behavior for Labor Force and Hardship Measurement, Madison, Wis.: Institute for Research on Poverty, March 1978, prepared for the National Commission on Employment and Unemployment Statistics. Most of the statistics quoted are from U.S. Department of Labor and U.S. Department of Health, Education, and Welfare, Employment and Training Report of the President, Washington, D.C.: U.S. Government Printing Office, 1977.

In 1955, 42 percent of unemployed husbands had employed family members. By 1976, 51 percent of unemployed husbands had someone else in the family working. The situation for unemployed women who head families is distinctly worse, as the figures for the first quarter of 1977 show. Of the unemployed men heading families, nearly half had someone in their family with a job in that quarter. Of the unemployed women heading families, only 18 percent had a family member with a job. In fact, if a breadwinner is defined as someone with dependents who is the only family member in the labor market, a higher proportion of working women who head families now fill that role than working men.

The second major characteristic of American society today which belies the validity of the breadwinner family stereotype is the substantial volatility in family composition. The husband-wife family is still very much the predominant form of family in the U.S. today (accounting for 84 percent of all families). It does not mean, however, that the same husbands remain married to the same wives, that children remain attached to the same husband-wife combination, or that only a small minority of people ever belong to a single-parent family.

The divorce rate is now between 30 and 40 percent and rising. The remarriage rate is also rising. In 1970, it was 32 percent for women 55 to 64 years old, 45 percent for women 50 to 54 years old, and 53 percent for women 45 to 49 years old. The average duration between first and second marriages (very few marry more than twice) is about 5 years. Thus, although only about 16 percent of American families in 1976 were not husband-wife families, a much higher proportion than that can expect to experience disruption. A substantial proportion of the Nation's children, in consequence, also go through the experience of living with a single parent. It has been estimated that as many as 46 percent of American children may experience marital breakup in their family at some point during their upbringing.

Another important factor in family membership volatility is the rapidly increasing incidence of one-person families—for most people, again, a transitory status. Households have been getting smaller for a long time and have now fallen below three persons per unit. A substantial part of the change in the past has been due to fewer children in the home and, even earlier still, to the virtual elimination of servants, apprentices, etc. But, in recent years, there has been a rapid increase in one-person households. There was a 40 percent increase in such households from 1970 to 1976, as compared to only an 11 percent increase for multiperson households. Numbers of solitary male households grew by nearly 57 percent over the same period, while other male-headed households increased by only 8 percent. Solitary females increased their numbers as much as female family heads (both by nearly one-third). By contrast, the overall population of adults in their own household increased by only 12 percent during the 6-year period. Much of the disproportionate increase is accounted for by those under 35 years old and with at least a high school diploma. Both the permanence and meaning of this important shift are proper subjects for study, but the phenomenon itself is sufficient to raise questions about dependency patterns that may persist across separate households. When one-person households were a fairly small stable fraction and concentrated among the older population, it posed a minor problem for interpreting data, for instance, on income support patterns; when it is increasing rapidly among the young, it cannot be ignored.

A third behavior trend that may be emerging, and that we

think is increasingly important to note, is the breaking down of the traditional pattern of activities over the life cycle. The breadwinner stereotype has been accompanied by another stereotype that has simplified data collection and analysis but may be introducing increasing distortions—the idea that life progresses from an education stage, through a labor force stage, to a retirement stage where one does not work but rather enjoys leisure.

There is evidence that people would like to spread these three activities more evenly throughout their lives. A sample survey of 791 employees, for instance, came up with the result that 80 percent of workers feel it would be better, both for them personally and for society at large, if education, work, and leisure were interspersed to some degree, rather than following one another in strict, irreversible sequence.

More and better longitudinal data are necessary before we can say anything definitive about what changes are occurring in people's responses to the different passages of life. The evidence we do have, however, combines with the trends already documented of increasing labor force participation on the part of women to suggest that the traditional, orderly progression may indeed be giving way to more flexible patterns.

Let us first look at youth (those 14 to 24 years old). Youth made up 19 percent of the civilian labor force over 14 in 1964 and 25 percent in 1975. This was due to an increase in youth labor force participation over the same period from 45 to 54 percent. This was not, however, at the expense of schooling. Between 1964 and 1975 the proportion of youth enrolled in school increased for both sexes, over the entire 14- to 24-year-old age span. And, the labor force participation of those enrolled in school also increased over the whole age range for both sexes. Between 1964 and 1975, for instance, the labor force participation rate of those enrolled increased from 25 to 29 percent for males and 17 to 26 percent for females in the 14- to 17-year-old age group; from 36 to 42 percent for males and 25 to 41 percent for females in the 18- to 19-year-old age group; and from 48 to 51 percent for males and 38 to 55 percent for females in the 20- to 24-year-old age group.

The second major stage of the life cycle that deserves attention is the midlife stage. As we have already noted, increasing numbers of women of all ages are entering the labor force. Other factors, in our view, are beginning to combine with this trend in such a way that we can expect increasing numbers of men and women to change their working patterns during their prime-age adulthood.

For one thing, when two members of the same family agree that each has the right to pursue a career, compromises are bound to be necessary to the extent that they cannot both pursue their best job opportunities at the same time or in the same place. (Mothers entering the labor market when their children are grown can be regarded as a special case of this general point.) When fewer women worked and when working women were considered the exception, these compromises were included in the women's role—leading to a fairly stable pattern of second best for the secondary earners throughout their adult lives. Expanding job opportunities for women, and the new recognition that both earners should have equal opportunity (if not at the same time, at least one after another), can be expected to result in an increasing proportion of the labor force of both sexes making major employment shifts to accommodate the career needs of their spouses.

There is also increasing evidence that people in their middle

years (particularly now that life expectancies are so high) want or need a major career shift for psychological reasons. If a variety of job experiences during one's working life is a normal good, the increasing incidence of two-earner, two-income families will enable more people to indulge this preference. The expansion of adult education is certainly, at least, in part, a consequence of this trend and can be expected to strengthen it. In October 1976, for instance, 1.6 million persons 35 years old and over were in school. Three-quarters of them were in college, most of the rest were in trade or vocational school, with a small number (4 percent) in elementary or high school. Men and married women each accounted for two-fifths of those enrolled; women without husbands present accounted for the remaining fifth. The labor force participation of all the back-to-schoolers is high—in the 70 to 90 percent range for all groups, except married women, husband present (60 percent), and women 50 years old and over (59 percent).

The final stage in life is old age. The traditional response to old age, of course, is complete retirement. As with the traditional responses to earlier life-cycle stages, responses to this stage may be starting to vary. Longer life expectancies, increasing recognition of the rights of the elderly, and the consequences of the dropping birth rate on the age distribution can all be expected to stimulate such a trend.

It is true that, historically, the labor force participation rates of the elderly have been declining steadily. We do not expect any dramatic reversal in this trend. But, it is clear that the declining birth rate and the financial troubles of the Social Security system will stimulate taxpayers in the younger cohort group to consider changing the work incentive structure facing the elderly in the direction of encouraging work. As the elderly include more and more dual-earner families, policy questions concerning program benefit eligibility for spouses who differ in age and/or health status are also inevitable. Such developments could well lead to increased labor force participation (if not full time, part time or part year) on the part of the elderly men and women in the population.

INADEQUACIES OF THE CURRENT PRESENTATION OF SOCIAL STATISTICS

The picture presented in the last section of the current reality of household formation and re-formation and the allocation of functions associated with home and health suggests that our current conventions for monitoring status are not well suited to the task. Our categories try to fit new forms into old rubrics and perpetuate certain mind sets that tend to obscure or even deceive our perceptions about the situation.

Most prominently, the notion that wives are dependent persons is deeply imbedded in our statistical system. The very concept of head of household relies, for any coherence, on presumptions about undivided household power and authority, and analytic practice has been led in the direction of characterizing the household (and, therefore, all the individuals within it) in terms of its head, noting only the presence or absence of a spouse. We applaud the efforts to abandon these presumptions by dropping the statistical concept of head of household. It is essential to collect statistics in a way that makes possible adequate recognition of widely varying patterns of interdependence among able-bodied adults sharing the responsibilities, work, and pleasures of a joint home environment.

A second major inadequacy in the way social statistics are tabulated and presented is the blurring that occurs with the current usage of family and household. This is not to say that the Census Bureau does not know the difference between familial and nonfamilial relationships within the household. It is to say that current statistical practice does not recognize that important social and economic interdependencies along kinship and marital lines extend beyond the household and do not terminate when a given household dissolves or evolves into a different form or forms. The multifamily household is well recognized but becoming increasingly rare. Multihousehold families are almost certainly becoming increasingly prevalent but are not accessible within the basic data sets we now collect and use.

Impermanence of household structure is a closely related social reality that has yet to be recognized in our social statistics. Longitudinal data have heightened our awareness of the volatility of household membership. This is partly due to marital instability, but it is also the result of less disruptive transitions among living arrangements as persons move through their life cycle in a society which provides increasingly numerous options and permits an increasing disposition and capacity to choose among them, whatever one's demographic status and life-cycle stage.

EMPHASIS ON THE INDIVIDUAL

These problems all point to the importance of orienting our statistics to the basic unit of the individual. This provides a unit of analysis which is indivisible and continuous over a lifetime. Individuals pass through several of many possible statuses during that lifetime—childhood dependency, conjugal relations, parenthood, segments of labor market activity, etc. Household and family connections are important features of these status descriptions, but they cannot describe them permanently or completely. An approach that centers on the individual eliminates the need to treat women differently from men. Both can be equivalently characterized as adult persons with the same capacities for autonomy and contract formation.

This is emphatically not to say that all data presentation or analysis should be sex blind. Situations and alternatives are not identical for men and for women. And social objectives, in our view, are not well served by policies to eradicate all sex-related differences as measured by social statistics. This is too simple a policy prescription. It also makes the task of reforming our data base well nigh impossible in the foreseeable future, because it depends upon a social policy consensus that does not seem imminent. Rather, the appropriate objective is to provide statistics that do not embody any presumptions about the inevitable or right pattern of household or familial relations. Such statistics would provide comparability between men and women so that social policy argument can proceed from a less value-laden set of facts toward policies that serve to harmonize the life courses of all autonomous persons whatever their gender.

The basic cross-sectional data currently collected by the decennial census or the Current Population Surveys can readily be presented in forms that use the individual as the unit of analysis. Certain characteristics of individuals are sufficiently unchangeable (sex, race, and ethnic origin) or sufficiently predictable (age) that they can be used as classification criteria with the confidence that the identified groups contain the

same people from period to period. But, other statuses do change from time to time and should, therefore, be treated as more transitory descriptors of a person's current situation. The family and household of which an individual is a part are two such descriptors. They are measures that refer to the individual's ascribed status within the unit and to that unit's status relative to other units within some agreed-upon comparability classes (which we discuss further in the following section).

For example, the description of a woman's status might include her being a mother in a household with three children at an economic level indexed in terms of a normalized or per-adult equivalent income. Similarly, each child could be characterized in terms of his or her co-residence with one or both parents, the same economic level index, etc.

This sort of reorientation need not await any major reformulation of the basic data-gathering operations. What is needed is a systematic review of the data tabulations to inquire which of those might be more illuminating if presented as tabulations of individuals within units, rather than tabulations simply of aggregations of persons, such as families or households. Clearly, the analysis of birth cohorts, as they progress, would be much facilitated and enriched by these alternative forms of tabulation, and those analysts who have been developing the analysis of birth cohorts could provide a major source of ideas for the form such retabulations should take.

The retabulation of existing data can provide a great deal of useful information on the average experience of major subgroups and of the dispersion within them at a particular time. It cannot, however, provide more than a dim reflection of the amount of transitions from status to status of the individuals in those groups as they work out their lives through time. Clearly, the number of people who are below some income level or the number of children not co-resident with both parents on some Friday in April are poor indicators of the number of persons who will experience such statuses for varying intervals over a longer period of time.

For this, at least some measure of longitudinal information must be introduced. The Panel Study of Income Dynamics has been very useful in helping to break down the deeply ingrained habit of regarding the statuses of poor, female-headed households, or whatever, as relatively permanent situations for the people in them. We now need regular and comprehensive indicators of the duration and cumulative incidence of such life circumstances. There are reasons to hope that the added insight will lead to policy formulation that is more sensitive to the dynamic processes that are being ministered to or interfered.

PRINCIPLES TO GUIDE THE CLASSIFICATION OF PERSONS INTO HOUSEHOLDS AND FAMILIES

From the point of view of social behavior, analysis, and policy, perhaps the two most important elements to be dealt with in any classification scheme are conjugal relationships and parent-child relationships. The complexity of these and the resulting problems of multiperson aggregation have implications for household and family definitions, which are also discussed in this section.

A conjugal relationship can be defined as one in which a man and a woman are living their personal lives jointly. Society has always and will doubtless continue to pay great attention to this category of human relationship—partly because a high

proportion of them produce children and partly, no doubt, because, with or without issue, such relationships relate to the well being of the people involved and, therefore, to the effectiveness with which society satisfies the wants and needs of the individuals within it. We have no quarrel with that.

What needs to be eliminated from the concept, however, is the remnants of woman-as-chattel. Practice, explicit or implicit, that assigns headship always to the man is no longer attractive for either ideological or descriptive purposes. A couple should be regarded by our statistical system as a partnership with presumptively equal authority and stake in the benefits and costs of the partnership. This means that, whatever degree of "oneness" the relationship may have achieved, it is inappropriate (not to mention inaccurate) to use the characteristics of one of the partners as a characterization of the couple.

There are, of course, characteristics of conjugal relationships that can be described and analyzed—the duration of the relationship, the joint responsibilities for biological or adoptive children, joint interest in wealth of all kinds, etc. The explicit recognition of a conjugal relationship as a relationship with variable duration, however, and the fact that an individual may enter several during the course of a life suggest that the accounting for responsibilities and wealth of individuals who are parts of couples should also allow for those components that are separate from the joint enterprise.

The second analytic category of paramount importance to society is the parent-child relationship. This really includes two kinds of patterns—(1) units composed of adults looking after children who live with them (hereafter called parent-child units) and (2) adults with natural or adopted children with whom they do not live (familial ties across households).

The first is the traditionally recognized pattern. As we define it, the concept of child implies those under 18 years old with no requirement of biological (or legal) parenthood. One must also recognize that there are one- and two-parent variants. The important criterion is whether one or two adults occupy parental roles with respect to the children. (In the two-adult case a conjugal relationship between them is implied. Co-resident adult siblings, for example, would not qualify.)

These units are of self-evident importance for their role in the material and human investment that constitutes child-rearing. In that context, it is particularly important to recognize the dependency patterns inherent in the inter-generational aspect of the relationship, which leads us to parent-child relationships that cross living-unit boundaries.

For single-parent units and for remarriages, these dependency patterns extend outside the living unit. We do not now have, and badly need, statistics that can indicate the degree to which these familial relationships give rise to interhousehold transfers (formal and informal, regular and contingent, cash and in-kind). This currently unmeasured, but possibly increasingly important, phenomenon is directly relevant for assessing trends of equality, adequacy, and other issues of economic status. In particular, it is relevant for the special interest of public policy in the peculiar vulnerability of the single-parent living unit.

The clear implication of these lines of argument is the need to distinguish more appropriately, than current practice does, between a household and a family. Household, on the one hand, should refer to the living or domestic unit and, thus, include, in the same household, all persons who are sharing the

full use of a dwelling unit's facilities. Kinship and conjugal relationships are relevant but not central to the categorization of households. The notion of family, on the other hand, no longer matches up well with the directly observable housing or residential units that have been and will continue to be very important for purposes of sampling. Families, although untidily arranged in terms of living units, involve kin relationships and thus do not display the problem of transitoriness we remarked for households. It is not the genealogical ties per se that we mean to stress but the active or genuinely contingent responsibilities for support among persons who belong to the same kin, although they live in separate households. These responsibilities are predominantly inter-generational (with the major exception of support to ex-conjugal partners).

A NEW HOUSEHOLD CLASSIFICATION

Households, since they match up, as previously mentioned, with the housing units that are essential to the sampling and administration of surveys, must continue to be the framework within which to collect data on individuals. We, therefore, recommend a revised and more disaggregated classification scheme. Our scheme is virtually exhaustive in that everyone is defined as either a household or a member of one. Current usage also does this. The new emphasis is on the recognition of (a) a wider variety of households that are usefully distinguished and (b) the transitoriness of a person's affiliation with a particular one. We use kinship and conjugal relationships to categorize households, but the classification makes no attempt to make family and household conform.

The classification is as follows:

1. **Single persons.** This includes rent-paying roomers/boarders and occupants of group quarters as sub-categories.
2. **Couples.** These are strictly two-person conjugal units.
3. **Parent-child units.** These are composed of children under 18 years old, parent(s), and older siblings only—
 - a. One parent
 - b. Two parents
4. **Other households that include children² or other related dependents—**
 - a. Three generations
 - b. All others with persons under 18 years old
5. **Related adult units.**
6. **Nonfamilial adult groups.** These are communes, sets of roommates, etc., and may contain couples.
7. **Institutions.** These may be therapeutic, educational, penal, or custodial.

This household typology emphasizes the importance of childrearing units and preserves the identification of the isolated nuclear family (category 3b). But, it does so within a framework that emphasizes the social and economic relations that can be presumed among the members of a co-resident household and also the type of environment provided for each person as a consequence of the other persons in the unit. There is no attempt to define units that can be presumed as permanent. To the contrary, one can well imagine a person

migrating among many of these household statuses during a lifetime. At the same time, it recognizes that an important feature of society lies in the patterns of transition and duration-of-stay distribution for persons with different age, sex, and economic characteristics.

In no category is there an inherent need to designate a head. (Household types that include only one couple do imply primary authority for the pair; similarly, one-adult households confer primary authority on that person.) Our categorization is consistent with the Census Bureau's move to eliminate the arbitrary sex-biased designation of household head and to eradicate the implication that the single-parent family is some sort of aberration by finding a less value-laden phrase than "female-headed household." It also provides a framework for comparisons between the status of women and the status of men within categories that carry similar presumptions about responsibility and authority.

SOME SUGGESTIONS FOR THE COLLECTION OF NEW INFORMATION

In collecting social and demographic statistics, the detailed maternal status of women has long been considered an appropriate survey topic—number of live births, number of living children, their ages, etc. Why should it be impossible or inappropriate to get similar information about the paternity of men? Both parents share responsibility for the support and nurture of children born, and both should be regarded as retaining those rights and obligations, irrespective of any disruption in their conjugal relationship. Males and females alike should be asked about their natural and formally adopted living children under 18 years old, with an accounting for each concerning whether they live with that person, the other parent, other kin, in institutions, or under some other form of care.

The amount of interhousehold support due to responsibilities for children is not well accounted for in the statistics. For all children not co-resident with the parent, the extent of support payments (and alimony to ex-spouses), plus some indication of support obligations not embodied in current payments (emergency needs, future education, etc.) should be ascertained. Similarly, for any child not living with both natural or legally adoptive parents, the resident family should be asked for support payments received on behalf of the child, with comparable queries about additional obligations. Family ties involving economic support between adults also should be explored. Here again, the existence of living parents or adult children could be ascertained for all adults, and the existence of current transfers or potential obligations in either direction could be pursued. We presume transfers or obligations between siblings to be infrequent enough to permit their being ignored.

It is the existence of such actual or contingent material support obligations that leads us to urge consideration of this aspect of family as a distinct concept in our statistical system. The rapid increases in one-person households; reduced household sizes, in general; and the whole instability of household composition suggest that interhousehold obligations along familial lines (which are relatively persistent) is a major factor in understanding what is happening to household structure and, more important, what the implications are for the material well-being or hardship of the persons involved. It seems clear that women typically come out on the short end of the stick in these obligations, but until a fuller set of facts is available,

²Persons under 18 years old are classified as children unless they are parents, members of couples, living alone, or living in an institution.

it will remain impossible to document such assertions adequately to monitor trends in support patterns, to explore impacts on selected groups, or to devise corrective policies that are properly directed.

CONCLUSION

The notions discussed previously represent our attempt to suggest ways in which social and economic statistics related to the household might be brought into conformity with the changed and changing roles and behavior of women and men in American society.

The dominant themes have had to do with the breakdown of the presumption that the breadwinner/mother/dependent-children pattern is an all-but-exclusive description of the way families are, or should be, organized. The recommendations are urged on the basis of our conviction that behavior and career patterns are, in fact, less stereotypic than they were in the past or, at the very least, that Americans are becoming more willing to recognize, tolerate, and even measure the variety of ways in which people live out their lives. We do not regard the household as a unit that has enough constancy of structure to provide a very useful analytic unit. Households are changing composition all the time and, similarly, individuals frequently change the households of which they are members.

The growing importance of separation, divorce, and remarriage is certainly a major contributor to the transitory nature of the household. It is also a major reason for expanding our view of the family to include other households or parts of them within the pattern of substantial economic obligations that derive from the family contract.

Within the constraint of using currently available basic data, it is possible to provide a much wider array of statistics and distributions that use the individual as the unit of analysis. Almost all available measures can be associated with the individual—including, of course, the nature of the household unit the person is currently a part of, along with indicators of economic performance of the individual or the household (allowing for some kind of per adult equivalence). Responsibilities for co-resident dependents can similarly be attributed to individuals, as can obligations to family members outside the household.

Tabulations of individuals without regard to their membership in households of various types could provide very useful contrasts between the situations of men and women, and these could be further broken down to make such comparisons among age, ethnic, or geographic categories. As mentioned earlier, the notion of headship (of a household, family, or even a couple) is on its way out in our statistical system and a great deal more could be done with the concept of the couple recognized as a partnership of two individuals with their own separate and equally important characteristics. Those things that are interesting about the couple status have to do with the processes by which such partnerships are formed and dissolved, the duration of their existence, and their joint productivity and reproductivity.

While it would be possible to display more information about couples, on the basis of currently collected statistics, major improvements in understanding require additional primary data on how productive efforts are allocated and organized within the partnership. So far, we have mainly information about paid work outside the home. More information is needed on productive activities in the home, particularly those involved in the rearing of children.

Parent-child units can be sorted out and analyzed with current data sources, and, for analyzing the human capital of upcoming generations, this is a highly important objective. A major gap that exists here, however, is information on the transfers in and out in cases where both parents are not living with all their joint children. Closer examination of the allocation and maintenance of parental responsibilities between fathers and mothers is of direct importance for a variety of public policies having to do with assuring adequate support for the childrearing function.

Recategorization of household types is an easy task with available statistics. The most important implication of regarding households as transitory and mutable institutions, however, lies in longitudinal data which could provide information on how individuals move among household status categories. One might rely on recall information for transitions that took place in the past, but it would clearly be valuable to have continuing longitudinal samples so that changes in patterns could be perceived, and the determinants of those patterns analyzed on the basis of timely information.

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COMMENTS I

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Reynolds Farley and Suzanne Bianchi overview recent changes in family/household structure and conclude that family organization in the United States has shifted substantially away from the traditional model. Age at first marriage is increasing; divorce-separation statistics are on the rise; we have seen increases in the proportion of female-headed households; and legitimate birth rates have dropped, while illegitimate births have increased. Farley and Bianchi also present data which illustrate the changing relationships of family/household organization to family welfare in this society. Large race/sex differences in income persist; female-headed households continue to lag behind male-headed and joint-headed households in income; and patterns of employment continue to change (e.g., more females in labor force, Black unemployment rates are approaching crisis proportions). What then, one is prompted to ask, is the relationship between these social and economic trends? As our introductory family courses taught us, economic factors underline and, to a great extent, determine structure and process in family systems. So, how exactly do social and economic changes intertwine within American families to determine their patterns of organization? Farley and Bianchi leave this question unresolved and, by so doing, remind us more forcefully of the pressing data needs in our information base on families. Current limitations in data collection and tabulation procedures impede empirical investigation of such questions.

Harold Watts and Felicity Skidmore review many of the same changes in family/household structure as Farley and Bianchi but with one major difference: Their perspective emphasizes the individual. Current data collection/tabulation procedures, they illustrate, are hampered by outdated conceptual frameworks. U.S. families are no longer—indeed, if ever they were—characterized by patriarchal economic systems, nuclear composition, and fixed membership. Rather, more females contribute to the economic maintenance of households; membership patterns vary more widely across (and within the lifespan of) families; and individuals are increasingly patterning their major life events (education, work, and leisure) in less traditional ways. Introductory sociology of the family also taught us that American families are increasingly oriented toward individual fulfillment. So, how effectively are contemporary families facilitating attainment of this goal? Once again, available data prove inadequate to the question; they fail to accurately reflect the sharing of economic functions or the impermanence of household composition which characterizes contemporary family life. We vitally need, they demonstrate, more sensitive, detailed data on individuals within families.

While superficial examination suggests diametric opposition between the papers—one calling for increased statistical

attention to individuals and the other for increased statistical attention to families—more careful perusal of their contents reveals considerable congruence of thought. In both cases, the authors see the necessity for changing (more correctly, modernizing) conceptual frameworks which underlie and guide the collection of census data on families. Both papers also underline the necessity for developing alternative approaches to the tabulation and classification of available data. So, in fact, the papers share a consensus of sorts, albeit, at times obscured. We need better statistical data on both individuals and their families. In conjunction, these papers outline systematic strategies for attaining this end. They differ in that Watts-Skidmore operate from an inductive perspective, i.e., beginning with individuals and moving up to families, while Farley-Bianchi operate from a deductive perspective, i.e., beginning with families and moving down to individuals. By taking individuals as the unit of analysis, as Watts-Skidmore suggest, census data would more effectively represent their diverse characteristics and life situations. Through aggregation of individual statistics collected across more extensive family organizational categories, as Farley-Bianchi propose, census data would more accurately portray the overall socioeconomic welfare of the family as a unitary whole. In short, although the focus of concern varies, both papers insist that static, outmoded models of family life be discarded in favor of dynamic, contemporary ones.

I shall now move beyond my general overview of the papers to a more detailed discussion and consideration of their respective features. During the course of this analysis, particular attention will be paid to features of the two papers which specifically address limitations in the Federal statistical data base on women and propose solutions to such problems. However, my comments will not be restricted solely to these issues. As a matter of convenience, my discussion will be presented in a point-by-point format.

Farley and Bianchi's analysis of household structure, as it relates to Federal statistical needs of women, is essentially demographic in thrust. As such, their demographic analysis [3, p. 33] tends to concentrate attention on the relationships obtaining between demographic variables. In the course of this analysis, the following points for consideration arise:

1. In commenting upon the implicit assumptions made by Government programs about family structure and the need for more research on family, as opposed to individual welfare, Farley and Bianchi identify two fundamental shortcomings of contemporary family research. This research is an issue here because it informs our thinking about the nature of family life, what it is and what it should be. Federal statistical data bases will

- continue to be problematic in this respect as long as family researchers remain wedded to conceptual/methodological approaches that focus upon individuals exclusively and do not lend themselves to the holistic study of families [6].
2. Farley and Bianchi's examination of important trends in marital status, household arrangements, fertility and the living circumstances of children is thorough and well presented. I take issue, however, with their often implied, sometimes stated, conclusion that these trends determine family economic welfare, rather than the reverse. Their reasoning on this point is called into question by the very statistics cited. The cause-effect relationship postulated in some of their formulations needs to be reversed; that is, family economic welfare (or lack thereof) influences the trends one observes in family/household structure. Delays in age at first marriage, heightened marital dissolution, increased illegitimacy, and single-parent households ultimately result from economic conditions. To be sure, once such trends assert themselves, they do so, at times, with negative consequences for family economic welfare. But the point is these trends are generated initially by economic factors. In a recent paper, I provide empirical support for this view of family patterns as originating in, rather than engendering, family economic welfare [1]. On this same point, the two major sections of their paper, i.e., household structure and household economic welfare, are not adequately integrated so as to spell out how one informs the other.
 3. I am also compelled to challenge, or at the very least qualify, the conclusion that substantial shifts away from traditional patterns of family organization have occurred in the U.S. Insofar as the assumed permanence in these shifts remains a debatable issue, these shifts may well be a function of the series of recessions and economic downturns experienced by our society over the last decade. As such, the observed trends might reverse themselves once that economic picture improves. In conjunction, points 2 and 3 highlight the need for data which will allow researchers to correlate changes in family/household structure with shifts in the socio-political, economic picture for the society. At the same time, that data must be amenable to breakdown by significant subgroup categories, e.g., sex, class, race, region, etc. In this fashion, interested researchers will be better able to more accurately assess the sources and consequences of observed changes in family/household structure.
 4. Generally speaking, I was somewhat disappointed by Farley and Bianchi's failure to discuss in greater detail the implications of especially noteworthy statistics for family life. Of course, given space limitations this might not have been feasible; nevertheless, the paper would have greatly benefited from selective detailed discussion of important points. For instance, Farley-Bianchi point to increased "illegitimate" births, single-parent families, and children living with only one parent. Through it all, the reader receives the vague impression that somehow this should be a matter for serious concern, yet they stop short of telling us why explicitly. What is the significance of these facts? Why these particular statistics and not others? In short, the paper fails to devote sufficient attention to elaboration of the theoretical framework which underlies its presentation and discussion of selected statistics on families. As a result, readers are left to ponder the relationships shared by, for example, high unemployment among the young, the increased incidence of marital dissolution, and more working females. Farley-Bianchi may see no substantial interrelationships between these variables or they may see very complex ones; the point is, we need to be told which is the case and provided with insight into the bases for their conclusion.
 5. In the vein of point 4, the following questions raised by Farley and Bianchi seem to require further discussion. How are the widening differences in Black and White male employment related to racial differences in household structure? How has the recent influx of White women into the labor force affected Black female employment (or unemployment) and Black families which generally are more reliant than White families upon female earnings contributions? Conceptually and empirically, how are the concepts household and family best distinguished or those of family wealth vs. income for that matter?
- Watts and Skidmore's analysis of household structure as it relates to issues in Federal statistical needs on women is decidedly the more "population studies" [3, p. 33] oriented of the two papers. In the tradition of such analyses, they show a greater concern for the relationship of demographic variables with social, historical, political, and economic factors. Specifically, they make the following points in their analysis:
1. Watts and Skidmore illustrate how the statistical concepts used to describe family and economy have failed to keep pace with societal changes. Borrowing a phrase from Wade Nobles [5], data gatherers were found to be "conceptually incarcerated," that is, locked into rigidified views of family as a husband, wife, two children (older son and daughter) and a dog—no cats please. Since few American families conform to this model, new, more sensitive and aware frameworks for the conceptualization of family life in this society are necessary. Otherwise, Watts and Skidmore's goal of delineating data for the adequate study of the entire structure of work and family life as it affects women, children, and men will continue to be frustrated.
 2. Researchers must recognize that the male breadwinner stereotypic family/household structure has been invalidated by increased female employment, marital dissolution and alternative life cycle patterns. Until they do, the tendency noted by the authors to tabulate statistics on females as dependent, nonproductive persons will persist.
 3. Interestingly, much of our data on women result indirectly from research on families [4]. So much so that the sociology, demography, history, etc., of families is, at times, assumed to be synonymous with the sociology, demography, and history of women. Such an assumption is obviously incorrect; women, as do men, have existences apart from families. As Watts-Skidmore point out, women are subjects worthy of study in their own right, not only in the context of families, but as individuals also. By the same token, men have more of a

family existence than has been acknowledged by Federal statistics to date. Their fertility histories, illegitimate children, etc., are also of importance.

4. The authors make numerous points in discussing the conceptual blurring which occurs with use of the terms "family" and "household." Current tabulation procedures are shown to deny the reality of contemporary family arrangements. Categorization of family data, by household, obscures household involvements with wider kin and friend networks. Households with multiple families have given way, over time, to families spread across multiple households. Federal statistics need, therefore, to capture this more encompassing view of family structure.
5. In conjunction, broader definitions of family and greater impermanence of households argue for individualization of Federal statistics on household/family structure, the authors tell us. For it is only through taking individuals as the unit of analysis that we can avoid value-laden categorization of the data on household/family structure. I submit such value-laden categorization is unavoidable; however, the authors' suggestion would create data sets amenable to comparative display of normatively determined categories and, thereby, establish the relative advantages and disadvantages of each schema. Taking individuals as the unit of analysis accomplishes the goal of allowing us to follow individuals over their life cycle. As Watts-Skidmore note, now and in the near future, individuals will constitute less volatile, more stable units for research focus than will households. Families of orientation represent even more stable research units, in my opinion, since these familial ties are generally maintained throughout one's life—although household affiliations are frequently changed, e.g., due to maturation and launching, divorce from spouse, regional mobility, etc. Given present methods and conceptual frameworks, however, I am forced to concur with

Watts-Skidmore's conclusion that individuals are the most logical targets of focus for the present. Perhaps future advancements will facilitate a unitary approach to families, at which time my personal preference in statistical emphases would shift from individuals to families (as opposed to and distinct from households).

6. In the interim, Watts-Skidmore's new typology for classification of households represents an excellent alternative to current practices. The typology is similar to the one proposed by Billingsley [2] for the classification of variation in Black family structure. He, like the current authors, grew weary of frameworks which did not fit the diverse reality of the families in question. The Watts-Skidmore typology categorizes families in such a manner as to take kinship, conjugal, social, economic, and household environmental relationships into account. The result is a framework better conforming to observed variations in American family life. Such typologies allow us to maximize our information base on both individuals and family/household units.

I conclude my commentary on these two fine papers with a conciliatory note aimed at two groups of advocate scholars, practitioners, and politicians who incorrectly, at times, view themselves as striving toward contradictory goals. Advocates for individuals (e.g., children, women, men) in families and advocates for families as a unit share a great deal in common. For it is impossible for families to exist without individuals, and rarely do individuals exist without having some familial contacts. In this sense, the data needs for both interest groups are quite comparable. Jointly, these papers demonstrate how the data needs of both perspectives have gone largely unfilled. It now remains for researchers, statisticians, and practitioners to take up the initiative provided by these authors and move in the direction of producing better quality data on family households—their structure and internal processes—as well as on the individuals who live within these households.

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COMMENTS II

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If there is one thing demonstrated by the Watts-Skidmore paper and the Farley-Bianchi paper, it is that the American family isn't what it used to be, even as recently as the time of the last decennial census. What lies back of these changes in household and family structure, as well as the changes themselves, accounts for this conference. Its ostensible focus is on statistical needs relating to women, and since women continue to view their family roles as of primary importance, this conference necessarily must consider trends in family structure. The attempts of the Bureau of the Census to better take into account these changes in its data collection procedures have direct implications for family policy. Family policy, in turn, as indicated by the number of conferences and seminars devoted to it, has become, to use Gilbert Steiner's phrase, "the topic of the year, and, perhaps, even the decade."¹ Family policy concern, like this conference, is an outgrowth of changing roles of women, documented by the Census Bureau and other governmental data-gathering agencies.

Households and families (and the two units continue to show a tremendous overlap in membership) are the fundamental mechanisms for the redistribution of income or earnings, as Farley and Bianchi point out. Family wage earners provide for other family members whose financial dependency rests upon their peripheral connection to the labor market. Family policy at the Federal Government level comes into the picture through the Government's commitment to insure a minimum level of economic support for families. It has met this commitment, according to Farley and Bianchi, by trying to minimize unemployment and making transfer payments in cash and kind, as well as more recently by attacking job discrimination.

The central issue of family changes, as far as policy is concerned, is: To what extent do these changes in private behaviors have public consequences? In terms of the Government's economic support commitment, it is: To what extent will economic obligations customarily assumed by families have to be taken over by the Government? Census Bureau monitoring of changes in household structures can provide a gauge for determining which ones are going to have governmental policy repercussions.

The changes to watch most closely are those associated with economic dependency, i.e., household units that include children. As far as Government funding is concerned, one can pretty much define family policy as parent(s)-children policy.

Increases in divorce and illegitimacy rates, for example, because they result in more single-parent households, are prime family policy indicators. As Farley and Bianchi have documented the situation, these increases, by and large, are hard on women. Incomes in mother-headed households are substantially lower than incomes in husband-wife households, even though the average number of children per family has risen in the former and fallen in the latter. There are, moreover, fewer "other adults" present to make financial contributions than in the past in families where mothers are heads. The Government, consequently, has had to step in and assume the usual private responsibility of family income provision. Changes in private behavior have had public consequences by requiring heavier governmental expenditures on welfare.

My discussion will focus on suggestions for Government statistics relating to women that have family policy implications. I will draw upon the individual life course perspective highlighted by Watts and Skidmore, as well as the family development framework to organize the material. Both encompass a longitudinal approach. They emphasize the existence of individuals and families over time, from birth to death in the case of individuals [5] and from formation to dissolution, in the case of families [1]. The study of successive cohorts of women, using this approach, to establish trends in ages at marriage, childbearing and the appearance and duration of a postparental period was pioneered at the Census Bureau [8; 9]. Today, the emphasis is on the interdependence of the series of "histories" family members create through functioning as students and jobholders, as well as parents, spouses, and siblings. These histories can be thought of as a series of careers, since each entails a sequence of fairly expectable events following a set of rough timetables. We have childbearing, childrearing, and childlaunching in the parental career, entering and graduating from particular levels of school in the student career, and entering and eventually retiring from the labor force in the occupational career. As we shall see later, these careers may be more or less synchronized.

Watts and Skidmore argue that current household and family membership statuses of individuals are too transitory to serve as analytical units for data collection, and they declare that individuals are preferable units. The family, however, appears to be too durable an institution to be so easily dismissed, particularly where family policy is concerned. It is individuals in their roles as family members that are the focus of attention. The importance of data on marital stability for predicting governmental welfare payments has already been discussed. Parental careers, once embarked upon, in contrast to marriages, tend to be continuous for women. The mother-child household unit endures, although the occupant of the

¹ Steiner's remark, as well as the analysis of family policy presented here, are an outgrowth of the Notre Dame International Seminar on Family Policy, held on March 16-17, 1978.

husband-father position and the economic support he provides fluctuate or may be completely lacking.

Shifts in marital status and household composition necessitate data on economic support strategies of women with children who do not maintain the same spousal relationship over time or have never had such a relationship. The latter group includes families with children formerly in cohabiting households, an interesting group since legal obligations in such families are only now being spelled out in the judicial process. But, where family policy is concerned, it is single-parent families receiving Aid to Families with Dependent Children and the duration of this aid that are most on the public mind. A recent report [12] suggests that only about one-fourth of the women enrolled in AFDC at any one time have been receiving these transfer payments for over 5 years. In order to clarify governmental economic support responsibilities, however, we need data on governmental assistance other than AFDC—subsidized housing, food stamps, etc.—which families receive and how receiving other assistance is related to their joining and leaving the AFDC program. Information on single-parent families' economic well-being, to be complete, must include interhousehold payments in the form of child support or alimony payments and their duration, as Watts and Skidmore note. Since not all eligible women are recipients of governmental services, questions that household data can answer are who these women are and whether interhousehold transfers enable them to maintain their family units. Also useful for family policy purposes, as Watts and Skidmore point out, would be information on how interhousehold and governmental payments for children not living with their natural or adoptive parents interrelate to affect the duration of and obligations assumed by these quasi-family units. In such instances, selective governmental aid may enable private units to fulfill the major share of financial responsibilities that otherwise would become public concerns.

The intermeshing of women's participation in school and workplace with their family careers is also critical for family policy issues. The Census Bureau might well borrow the family development concept of "limited linkage" in instituting new criteria for collecting relevant data [1]. This concept refers to the limitations which prior life events place on current options. Previous small-scale research studies have indicated that women's educational careers, labor force participation, and their families' accumulation of economic assets are limited by fertility decisions [6; 7]. Census data would help to pinpoint when and what numbers of children prove points of no return for women's continuance in school, labor force, or marital careers, careers that contribute to their independence from governmental financial assistance.

We might almost think of women's participation in these various arenas in graphic terms. The arenas would be located along a vertical axis with individual role transitions along the horizontal axis (c.f., [11]). Events in one arena, such as divorcing in the marital career, for example, would show up as a "blip" which could be related to a "blip" in another arena, such as getting a job or going on welfare.

In determining the relationship of special training programs for single mothers and their subsequent labor force participation or the effect of governmental antijob discrimination initiatives on women's employment histories, data must include the number and ages of their children. The same caveat holds true for data on governmental transfer payments and single mothers' school attendance. Even if jobs are available, and they have the requisite training, women may be prevented by too many young children and too few child caretakers from becoming part of the labor force. Thus, parental, educational, and occupational histories may be more or less synchronized in terms of women's having few enough or old enough children, and the necessary schooling to make holding a job possible. And, if there is not sufficient synchronization, the government necessarily will have to step in with financial aid.

The effect of resumption of the marital career through remarriage and its timing on economic strategies, as well as the duration of these remarriages, has implications for family policy. Husband-wife units tend to be more financially independent, as noted earlier, and, at present, there is mixed evidence on the relation of amount of welfare payments and remarriage rates [3; 4; 13]. How the presence of his and her children and the children's ages, as well as economic resources, appear to be related to the occurrence and stability of remarriages is another example of "limited linkages" that the kinds of longitudinal data called for here would clarify to the benefit of governmental family support projections.

We should also not ignore the effect of transfer payments on employment and marital stability when the transfer payments are directed to two-parent families. The recent income maintenance experiments did not consistently show a negative relation between a governmental support cushion and divorce [2; 10]. Census data could show whether there is a critical point of family income and asset accumulation beyond which divorce rates do show pronounced increases, as well as drops.

These are some of the longitudinal data suggestions relevant to family policy culled, in part, from the Farley-Bianchi and Watts-Skidmore papers and organized in terms of individual and family histories. Family policy has been examined here in terms of parent-child units' inability to carry out economic activities privately, which public agencies must, thereupon, step in to fulfill. The timing, as well as the duration and extent of governmental intervention, is changing, along with changes in families and household structures. Inasmuch as women continue to be the more stable members of parent-child residential units, census statistics that center on their family careers as they shift in and out of school and workplace as well as marriage, are critical for documenting the changing state of the family. What I am advocating is the Census Bureau's consciously assuming an additional role—that of insuring that policymakers dealing with family dependency have the kinds of data necessary to know what households they are dealing with now and are likely to be dealing with in the future, as well as for how long in the family careers governmental economic services are needed.

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POSTSCRIPT

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Discussion at the conference has shown that our position concerning the importance of the family as a social unit has been misunderstood. This postscript is to set the record straight.

We are not against the family as a social institution, and we are not against the family as an appropriate subject for study. On the contrary, we are convinced that the family is a crucial social institution. It is precisely because we recognize the cardinal importance of the family in the rearing of children (the development of the human capital of the next generation is the way economists would put it) that we are urging changes in the way our social statistics are gathered and tabulated.

Until we stop using the stereotypical family as our framework, and until we collect statistics that enable us to find out about the diverse sizes, shapes, and characters of families today, we will be in no position to formulate informed hypotheses about family behavior, test them, and use the results as guides to effective public policy.

As our paper points out, family characteristics, though they endure through time, stretch across household lines. This makes them intractable as the primary unit for survey data collection. The household unit is commensurate with the dwelling unit and is, therefore, important both for sampling and as the unit that pools production and consumption activities. The household is, however, ephemeral in the sense that its composition and functional organization change from one time period to another. This is not such a handicap for cross-sectional analysis, but it is very troublesome for longitudinal studies.

The individual who, with other individuals, goes to make up the families and the households is the unit with the necessary

identity and continuity through time. This fact combines with the need to give men and women equal status statistically, as well as socially, to argue for the need to start with individual behavior in our efforts to understand when, why, and how the nature of the household and family units—that are so critically important for delineating the status of an individual at any particular time—changes over time.

Our paper, in addition to the need to study data on the individual in order to understand family and household behavior, also stressed that the distinction between household and family should be made more systematically and defensibly than it has been in the past. The data identified as family data in census tabulations refer only to the co-resident family which is, as it always has been, an incomplete account of familial relations. If we are really interested in how families function as mutual support institutions, we must abandon the fiction that families are contained in single households.

Clearly, a great deal could be done with currently collected census data, both by reformatting the tabulations that are published on a regular basis, and by encouraging users of the public use census data files to focus on the individual within the family and household unit. Improving the longitudinal nature of the data can be done in various stages. Augmenting the current CPS design to follow those who have moved out during the year could provide useful 1-year transitions; panels that rotate only after longer periods could be compiled over time, building upon the experience of current panel studies. The task of gaining information on families that extend across households is a more formidable undertaking and suggests the need for careful design and pretest research.



VI.
Education

EDUCATION: INTRODUCTION

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Education is, undoubtedly, one of the most important areas for discussion at this conference for, I would suspect, there are few of us in this room who would disagree with the premise that education, by and large, holds an essential key to equity, upward mobility, and the elimination of undesirable sex differences. So, in the sense of examining real differences of opinion, one might speculate that there are no major unresolved issues concerning the equality of women, whether this be in education, vocation, or culture. The remaining

problems are simply to discover and reveal areas of unequal treatment. The issues are how do you do this most economically and efficiently (cost effectively). Today we want to discuss the needs, gaps, and deficiencies in Federal data collection efforts in the education field. Once these are identified, it would appear that the problem before us is to determine whether better coordination will enhance the data base or whether the overriding difficulty is priority setting or inadequate resources to cover lower priorities.

DATA PERTAINING TO THE EDUCATION OF WOMEN: A CHALLENGE TO THE FEDERAL GOVERNMENT

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The Federal Government's role in the collection and dissemination of data concerning the education of women can be viewed from several perspectives. A comparatively narrow approach is simply to review current data collection and dissemination activities and make suggestions for improvements. A somewhat broader approach would be to identify some of the major issues concerning the education of women and to evaluate public and private data gathering in light of these issues. In developing this paper, I have opted for this broader perspective for several reasons. First, gaps or deficiencies in current Federal efforts frequently reflect a rather limited conception of the major issues in women's education. Second, important problem areas are frequently overlooked because different Federal agencies fail to coordinate their respective efforts. Finally, since Federal activities are frequently duplicative of (or even competitive with) efforts in the private sector, a more efficacious use of limited Federal funds requires a better understanding of the total national data picture.

This paper is organized into two major sections: Data requirements relating to school personnel and data requirements relating to women's educational development. Within each of these two broader sections, postsecondary education and elementary and secondary education will be considered separately.

ACADEMIC PERSONNEL

Since the professional persons who staff our schools and colleges frequently serve as role models for the students they serve, sex-role stereotyping among teachers and administrators, at different levels of education, represents a potentially serious problem. The young girl's first experience with formal education—nursery school and kindergarten—typically exposes her to women rather than men teachers. As she moves up through the elementary grades, the proportion of male teachers increases, but these increases frequently occur disproportionately in traditionally male fields like science, mathematics, and technology. Additional increases in the proportions of male teachers occur in the secondary school years, although sex stereotyping, by field, remains. At the collegiate level, women instructors are a distinct minority, and they tend to occupy the lower professorial ranks. School and college administrators at all levels are predominantly male, with the top positions at the most prestigious universities being occupied almost exclusively by men. Clearly, continuous assessment of the sex distribution of academic personnel, at various levels, should be a major Federal priority.

Postsecondary Personnel

Issues pertaining to the sex of academic personnel at the postsecondary level have focused heavily on college faculties. With the exception of a few fields, such as nursing and home economics, academic departments have traditionally been dominated by men. In those departments that employ relatively large proportions of women, the women tend to be concentrated disproportionately in the lower academic ranks and in nonladder positions, such as instructor, lecturer, and research associate. Although colleges have been subjected to a considerable amount of internal and external pressure to expand career opportunities for women via affirmative action efforts in recruitment, as yet, no Federal mechanism exists for monitoring changes in sex distribution of newly hired faculty. Consequently, serious consideration should be given to the establishment in the Federal Government of a regular survey mechanism to monitor the recruitment and promotion of college faculty. The mechanism should be designed to produce tabulations of faculty sex distributions, by rank.

The Federal agency with prime responsibility for collecting educational data at the postsecondary level is the National Center for Education Statistics (NCES). Their principal vehicle for collecting such information is the Higher Education General Information Survey (HEGIS), which annually surveys all accredited colleges and universities throughout the United States. Recently, HEGIS has incorporated data which the American Association of University Professors (AAUP) utilizes in its annual assessment of faculty salary levels, by sex and rank. AAUP tabulations of these data provide an excellent basis for monitoring the impact of affirmative action efforts by showing changes in faculty compensation, by sex.

A comprehensive analysis of issues relating to sexual equity on college faculties requires considerably more complex data than simple tabulations of men and women faculty, by rank and salary. Given that many college faculty are hired or promoted on the basis of specific performance indicators, a more definitive test of the existence of sex bias requires that one control for possible sex differences in prior qualifications. Three major studies of this issue (see [6; 8; 9]) suggest that sex differences in faculty salaries cannot be attributed solely to background qualifications, such as institution of highest degree, field of study, and number of publications. Sophisticated research of this type provides much more convincing evidence of sex bias than mere tabulations of male and female faculty, by rank and salary status. Data for such analyses have come from national surveys of individual faculty members, funded by the Federal Government. Each survey, however,

had been funded on an ad hoc basis; no permanent mechanism exists for reexamining these issues in the future. Surveying individual faculty members can, of course, be much more expensive than institutional surveys in which the institutions bear the burden of aggregating the relevant statistics. Nevertheless, given the many uses to which individual faculty survey data can be put, the Federal Government should give serious consideration to instituting periodic sample surveys of individual faculty members. If such surveys were longitudinal, it would be possible to follow changes in the status of individual faculty members and to examine factors such as promotion, acquisition of tenure, and faculty migration.

The obvious need for periodic surveys of college faculty raises a more general methodological issue concerning how survey data are tabulated. Federal agencies have traditionally assessed the progress of affirmative action efforts by reporting sex distributions of all members of the particular population (e.g., students, faculty) in question. As far as college faculties are concerned, such tabulations provide a relatively insensitive measure of the impact of affirmative action efforts. Given the realities of tenure and the fixed pay scales under which many college faculties operate, affirmative action efforts are most likely to have an impact on new hires and promotions. Thus, if a particular college has been unusually successful in hiring and promoting women faculty members, the apparent effects of these efforts will be diluted if the tabulations combine newly hired and newly promoted faculty with incumbents. In short, it is strongly recommended that AAUP or NCES prepare separate tabulations for newly promoted and newly hired faculty. (A similar argument can be made on the matter of student enrollment tabulations; see the following.)

A more subtle policy issue concerning faculty pay concerns differences among institutions. Since women faculty are not equally distributed among different types of postsecondary institutions [6], women may receive lower salaries, in part, because of where they work. In other words, do institutions that employ higher proportions of women faculty pay their faculties less? Are these differences the result of sex discrimination, or are other factors involved, such as the curricular emphasis or the degree of institutional selectivity or prestige? The potential importance of institutional differences can be illustrated simply: Assume that a higher educational system comprises only two institutions. Although one pays much higher salaries, both are scrupulously nondiscriminatory, so that men and women faculty within each are paid equally. If both institutions have equivalent ratios of men to women faculty, the differences in institutional pay scales are inconsequential as far as sex discrimination is concerned. However, if the institution with the lower salary scale employs proportionately more women than the one with the higher scale, a sex differential in salaries for the total system will occur. In short, even if individual institutions do not practice sex discrimination, institutional differences in pay scales can produce de facto differences in faculty pay, based on sex. A recent analysis which combined AAUP salary data with HEGIS data [10] suggests that there are substantial pay differences related to the sex ratio of the faculty. Multivariate analyses that control other institutional factors do not eliminate these pay differences. These results suggest the need for regular monitoring of faculty pay scales among institutions with faculties differing in sex composition.

The vigorous affirmative action efforts that have been directed at college faculties have tended to obscure what may

be a much more critical problem: The poor representation of women in college administrations. Even though many top administrative posts that were formerly filled on an informal basis are now openly advertised and presumably open to any applicant, a casual look at the makeup of most college administrations reveals that this is still a male-dominated field. As of May 1977, only about one percent of all presidents at 4-year colleges and public and private universities were women. Of the three women presidents (out of 309 surveyed), two presided over institutions that formerly were exclusively or primarily for women. Until the recent appointment of a woman president of the University of Chicago, none of the 65 private universities in the United States had been headed by a woman.

Do these data constitute evidence of outright sex discrimination in the recruitment of college and university presidents? Although it is difficult to provide a definitive answer to this question, given the complex and somewhat unpredictable nature of the recruitment process for administrators, a partial answer may lie in the pool of candidates from whom college presidents are usually selected. Although presidential candidates may come from a variety of positions, the most frequent steps on the academic administration career ladder are probably the chief academic officer and the dean of the college of arts and sciences. Aspirants to college presidencies are frequently advised to seek either of these posts as a step toward their ultimate goal. An analysis of HEGIS data on the sex of college administrators [1] shows clearly that women are grossly underrepresented in these two positions. Since high-level academic administrators are typically chosen from the ranks of faculty, one might expect to find proportionate representations of women in such positions. However, if one uses the percentage of women on the faculty as a guide, women are underrepresented as chief academic officers by a factor of 10 to 1 in 2-year colleges and by a factor of more than 20 to 1 in public 4-year colleges.

One consequence of sex discrimination in hiring top administrators is that students of both sexes who enter college for the first time are exposed to a male-dominated and male-oriented administration. The absence of women in top administration can create an environment that lacks not only role models for women who might ultimately become administrators, but also the unique perspective that women might bring to the varied tasks of administering a college. A further analysis of HEGIS data on college enrollments [1] indicates that 19 out of every 20 new college freshmen attend an institution in which the top two administrators are men.

An examination of the sex composition of lower level administrators, again relying on HEGIS data, shows somewhat higher proportions of women, although the proportion in any particular position appears to be inversely related to the status of that position as revealed in median salary levels. Thus, 7 of the 8 lowest paying nonacademic administrative positions include the highest proportion of women incumbents (more than 15 percent), whereas all of the 6 highest paying positions have fewer than 15 percent of women [1].

These findings make it clear that statistics on women in administrative positions can be very misleading unless the specific position is identified and separate tabulations are provided by position. A simple tabulation of sex ratios for administrators would be of very little use in assessing progress toward affirmative action goals. Furthermore, separate tabulations should be provided for newly hired administrators.

Why are women so underrepresented in top administrative posts? Several factors are probably operative: Traditionally, search committees for top positions in academic administration are dominated by older male faculty members; many of whom are unlikely to take any woman candidate seriously. At the same time, many talented women faculty members may not have devoted the same effort as their male colleagues to making themselves visible to search committees. Still another potential obstacle is the criteria used for selection. Most search committees give considerable weight to prior administrative experience or even high-level administrative experience. Since many potential women candidates lack such experience, they may not be considered seriously by committees or, if such criteria are included in the position announcement, may never become candidates in the first place.

These issues underscore the need for continuing NCES data collection efforts, related to the sex of college administrators. Assuming that NCES sustains its commitment in this area, the problem of appropriate analysis of data still remains. We cannot assume that the initiative will be taken by some outside organization without Federal sponsorship or support. In other words, continuing to collect data on the sex composition of college administrations is not enough: The Federal Government should also support analyses and dissemination of results. In this regard, special attention should be given to tabulating sex distributions in those administrative positions that normally lead to top administrative posts in academic institutions.

Elementary and Secondary School Personnel

Affirmative action efforts directed at elementary and secondary school personnel have been much less visible than those directed at postsecondary personnel. There are probably several reasons for this discrepancy. To begin with, elementary and secondary faculties include much larger proportions of women than do postsecondary faculties. Furthermore, hiring practices for new school teachers are generally more public and, therefore, less susceptible to the influence of sex bias on the part of the persons doing the hiring. Finally, the hiring and promotion of school teachers are more often based on experience and seniority than on individual judgments made by teams of peers.

These observations are not meant to suggest that no problem of sexual equity exists in the hiring of school teachers. Indeed, a recent longitudinal study of new college graduates taking jobs as school teachers immediately after completing the baccalaureate provides strong evidence of possible sex bias [2]. After controlling for students' personal background (ability, family income, education, etc.) and educational experience (undergraduate grades, type of college attended, etc.), women take jobs in school teaching that pay approximately \$1,100 less than the jobs taken by men. Why women should receive lower salaries than men with comparable characteristics is not entirely clear. One explanation is outright sex discrimination: Businesses and schools may be less willing to pay women comparable salaries. Another possibility is that women may be more willing to settle for lower salaries, particularly if their mobility is restricted by their husbands' careers. Or, women may seek lower paying jobs. (Men, for example, may be more likely to seek teaching jobs in the higher paying schools—secondary versus elementary, for

example.) Whatever the explanation, this large discrepancy in the starting salaries of women and men merits much more intensive study to assess the relative importance of motivation, sex discrimination, and other factors.

These results suggest the need to focus Federal attention on the issue of hiring and promoting school teachers. Monitoring the sex composition of newly hired school teachers would not be sufficient. Rather, what is needed is much more intensive data on newly hired or newly promoted teachers to assess the possible presence of sex bias. These data, which would ideally be obtained on a regular basis, could involve a sampling of newly hired teachers which would include intensive background and interview data. The sample need not be especially large, although the data collection should be designed so that various alternative explanations of salary differences can be tested.

Very little is currently known about the sex composition of secondary school administrators and superintendents, and even less is known about the factors influencing the selection of persons for such positions. One's superficial impression is that men occupy administrative positions in elementary and secondary education far in excess of their representation in the ranks of the school teachers. In certain respects, the situation here parallels that for postsecondary education, although much less is known about the sex of persons occupying various types of administrative positions in elementary and secondary schools. Under these circumstances, it would be useful to initiate periodic sample surveys of elementary and secondary school administrators. NCES appears to be the most appropriate agency to undertake such surveys.

WOMEN'S EDUCATIONAL DEVELOPMENT

Data requirements for a comprehensive assessment of the educational status of women are far more complex than requirements for monitoring affirmative action efforts with academic personnel. Such data need to address at least two issues: Women's educational progress (e.g., degrees obtained) and women's educational experiences (i.e., characteristics of educational programs to which women are exposed).

Critical policy areas in the postsecondary educational development of women include the flows of women into the postsecondary system, women's undergraduate and graduate fields of study, levels of education attained (highest degrees), persistence rates, recurrent and continuing education, and the quality of postsecondary educational experiences.

Information on the flows of women through the educational system is important for several reasons. First, women have traditionally been underrepresented among entering college freshmen, in spite of their superior academic performance in secondary school. In recent years, however, postsecondary access rates for women have increased while those for men have decreased slightly. Postsecondary education is, of course, a critical factor in later occupational attainment [11]. Second, women have traditionally been underrepresented in fields of study that normally lead to high-level and high-paying careers in scientific research, law, medicine, and business. Increased enrollments of women in majors leading to such occupations would presumably constitute evidence that career opportunities for women are expanding.

Postsecondary Development

The Federal Government has already established substantial data collection capabilities in the area of women's postsecondary educational development. These mechanisms include the HEGIS of NCES and the October (education) Current Population Survey (CPS) of the Census Bureau. NCES's *Opening Fall Enrollment* and *Earned Degrees* report detailed tabulations, by sex, of enrollments in different types of institutions and of fields in which various undergraduate and graduate degrees are awarded. However, for purposes of monitoring the postsecondary educational progress of women, several changes in the format in these publications would seem to be warranted. Specifically, it would be useful if the annual reports of these surveys included 10 or 15 year trends in enrollments and degrees awarded separately for men and women. Fall enrollment figures would be especially useful if such trends were reported for first-time, full-time students. To provide approximations to access rates, it might be useful to express such figures as a percentage of the total number of male and female high school graduates of the same year. Another useful change would be to aggregate the data on specific degree fields into somewhat broader categories (arts, humanities, social sciences, natural sciences, etc.). Annual trend analyses of these more aggregated fields would provide a much simpler means for assessing trends in women's fields of study. A final suggestion would be to aggregate enrollment and degree data, by type and quality of institution. Since women have traditionally been concentrated in the institutions of lesser prestige and quality (as measured, for example, by the selectivity or average academic ability of the entering class), an increase in postsecondary access rates for women would have a different meaning if that increase were limited primarily to institutions of lower quality.

In the 1976 HEGIS survey, NCES attempted to collect information on undergraduate enrollments, by field of study. The principal obstacle to such efforts is the fact that many institutions do not require students to declare majors until their second or third undergraduate year. However, our experience at UCLA with 13 years of sample surveys of individual freshmen [3] indicates that 95 percent of the freshmen are able to declare a probable major at the time of matriculation. Although more than half of these students will end up in a different major, the changes from probable to final major are highly systematic, such that, in all aggregate, the final distribution of majors can be estimated with some precision from the earlier distribution of probable majors [5].

Recent surveys of entering freshmen from the Cooperative Institutional Research Program (CIRP) show dramatic changes in the career plans and degree plans of women entering college. Since the late 1960's, women have shown a steadily increasing interest in four occupations traditionally dominated by men: Business, medicine, engineering, and law. Men's interest in these same occupations has either remained stable or declined slightly during the same period of time. Ten years ago, women accounted for only one in nine students planning to enter these four occupations; by 1978, they accounted for more than one in three. The increase began in 1969 and 1970, about the same time that the women's movement gained momentum. These increases are still accelerating. In just 9 years since 1969, they have been impressive in all four fields; the percentage of entering women freshmen planning to enter business has

quadrupled (from 4 percent to 16 percent), the percentage planning to become doctors has more than doubled (from 1.3 percent to 3.4 percent), the percentage planning to become lawyers has quadrupled (from 0.8 percent to 3.4 percent), and the percentage planning to become engineers has increased sevenfold (from 0.3 percent to 2.2 percent).

Although followup studies indicate that women are somewhat more likely than men to drop out of these fields during the undergraduate years [2; 5], these dramatic changes in career preferences of entering college women may ultimately have a profound effect on the labor force in general and on these four professions in particular. Increasing the number of women lawyers will, in addition, expand the base of women candidates qualified for public office and the judiciary.

The usefulness of the CIRP data as a kind of social indicator that assesses societal changes in the aspirations and roles of women suggests that a Federal survey mechanism for monitoring flows of women newly entering different postsecondary levels (freshmen, graduate, etc.) would be extremely useful. Having detailed survey data on individual students, in addition, would make possible a great many more sophisticated analyses than are possible when information is collected from institutions in the aggregate. (This point will be discussed in more detail in the concluding section of the paper.)

Perhaps the best mechanism for monitoring women's access to postsecondary education is the October CPS of the Census Bureau. Although some very useful trend information on postsecondary access has recently been released by the Census Bureau [12], the analytic capabilities of the CPS data have not yet been fully exploited. One very useful tabulation, for example, would show trends in first-time entering students among new high school graduates. Since family income may be a more important determinant of postsecondary access among women than among men [7], it would be especially useful if such tabulations could be performed separately, by family income level. The relatively small size of the CPS sample, however, obviously limits the number of such breakdowns that are possible.

There is currently very little Federal capability to monitor trends in women's postsecondary programs and experiences. Nevertheless, the annual HEGIS survey would be a useful mechanism for collecting such information. It would be useful, for example, to monitor changes in the number of institutions offering programs in women's studies and possibly in the enrollments of men and women in women's studies courses. HEGIS could also be used to collect information on the number, size, and scope of women's centers, gynecological facilities, and day-care centers.

One area that has received little attention so far in Federal data gathering activities is so-called adult education. At this conference, Steve Sandell of Ohio State University pointed out that data requirements for adults returning to postsecondary education involve certain types of information (marital status and number of children, for example) not normally collected from 18-year-olds.

Many of the most critical issues concerning the postsecondary educational development of women can be resolved only through longitudinal data. NCES has, of course, conducted the National Longitudinal Study (NLS) and is planning a similar study to begin in 1980. Since these surveys are focused on the secondary rather than postsecondary level,

the usefulness of the data for studying postsecondary education is somewhat limited. If a regular Federal capability for longitudinal studies at the postsecondary level were instituted, it would be possible to study more complex issues such as the impact of financial aid programs and the effectiveness of guidance and counseling.

Elementary and Secondary Development

Federal capability for monitoring the educational development of women is much more limited at the elementary and secondary levels than it is at the postsecondary level. Of the many educational problems and challenges confronting girls of elementary or secondary age, few are as significant as the development of interest and skill in mathematics. Nationally standardized tests show clearly that, by the time they reach the secondary level, girls are performing substantially below boys in mathematical achievement. This relatively low level of performance no doubt conditions the young women's subsequent education and career development: It affects decisions about whether or not to attend college, which types of college to attend, what courses of study to undertake, and, ultimately, what career to pursue. Closely associated with mathematical skills is the development of interest in science and technology. Although somewhat larger proportions of women these days appear to be pursuing postsecondary work in science and technology, their representation in these fields is still far below that of men.

From a broader perspective, furthering the educational development of women requires a greater understanding of the factors that influence skill development in many different fields. What early developmental experiences contribute to the development of particular interests and skills in the preschool girl? How does the development of particular skills influence the young woman's self-concept? Although these are clearly questions of critical concern to women's educational development, it is not clear just what the Federal Government's role in monitoring these developmental trends should be. An adequate exploration of these questions would clearly involve longitudinal studies beginning at an early point, perhaps in the preschool years. Should the Federal Government consider establishing regular sample surveys of different age cohorts? Which agencies should carry the main responsibility for conducting such research? How is the funding for such activities to be secured? Although these policy questions are too complex to explore in this paper, the importance of these developmental issues suggests that agencies of the Federal Government should give serious consideration to the establishment of regular surveys of educational development across a spectrum of ages.

Various Federal agencies have periodically conducted sample surveys of elementary and secondary school programs and policies, although no regular survey mechanism of this type has yet been established. It would be important, for example, to assess trends in the type and amount of guidance and counseling provided to students in the elementary and secondary grades. Are young girls steered away from traditionally masculine fields and into traditionally feminine courses? What kinds of career advice do young women receive as they begin to plan for their postsecondary education? What kinds of information about financial aid opportunities do they receive?¹

In her critique of an earlier draft of this paper, Mary Powers

of Fordham University suggested that surveys of secondary school policies and programs should focus on three areas that directly affect educational equity for women: (1) Admission to vocational programs, (2) enrollment in specific courses, such as home arts and industrial arts, and (3) participation in athletics and other extracurricular activities. Monitoring changes in such activities would provide an important basis for evaluating secondary school programs and policies. HEW's Office of Civil Rights has recently undertaken surveys which examine some of these issues. Regular monitoring will become a reality, of course, if such surveys become a regular activity, rather than ad hoc efforts.

Another area of considerable significance in women's educational development is vocational education. Vocational education programs have traditionally been highly sex stereotyped, with women frequently being discouraged from entering many technical fields. A promising sign of greater Federal concern for better data in this field is the proposed national Vocational Education Data System (VEDS), which will shortly be initiated by NCES. VEDS will eventually incorporate systematic national data on students, programs, program completors and leavers, staff, facilities, and expenditures. It is hoped, of course, that NCES will routinely report all student and staff data tabulations from VEDS separately, by sex.

TECHNIQUES OF DATA COLLECTION

This paper has suggested a number of areas in which Federal data-gathering activities could be modified or expanded to provide more useful information concerning the educational development of women. If the Federal Government decided to move in any of the directions suggested in this paper, serious consideration should be given to the issue of how statistical data are collected. An analysis of current data collection activities suggests that there are three basically different methods of data collection currently being used by the Federal Government: Institutional surveys, informants, and self-reports. Each method has advantages and disadvantages.

Institutional Surveys

The method most commonly used by NCES and OCR to collect educational data involves asking institutions to provide summary tabulations of particular data. This method permits one to design an institutional sample and, presumably, collect data reflecting the status of all enrolled students. The major difficulty with the method, of course, is that it relies on the individual skills and conscientiousness of those institutional personnel who bear the responsibility for supplying the aggregated information. It is, thus, difficult to verify the accuracy of the data provided. Institutions use highly diverse methods to collect data, and it is difficult to assess the accuracy of certain methods. Institutional surveys are, however, a relatively inexpensive way to obtain a great deal of aggregated information from a sample or population of institutions.

¹ A recent NCES-supported review of the literature in sex discrimination in access to postsecondary education [7] shows that high school girls are more likely than boys to perceive the costs of postsecondary education as a barrier.

Informants

The CPS of the Bureau of the Census relies on informants to provide information about the sampled households. While their method has the advantage of permitting direct interaction between the data collector and the respondent, it has several potential disadvantages. The method assumes that the informant has sufficient information about the educational status of those household member(s) in question, such as enrollment status (full time, part time, or dropped out) and the type of institution (public or private, proprietary or traditional, etc.). The household informant method also runs the risk that certain classes of respondents (low income persons, for example) may be inclined systematically to exaggerate the enrollment status (from part time to full time) or type of institution (from trade school to college) of the person in question. The informant may also be unaware that the student in question has recently dropped out or changed status.

Self-Reports

The National Longitudinal Study and several other federally supported surveys have relied upon sample surveys in which the respondent provides information about himself or herself in a questionnaire or interview. Our experience with surveys of more than 4 million individual entering college freshmen suggests that self-reports tend to be accurate, particularly concerning factual information. The major issues with such surveys are the high cost and the nonrespondents.

Followup surveys mailed to individual respondents are particularly subject to systematic biases in terms of who responds. Response rates, for example, are substantially lower among racial minorities than among students in general. Furthermore, persons who have dropped out of formal education are much less likely to respond than persisters. Nevertheless, if baseline data on respondents and nonrespondents are available, it is possible to adjust for nonresponse bias through sophisticated differential weighting of respondents [4].

Perhaps the main advantage of data collected through individual self-reports is the analytic versatility and flexibility that such data provide. In contrast to aggregated data obtained from institutional surveys, individual self-report surveys make it possible to relate any variable to any other variable at the individual level of analysis. The investigator is, thus, provided with infinite flexibility in data analysis and presentation of results. The usefulness of such data sets is well documented by the many policy studies that have already been carried out with the National Longitudinal Study data base.

CONCLUSIONS AND RECOMMENDATIONS

1. Given the complexity and scope of issues pertaining to the educational development of women, some structure within the Federal Government should assume responsibility for insuring that the Government's data collection and analysis efforts confront these issues. This advisory body should comprise persons who are knowledgeable about issues in women's education and who are familiar with prior research and with existing public and private data collection activities.

At least two current HEW bodies might assume this

responsibility—the National Advisory Council on Women's Educational Programs (NACWEP) or the Education Data Acquisition Council (EDAC) in the Office of the Assistant HEW Secretary for Education. NACWEP would seem to be ideally qualified to identify policy priorities relating to women's educational development. One possibility would be to strengthen NACWEP's capabilities in the area of empirical research and data analysis so that policy needs could be translated more readily into specific data collection and analysis needs. NACWEP should, of course, be thoroughly familiar with the activities of EDAC, as well as with the work of non-HEW agencies, such as the Bureau of the Census and the Bureau of Labor Statistics. In short, NACWEP or some similar group should regularly attempt to—

- a. Delineate the major policy issues concerning the educational development of women.
 - b. Assess the effectiveness of current Federal data collection and analysis activities with respect to these issues.
 - c. Recommend changes in Federal efforts to deal more adequately with key issues.²
2. Earlier sections of this paper proposed a number of specific recommendations and suggestions for modifications in existing Federal data activities and for possible new efforts. To implement most of these suggestions would require substantial increases in the current funding levels for the agencies involved (NCES, in particular). Any new longitudinal surveys would involve particularly large cost increases, although the potential payoff from such surveys suggests that serious consideration should be given to securing the needed funds.
 3. Tabulations of data currently being collected by various Federal agencies would provide better benchmarks for assessing changes in women's educational development if (a) separate tabulations were done for new entrants into various levels of education and (b) time trend analyses, based on earlier survey years, were routinely made available.
 4. Gaps in knowledge about factors influencing women's career development are particularly severe in the pre-school and elementary school years. Small sample surveys, conducted at regular intervals and covering different age cohorts, would provide an empirical basis for exploring critical issues concerning the early educational development of women. Such surveys might be done collaboratively with NCES and the National Center for Health Statistics.
 5. The number and diversity of Federal data collection efforts suggest the need for greater coordination and planning at higher Federal levels. A number of major Federal agencies—the Census Bureau, NCES, BLS, and NCHS—are currently involved in primary data collection and analysis efforts that produce information relating to women's educational development. However, a number of other Federal agencies frequently support research and evaluation studies that yield other critical data bearing on these same issues. Among the agencies that

²For a recent effort at developing such a set of policy recommendations, see [13].

fund a substantial amount of such research are USOE, NSF, NIH, NICHD, NIMH, FIPSE, and NIE. These agencies have not only supported the collection of

primary data sets, but they have also provided a considerable amount of support for analyses of existing data sets in both the public and private sectors.

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COMMENTS

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The focus of Dr. Astin's paper on school personnel and educational development is both appropriate and informative. I would like to suggest, however, that both issues be broadened to incorporate the regulatory function of education data.

PERSONNEL

The focus on school personnel is important, but no more so than on personnel within the other major institutions of this society. I see a parallel between our concern here with equity by sex and the earlier concern with equity by race. That part of the civil rights movement of the fifties and sixties which was concerned with racial inequalities also tended to take aim at the educational and religious institutions in the United States. That is not surprising; they are generally weaker than political or economic institutions. There were many demonstrations, sit-ins, etc., in the schools, universities, and churches throughout the country. There were none, or few, at the stock exchanges, the major banks and investment houses, major corporate headquarters, or union and political party headquarters. The early sit-ins at the Woolworth lunch counters were probably the nearest thing to an assault on the economic institutions. They probably caused more general consternation and focused more attention on at least one part of the problem of inequality than many of the campus demonstrations which followed. This is not to advocate any particular form of political action, but simply to reiterate that racial and sexual inequality are pervasive and persistent characteristics of the entire society and, hence, of all its institutions. Numerous laws and administrative orders exist which seek to correct some of the inequities. In order to promote and/or evaluate compliance with such laws, there is an immediate and urgent need for sound education data.

Affirmative action programs in political and economic institutions, as well as in educational institutions, require continuous review and evaluation. Statistics on the educational attainment of women are an important parameter for the data base used in the evaluation of current affirmative action programs. The census and Current Population Survey are excellent mechanisms for the collection of such data. Analyses of the data, by the Census Bureau and the Bureau of Labor Statistics, provide an accurate description of the current national and regional picture of the educational level of the population and of the trends over time. These are not especially useful for evaluating the availability of women with specific educational characteristics to fill specific jobs in local labor markets, however.

The most detailed analysis of the educational characteristics

of the labor force from census or CPS data will not yield a very accurate picture of the pool of candidates for positions in local labor markets. There are several reasons for this—two of which directly impact on women. The first concerns the concept of labor force. It is limited to the employed and those actively seeking employment. Current criticisms of the concept include the fact that among those who are "not in the labor force" are many women who have given up seeking work, because their experiences tell them they will not be hired. This issue is beyond the scope of the present discussion and was, to some extent, covered in our discussions of employment. Suffice it to say that a "pool of candidates," defined and described in terms of the local labor force, omits many women who may be qualified for, and interested in, certain types of employment.¹ An expanded version of the Current Population Survey might be used to examine the extent to which women who are not in the labor force are qualified, in terms of education and/or experience, for opportunities in local labor markets and their availability for employment therein. Such surveys should focus on both formal education and special qualifications and training, such as the management experience outside the work force gained by women as volunteers, etc. They should also focus on the experiences women have in seeking employment and on access to on-the-job training and education. A corollary survey of major employers through the census of industry or special surveys aimed at the largest banks in the country, major corporations in the auto industry, the chemical industry, etc., should seek to establish what specific affirmative steps are being taken to find women candidates for managerial and/or supervisory positions, as well as for male-dominated occupations. These are obviously efforts to be undertaken jointly by the Census Bureau, the Bureau of Labor Statistics, and, perhaps, the Social Security Administration.

Still a third area where survey techniques might be used to obtain data on the pool of women available for professional and managerial positions is through a survey of members of the professional associations. In general, members of the American Chemical Association, the American Statistical Association, the Population Association of America, and the American Public Health Association have similar professional characteristics. It is certainly feasible to use a survey approach to compare the education and employment characteristics of male and female members (or White and non-White members). Many of the associations have already done this. Holding

¹An ad hoc committee of the American Statistical Association, chaired by Professor Abe Jaffe, Columbia University, is concerned with the problem of defining appropriate labor market "pools" for affirmative action purposes.

educational qualifications constant, one might compare earnings, extent and pattern of mobility, and the extent to which women had been invited to apply for high-level managerial or professional posts. We are all aware of "head-hunters" in the personnel field—firms which specialize in finding top management, especially by using incentives to attract them from one company to another. Their techniques are ideal for affirmatively recruiting women. Yet, we have no knowledge of the extent to which women have been affirmatively recruited by any type of firm or institution. We hear often enough that women with the necessary educational credentials and experience cannot be found or will not move, etc. There is, however, no hard evidence concerning how many well-qualified women have ever been actively recruited for top-level administrative jobs in any industry. A survey of the membership of the various professional associations, preferably through interviews, could tell us a great deal about both qualifications and active recruitment. This is the sort of study the National Center for Education Statistics might support through private, nonprofit research organizations or which several agencies might jointly support. A similar survey might be conducted among recent graduates at various educational levels.

This is an area where Dr. Astin's plea for coordination and planning at higher Federal levels is important. In a tight money era, it might be necessary to decide that some annual surveys could become biennial in order to include such special-purpose surveys. This is not an easy adjustment in bureaucracies as large and complex as the Census Bureau, BLS, SSA, NCES, NIE, etc., where each branch and division chief is convinced that his or her data collection effort is the most vital part of the agency mission. Thus, I am suggesting three types of data gathering—from institutions, households, and membership lists. Education data, broadly defined, should be collected from all three, and the information on all three should be compatible. That is, if the survey of, for example, the largest banking institutions reveals that recruitment efforts could not locate qualified women, the household and/or professional societies surveys should indicate whether that is a realistic assessment in terms of the education and/or work experience of the pool of potential candidates.

EDUCATIONAL DEVELOPMENT

Numerous conferences and studies of the education of women up through the 1960's focused on the changing social roles held by women in industrial societies and the implications of these changes for educational institutions, programs, etc. (See, for example [2].) Among the implicit assumptions underlying many of these early concerns with the education of women was an acceptance of the notion that schooling would be interrupted or closely followed by marriage and child bearing and rearing. Labor force activity (preferably on a part-time basis) would later be combined with family responsibilities. Only in the seventies, after the considerable political activity of the women's movement, has it become generally accepted that many, if not most, women should be able to combine equitably both family and career goals and roles.

The evolution of the social roles of women (and of men) in the United States is still in progress. Indeed, change in this area has occurred throughout the history of the United States, but it has been especially dramatic and rapid during the past

decade. The demands by women for legal equality have accelerated, and a variety of generally positive responses has been made by all branches of Government. Congress has proposed and/or enacted various laws aimed at equalizing the status of women in employment, education, housing, and other areas.² Thus, the efforts of the 1960's and 1970's appear to have resulted in a real beginning of progress toward equality. Because of this, we are examining what kinds of institutional provisions have been made to incorporate women into all aspects of society on a more equitable basis. Specifically, we have been asked to examine the statistical data the Government collects to see to what extent they permit us to describe the changes that have occurred, to evaluate whether or not these changes reflect the spirit and letter of existing legislation, and whether they permit us to evaluate various efforts to implement that legislation.

Until recently, public and private schools at the primary, secondary, and higher levels of education have been regulated primarily by State and local laws. The Higher Education Act of 1972, and especially Title IX of the Amendments to the Law, changes all of this dramatically. It is the first comprehensive law prohibiting discrimination, by sex, which covers students. Title IX says, very simply, "No person shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program" [1]. There is, obviously, going to be a great deal of judicial interpretation of this legislation before the full impact can be assessed. Meanwhile, DHEW has issued guidelines for the interpretation of the amendments.

That discrimination and sex bias exist in many facets of education, from course offerings to counseling to athletic programs, has been documented repeatedly. Any lingering doubts on this question will be dispelled by a reading of the research papers in a new collection by Fishel and Pottker [1; see also 6]. The present task is to correct some of the more flagrant practices through implementation of the guidelines or regulations issued by DHEW in 1974. A wide variety of statistics (along with good will, patience, tolerance, etc.) is needed to accomplish this. Some of these are available, and others are not. Dr. Astin's paper focuses on access to and experience in postsecondary education. Again, I feel it is necessary to broaden the mandate to at least think about the kinds of data needed to combat sex bias at all levels, both formal and informal bias. With respect to the latter, it is important to note that both are prohibited by Title IX. It is obviously impossible to review and evaluate such things as counseling practices and the behavior of teachers in all school districts, so the major focus will be on change in the formal policies of schools and school districts.

Although sex bias exists at all levels of schooling, there is more differential treatment of girls at the secondary than at the elementary level of education. Because differential and biased treatment at this level affects more women in the country than practices at the postsecondary level, it is also important to see what data needs exist at this level. There are three areas in which school policies appear to most obviously violate Title IX Amendments. These are policies concerning (1) admission to vocational schools, (2) admission to specific classes, such as home economics or industrial arts, and (3) physical education and extracurricular activities.³

² For a brief summary of current laws, see [4].

³ These areas are identified by Fishel and Pottker [1; see also 3].

A variety of data exists which permits us to review current policies and practices, but many gaps remain. There are no nationwide data on the number of single-sex schools in the country, their admission policies, etc., although some States have collected such data.⁴ The studies which do exist show that more schools are available for boys than girls, and, when both sexes are admitted, boys and girls tend to be segregated by type, of course, i.e., health and homemaking for the girls, crafts and trades for the boys. A similar pattern of segregation between "home-ec" and "shop" classes appears in many junior high and high schools. Although there is no immediate way to alter the values and informal practices that bring about such segregation, it is possible to work toward providing more free choice in such matters. Existing data are limited either to a few States or to one-time surveys. The NCES, which routinely asks institutions to provide a variety of tabulations, should consider surveying all vocational schools on a regular (not necessarily annual) basis to get at the status of all enrolled students. The method has weaknesses, as noted by Dr. Astin, but the methods will undoubtedly be improved with use.

The institutional surveys could also be used to obtain data on access to athletic and extracurricular activities, the extent of expenditures for each of these activities, and the relation of such expenditures to enrollment, by sex. The institutional surveys could be coordinated with CPS supplements directed toward enrolled persons. Internal evaluations by the Census Bureau indicate that enrollment data collected through the CPS are generally highly accurate and reliable.⁵ The information collected on vocational training through the 1970 census

⁴ The Office of Civil Rights, DHEW, began collecting some data in 1974. I have not seen any of it, except reference to preliminary results. Also a proposal is currently circulating, but not yet approved, for the collection of such data by the National Center for Education Statistics.

⁵ Review of materials made available to the Advisory Committee on Population Statistics and recent personal communication with Larry Suter, Chief, Education and Social Stratification Branch, Population Division, Bureau of the Census.

was not as good. The Bureau has tested a new question format for the 1980 census, however, and their recent experience and expertise with that question might prove useful.

The existence of Title IX certainly offers great potential for changing the picture concerning educational development at all levels of education. In practice, the Office of Civil Rights, which must enforce the regulations, must deal with 18,000 local school districts. Without massive inputs of personnel and money, only the worst violators will be reviewed. Our statistical data base should, therefore, be aimed at helping local districts, parents, citizens, etc., to examine and evaluate their own practices and to bring about change, based on local initiative.

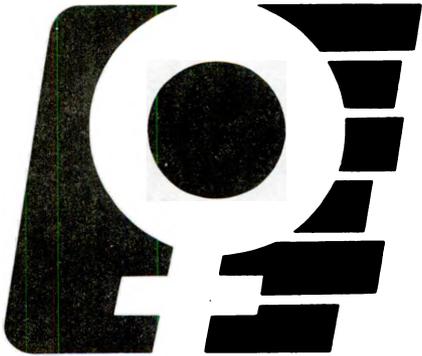
CONCLUSION

There has been considerable progress toward sexual equality in the United States. Much of it has been done on the basis of moral conviction and in the absence of data. Much still needs to be done. At this point in history, a solid data base is of tremendous importance for maintaining a national commitment to this effort. In this connection, however, two aspects of reality must be kept in mind. (1) In an era of tight money and of concern with respondent burden, some difficult choices must be made. It may be necessary to substitute biennial for annual surveys in order to obtain some of the proposed new data. (2) The Census Bureau is undoubtedly a major data source for the collection of education and other statistics. It is probably the finest survey organization in the world. It is not the only source, however, and indeed much of the data we credit the Bureau with collecting is paid for by other agencies. The child care survey mentioned yesterday is a good example. It was collected through the June CPS but paid for by NIH.

This sort of cooperation among the statistical agencies shows a great deal of wisdom in avoiding duplication of effort. It also suggests that we should approach other agencies with proposals for future cooperation which are in the interests of their major mission and in the interest of furthering equality.

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***VII.
Health***

HEALTH: INTRODUCTION

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Perhaps no single topic has received greater attention in the media in recent months than health. The growing pre-occupation of Americans with health care and particularly with preventive medicine is a much welcomed trend; a trend which may already be reflected in reduced mortality rates from certain diseases. Accompanying this increased interest in health matters has been a change in the traditional relationship between client and practitioner in the health system. Increasingly, individuals are attempting to take on roles that were formerly performed by physicians and other health professionals. It is clear that such major changes in public attitudes and behavior in the health field place enormous new

burdens on our system of data collection and, perhaps more importantly, on the way in which we disseminate this important information.

Joined with these recent developments in the health area is the growing social concern about the status of women in our society, dating from the mid-1960's. As in the case of health, this increased awareness has been accompanied by shifts in traditional roles, with ever increasing numbers of women seeking work outside the home. Such a far-reaching social change in women's roles calls for a thorough reevaluation of the way in which data relating to women's health have been collected, analyzed, and made available.

DATA NEEDS RELATING TO WOMEN'S HEALTH

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INTRODUCTION

The first step in improving the data base on women to be derived from the health statistics program of the United States is to consider the status of women in contemporary society and the health needs resulting therefrom. An ideal data system should monitor changes in women's status and needs and should report on whether and to what extent progress is being made towards meeting needs. A rather broad initial discussion will perhaps stimulate and assist others in identifying many ways of improving the yield of current statistical programs. Since considerations of agency resources and budget limitations are continually encountered, it is desirable to develop a basis for evaluating priorities for adding to the volume of collected data, conducting further analyses, and investing in both intra- and interagency review of concepts and measurement strategies.

Contemporary data on women's health should take into account roles and role changes. Most current statistical systems are set within a conceptual framework that was developed during a period when acceptable roles for women were centered around household functions and when the participation of women in a variety of activities tended to be restricted in authority and scope. Therefore, the objectives, classifications, and data collection methods of the health data system reflected certain norms and assumptions that are less and less appropriate to current needs.

ROLES

If one focuses on women's relation to the labor force, current roles for women include continuous, exclusive performance as homemaker or earner, simultaneous performance as earner and homemaker and shifts between home and work roles over the course of adult life. Volunteer activities add other options. The mother role needs to be identified separately from that of homemaker, as it introduces its own cluster of demands, gratifications, training, and points of concern in relation to women's health needs. The role of spouse can be similarly analyzed, if one keeps in mind that it is asymmetry or lack of reciprocity that makes it appropriate to single out women here.

Within a household, two or more persons can simultaneously occupy the same role, rotating or sharing the same tasks, or distributing total tasks of a traditional role of husband or wife by mutual agreement. Readiness to take on the partner's role if the partner becomes ill is another aspect of understood roles. Health-related roles within the household are further delineated below.

Changing work patterns of women constitute a major trend

in our economy [11]. The female labor force grew over 100 percent from 1950-75 so that 46 percent of women participated in the civilian labor force in 1975, and women made up 40 percent of the labor force. The growth rate was twice that of men, and 34 percent of the growth was due to a rise in the mean number of weeks per year of labor force activity per woman. In 1970-72, 52 percent of women who worked had 50 to 52 weeks of work, 20 percent had 27 to 49 weeks, and 28 percent, 1 to 26 weeks. Temporary withdrawals for childbearing and family duties are being reduced over time, but it is not clear that this is as true for lower level as for higher level occupations.

The labor force activity changes were associated with a group of changes in actual, expected and desired family size, age of marriage and first birth, marriage rate, education, and sexual activity patterns and norms. There were "unprecedented changes in contraceptive use as a means of reducing completed family size" and more effective methods came into use. One of these, sterilization, was the method relied on by almost one-fourth of all users in 1973. By the mid-1970's, despite record numbers of young persons in the population, "the crude birth rate was below the historical low of the 1930's" [12].

Changes in the marriage rate have included declines in first marriages through the 1960's and 1970's, rising divorce rates, leveling off of the remarriage rate, which had previously been on the rise, and a reduction in the traditional difference in ages between men and women at the time of marriage [17]. In 1976, the estimated divorce rate was 5.0 per 1,000 population, compared with 3.5 in 1970, and the marriage rate was down to 9.9,¹ compared to 10.6 in 1970 [15].

Role responsibilities in relation to child care, economic activity, and management of illness are affected by the rise in households with women as the sole adult and other consequences of the changing marital statistics.

These changes in labor force participation, improved control of fertility, and displacement of marriage as a central

¹ In the first 8 months of 1977, marriages were nearly 3 percent higher than in the same period in 1976, but the divorce rate was also higher [13].

Acknowledgment is made to the following City University of New York faculty who were participants in a discussion of the themes for this paper on Dec. 20, 1977 (in collaboration with the Institute on Women and Sex Roles): Anne Bloom, Linda Edwards, Alan Gartner, Marcia Hurst, Susan Saegert, and Joanne Vanik.

definition of women's identity are among the background factors that are influencing the health component of household and market activities which will be discussed. Also significant in assessing health data needs is the current examination of social thought and practice, which is revealing many biases related to women in the basic assumptions and operating rules of social systems, including health care.

When roles are not clearly perceived, analytic categories used in research can be questioned. For example, Berry and Boland, in estimating economic consequences of alcohol abuse, assume that the major impact of a woman's alcoholism will be on nonmarket activities [2, p. 33] ignoring trends in labor force participation.²

WOMEN'S HEALTH CAPITAL

The term "health capital" is a unifying concept for our consideration of health status and steps taken to protect or improve it.

Grossman [3] has advanced the concept of health as an economic asset or a stock of capital: Health is a major component of human capital. An initial stock is inherited, but it depreciates over time, while it can be increased by investing in appropriate actions. Death occurs when the stock falls below a certain level; individuals have autonomy in choosing their own length of life by putting in their own time and market goods, such as medical care and diet. Home-based activities resulting in replenishment or enhancement of health capital are termed "household production of health," and their efficiency is influenced by education.

Grossman uses disability days as the empirical measure of output of health capital in order to conduct statistical research on the determination of the decision to invest in good health. While this measure has its uses, Grossman's concept of health capital and the empirical measurement need to be better specified in relation to women by including reproductive efficiency, which will be defined shortly, as an output measure and as a motive for use of the health care market and of other actions related to health. Also, Grossman refers to "individuals" as if the household were indivisible. While this has been a characteristic assumption in competitive theory, it does not take into account distribution of resources and roles within the household related to the maintenance or improvement of health of self and others. Finally, use of birth as a point of departure and naming of inheritance as the input neglects prenatal inputs not dependent on genetic inheritance.

Women's health capital differs from men's in several ways:

1. The appropriate measures of output are not identical (and, therefore, the definitions of capacity to produce that output are also not identical). Until the end of women's fertile years, their health capital includes capacity for successful reproductive experience.

The concept of reproductive efficiency (RE) involves considering the incidence of unwanted pregnancies and of adverse outcomes of pregnancy, such as fetal wastage, infant death, congenital defect and low birth weight, in relation to total pregnancies in a given year. Using RE,

one can assess how well achieved fertility accommodates preferences concerning timing and family size, including the zero-fertility goal elected by some women, and results in delivery of healthy infants. Estimates for the U.S. population for the early 1960's, using the adverse-outcome measures just stated, have been developed by Muller, Kovar, and Jaffe [8]. Other measures of adverse outcomes could be added.

Reproductive success is an admissible concept for men in that capacity to become a father of healthy, wanted children would figure in measurement of quality of life for many men. However, women are distinct regarding the frequency and urgency of the contacts with the health care system entailed by the management of fertility and the risks of pregnancy and contraception.

Health capital, like human capital in general, can thus be conceived as the capacity to produce a vector of outputs, which, for women, includes the capacity for healthy days throughout the life cycle and reproductive efficiency. The outputs have the potential of influencing each other; that is, reproductive experiences affect general health of women and vice versa. In this respect, health capital for women is no different from human capital in general (e.g., educational capital can influence individual health and vice versa).

2. In line with this analysis, the dynamic process of personal investment in health over the lifespan of women involves reproductive history, general health history (both of which include experiences within the health care system), and the positive and negative health effects of the various role combinations in each woman's history. As suggested in the labor force figures mentioned earlier, these roles are undergoing significant transitions in society, not restricted to women entering adulthood, but at all ages [9].
3. Aside from the general impacts of life style and life events on health, household roles have a particular configuration so far as women are concerned; that is, their investment of time is divided between their own health capital and that of other members of the household, and even other households when elderly parents become health dependents.

One of the chief tasks within the household relative to health and illness is maintaining and updating a stock of health information relevant to the needs of a given household: such information is used to guide production of health within the household through diet and other practices, provision of home health care activated by illness, and optimal use of market services. Society's stock of information on health is constantly changing, and, for many reasons, individuals vary in the extent to which they keep up with the changes [6].

Other responsibilities include maintaining family health histories; identifying illness states for oneself and others; deciding about application of home health care (occasion and type of care), deciding about recourse to market services (when they should be substituted for home health care and the source to be used in a given instance); providing escort services; and providing nursing care, physical therapy, and first aid.

Not enough is known about the conduct of these activities, the division of tasks between spouses, the

²In one place, they assume loss of household production if the wife does go to work [p. 67]. In another place, they say the result will be less leisure (which is, however, described as the household's leisure without mentioning who will do double roles) [2, p. 30].

resources available, the knowledge base used, and types of decisions made. If adequate information were collected, it could be analyzed in conjunction with statistics on the amount and quality of health maintenance activities, use of market services, health status achieved, and satisfaction with the process and its results. Such data could be used to improve the efficiency of households through social investment in supportive services, including adaptation of health care systems to role shifts, task overloads, aging of personal information stocks, etc.

WHO DEFINES HEALTH?

Since the definition of health is ever expanding, and many aspects of living, such as satisfaction with roles, nutritional habits, sex education and quality of environment, can be assimilated to a concept of health, can data needs be delineated?

One can define health status as a set of dimensions for which values or states are recognized (whether as deviations from a norm, i.e., illness or as a life event), which activate major social systems by defining individuals as clients, justifying particular ministrations, exempting persons from certain roles, preventing them from assuming others, adapting environments or moving persons to other environments. Presentation of oneself at interfaces with such systems is motivated by presumed benefit to be derived, and evaluation of one's own health status is pragmatic: Is something happening that suggests that an action is likely to be beneficial (e.g., a decline in health capital would be avoided)? If a health status change is not recognized by others as the basis for action by a system, then no benefit is likely to arise from such announcements or encounters. Evidence accepted by systems include self-report, and clinical signs at initial contacts; later, investigative steps provide confirmation and justify specific protocols of treatment.

The involvement of health care providers is critical. Providers have had working definitions of health that determine the selection of individuals from the pool of potential patients, the tasks performed during encounters, the retention of persons as patients across subsequent encounters and the referral or transfer of individuals to other social systems, such as family networks, courts, or schools. These definitions have also been applied in the selection of medical school curricula and, one may venture to assert, the recruitment of trainees. In many respects, the definitions have been adopted to the needs of industry and insurance providers (e.g., criteria of readiness to work and necessity of applying expensive hospital-based services).

The complex structure of power and functions in which providers, patients, industries, governmental bureaucracies, and other social elements operate is a subject of great interest today. Sociologists, economists, political scientists, and health professionals have been engaged in formulating models that will capture relationships, explain current experience, and help predict and plan the future. For the purpose of understanding unfilled data needs concerning women, it is not necessary to evaluate the exact distribution of power between provider systems and other systems. What is important is that "health" is a term that exists within a political economy and is accepted as a signal for behavior on the part of one or more systems. Although idealized definitions, such as total well-being, serve to

shape individual behavior (comparison of one's actual state with one's ideal state being a step in the decision path hypothesized to lead to seeking care), the definitions of health that accommodate the various systems affected are applied, by and large, by providers.

Provider definitions may be expansionist or restrictive. Expansionist definitions help create and sustain a workload within the limit of capacity and locate persons in places convenient to providers by assimilating personal events and conditions to a medical model. (The medical model includes both classification of states as illness and establishing thresholds of severity, risk, etc., justifying professional management outside the household.) Restrictive definitions reject many personal events and conditions as lying outside the scope of provider intervention.

Women and men alike are best served by the health care system if the definitions of health status that are in use will reduce risk of interruption in their role performance, enlarge opportunity for work and other activities requiring sustained availability, and improve subjective gratification. These objectives in adult life are served in the human developmental period by definitions that will be consistent with a full range of role aspirations and availability for preparation.

While such goals are shared by both sexes, definitions of health status and the related body of concepts under which medical care in the United States has operated have reflected a society in which women typically occupied dependent or home-oriented roles.

This context influenced both the interpretation of norms for function and subjective symptoms and the roles that individuals were expected to assume in their encounters with health care. Examples include (a) absence of family planning from medical school curricula in the past decades, (b) interpretation of patients' questions as indicating anxiety rather than a desire for information parity,³ (c) interpretation of pain and discomfort related to pregnancy as expectable and not requiring investigation or action, and (d) interpretation of care as comprehensive even though fertility-related needs are not met.

Market interactions with patients do set bounds on the autonomy of provider interpretations of health status, but the conditions under which women have entered the market for health care have limited their power to negotiate, since they had to conform to the set of expectations and constraints imposed by family law, the job market, the organization of childhood education, and other social systems.

A revised and, in some respects, expanded definition of health is, to some degree, a corrective to disease-oriented and, frequently, provider-oriented categories, and such revision is consistent with the necessity of achieving cost control in health care by selecting preventive strategies. However, some limits are clearly needed for practical reasons, both in measurement and in design and conduct of health care programs.

It is proposed that traditional categories be changed where it can be shown that they fail to recognize conditions of women's lives in the contemporary environment of family structure, labor force participation, and aspirations and demands for equality.

The probability of securing broad acceptance of expanded

³ That is, equality with the provider concerning quantity of relevant information.

definitions is enhanced by showing (a) health care system incongruities, such as when professional standards for need for care, urgency, etc., are not consistently applied to women, (b) inefficiency of the health care system, such as when neglect is shown to be costly in terms of later care, (c) social loss, such as when family function, childhood development, and economic activity are impaired by misspecification of women's needs, and (d) nonmarketability of system offerings, such as when women choose those providers, insurance policies, etc., that come closest to their definitions of health, illness, content of encounters, and ultimately of quality of care.

GENERAL VARIABLES USED WITH HEALTH DATA

Social and economic variables of classification used in producing health statistics may need revision. Many scholars and analysts are interested in reexamining concepts and data on household structure, occupation, income, and other subjects and evaluating their applicability to present-day conditions; this paper will not duplicate their discussions. But it is essential to recognize that the crudeness of the variables of classification and their poor fit to concrete experience of women has blocked development of the most useful body of statistics of women's health. For example, health status and health care practices have been classified by education of head and family income. The first classification leaves obscure the educational capital of a husband-wife household as a whole and those who are the health decisionmakers for children and other adults. The second classification is uncorrected for family size⁴ and composition and, thus, tells nothing about per capita income. Nor does it capture availability of income for the members of different sexes.

Improved variables of classification, such as education of individuals and employment status categories that will show double roles and part-time workers, will help produce data needed to approach health problems of women effectively; at the same time, better data on health variables will help in approaching problems for which these other measurements are commonly used.

Health is a major concern in relation to equitable distribution of community resources, women's labor force participation, and other issues of general importance. Adaption of health care resources to women's needs also gives room for new health care occupations in which women could participate.

PRIVACY AND ACCESS

Another consideration in the data base on women's health is privacy as a dimension of access to service.

While access to health care has been analyzed in terms of a regular source of care, time required for travel, waiting and processing, satisfaction with information given, etc., the issue of privacy has been inadequately treated.

The concept of privacy has the dimensions of a private place, decision without intrusion of outside parties, and confidentiality of records. Privacy in health care is an economic good for both sexes, because employment and

promotion may be jeopardized by disclosure of the health conditions that people have and the medical procedures they undergo. For general health conditions, this may have a distinctive impact on women insofar as their employment status is marginal. More certain is the effect of disclosures relating to fertility and sexuality, since personal behavior of women leaves a clearer trail in the health care system, and norms for women are often more restricted. Women who do not wish to surrender to others decisions as to disclosure of receipt of abortion or contraceptive services, or who wish to control the timing of disclosure of a pregnancy that they intend to carry to term, may be legitimately concerned with the reactions of superiors and associates on the job. Such concern, particularly with respect to abortion, compels some to travel unnecessary distances for service. The decline of out-of-State abortion following nationwide legalization left a considerable number of women who have to travel to another State; while much of this is attributable to unequal availability of service, some travel may be explainable by a desire for privacy.

Another effect of concern over privacy is failure to file claims for abortion care through group insurance, which obliges patients to use personal funds. This results in impaired equity in distribution of wage supplements. If gathering cash for payment is a problem, there is a possible delay in scheduling of service, leading to more complex, costly, and risky procedures [8].

Insurance carriers tend to assert a right to personal information about claimants and to see a threat to patient rights only when sharing of the information with others is involved. In holding such views, they miss the point about claims filing: it involves contact with individuals in the employer's personnel office, the carrier, or the union health welfare fund, and possibly mail to a place of residence, particularly if copayments are required.

Inadequate attention to privacy in health care for women thus entails costs and losses, such as travel, use of private funds, and psychological sacrifice, when the loss of privacy is accepted by the patient as a condition of receiving care. Why is such sacrifice special for sensitive health services? Insurance companies share records indicating insurability, and their moral evaluation reflects very particular behavioral norms for women. Hence, future employability, credit, and access to general insurance (life, car, casualty, etc.) may be impaired. Providers are often naive about the purposes of inquirers or the security that will be maintained by them, and disclosures from provider records may enter into a long-term personal file over which the individual has no control.

Several proposed remedies for breaches of privacy in abortion financing have been described in a study by the author [5]. They include arrangement for coverage in an actuarial pool, standard benefits with no copayments that would require correspondence with the patient after service is rendered with anonymity protected by computer numeration of enrollees and individual enrollment, instead of family enrollment, under national health insurance.

Barriers to privacy in health care are interrelated with women's health capital if they deter desirable investment in health, compel use of personal resources needed for other purposes, or result in nonoptimal choice of providers.

The extent to which privacy in its various dimensions is observed by providers and insurance carriers constitutes an aspect of access to health care that needs to be specified

⁴The body of work on poverty levels by Mollie Orshansky of the Social Security Administration could be applied in this connection.

concerning women and measured. Furthermore, review of privacy protection in data collection for epidemiological study and regular statistical programs might improve the quality of data used for research and policy purposes.

NEEDED DATA: PERSONAL HISTORIES

A basic assumption underlying development of an improved data system on women's health is that general health, reproduction, household and gainful roles, and other social participation are interrelated and influence measurable phenomena, such as behavior, body parameters, and clinical signs, as well as probability states concerning future needs and capabilities. The relationships are experienced dynamically in the life of individual women and cohorts,⁵ but significant aspects are also captured by cross-sectional measurements.

In keeping with this concept, (1) histories should be collected and classified, and (2) current health of women should be classified according to personal history.

To do this, concepts of employment and occupation should be adapted to express (1) labor force participation interrupted by homemaker service, (2) part-time employment (part-day, part-week, and part-year), and (3) extensive volunteer service with and without fixed daily hours. Role combinations mentioned on the first page of this paper should be identified.

The agencies whose statistical surveys would be affected by this adaptation include the Bureau of the Census, the National Center for Health Statistics, the Social Security Administration, and the Health Care Financing Administration.

A special panel charged by the American College of Obstetricians and Gynecologists to develop guidelines on pregnancy and work has noted the need for a detailed work history and for information about "potentially hazardous exposures or activities" as a basis for individualized pregnancy management [1]. The absence of good data on work-related pregnancy hazards is viewed as a gap in according adequate protection. It is noted also that work-related hazards to male reproductive organs were also insufficiently documented. The use of histories in connection with current health data is recommended here for women, but application to men, as well, would be useful in order to carry out comparisons by sex. In the example just cited, epidemiological study to clarify causes of birth defect would be facilitated by having work-related data on both spouses. More generally, the improved insights gained by considering multiple roles in relation to health can be applied to understanding of men's as well as women's health needs.

For individuals themselves, their history and current status concerning general health, reproduction, personal roles, number of health care sources, and insurance status should be determined. Number of care sources is important for women, because a portion of primary care is received either in connection with fertility or from sources used for fertility management, as well as from general medicine providers. For women, insurance status has several important dimensions that are discussed in the following section.

NEEDED DATA: INSURANCE

In industries and occupations where women are employed, the adequacy of health insurance can be measured by

⁵ That is, groups of women born in a given period or entering some major life situation in the same era.

ascertaining benefit scope and benefit size relative to local prices. Account should be taken of sex distribution of conditions not biologically restricted to one sex to see how limitations not mentioning women specifically affect them in actuality. Account should also be taken of limitations where the effect is more obvious, as in exclusion of ambulance service during pregnancy and cases where there is a lower cap on benefits for fertility-related care than for general care.

Another important dimension of insurance is how well it fits women of different employment statuses. Included are the minimum length of employment to qualify for enrollment and the coverage of part-time, seasonal, temporary, new, and hourly employees. Since blanket contributions for fringe benefits are sometimes negotiated, transfer effects between covered and noncovered employees that raise questions of equitable distribution of wage supplements should be identified and measured. The size of groups in which women are enrolled should be ascertained, along with whether fertility-related benefits depend on the size of the group, whether they are part of basic coverage or available only by rider or endorsement and whether the employer finances them.

Benefits for employed women should be compared with those for dependents, and parity of treatment, such as between male and female spouses of covered employees, should be determined. Also needed is information on continuity of entitlement for health benefits while on leave for pregnancy or after voluntary or involuntary severance because of pregnancy and on conversion privileges if the job is lost for any other reason.

Appraisal of insurance coverage of women after retirement is of interest because of their less continuous gainful work histories, high unemployment, and lower job categories, as compared to men. Included are the percent of women in retirement ages who are eligible as the primary retiree, rather than as a dependent, whether benefits are optional or mandatory, and the size of employee or retiree payments for premiums relative to wage levels and retirement incomes.

Benefits that are contingent on family contracts should be identified; the percent of carriers and contracts with such restrictions and the percent of women qualifying should be ascertained. Application of family contract provisions to single-parent families should be studied. Provisions for student coverage through riders to primary contracts or through separate contracts should be analyzed concerning their use by young women, upper and lower age limits, whether part-time students are eligible,⁶ and how adequately fertility-related care is covered [5]. Women's dependence on spouses for health coverage through group or individual contracts leads to loss of protection in case of divorce; the extent of this problem should be measured.

The characteristics of companies insuring women for health care should be examined with regard to their financial stability, their retention rate (referring to revenues not paid out in benefits), their scale, and other characteristics affecting economic and social efficiency.

Privacy and confidentiality protections of particular concern to women, notably with regard to abortion services, should be explored. For example, is the volume of claims for

⁶ A rise of the labor force activity of female full-time college students, once well below that of males, placed them on an equal percentage level (40 percent) by 1976. The number of part-time students was greater for young women than for young men—649,000 compared with 556,000 in 1976, in the group 16-21 years old, whereas for full-time students the difference was in the other direction [20].

each procedure routinely reported to employers of small groups in which individuals can be identified?

NEEDED DATA: INDUSTRIES, PROVIDERS, AND ENVIRONMENTS

On insurance matters, a deliberate overlap between employer and carrier data collection is suggested. This is important, because employers sometimes say they can only buy for employees what is in the market, and carriers often say that employer preferences more or less conclusively determine what it is feasible to offer. It is time to investigate the extent of inadequacies, and also the circumstances under which the best and worst provisions are made. It is also a very practical matter to examine whether industries with heavy health risks afford adequate group insurance for specific risks. To do this, industries where women work should be classified according to characteristics of the environment that are significant for risk of infertility, poor pregnancy outcome, and general and mental health.

Pregnancy testing in industry would improve pregnancy outcomes inasmuch as the occupational environment could be controlled, but this is not likely to be acceptable to women so long as job status is jeopardized by reason of pregnancy. Recognition of excess fetal loss rates among women anesthesiologists, which led to better methods of controlling anesthetic gases, is an example of potential hazard and beneficial control. These women, presumably, were in a favorable job market. Another consequence of industrial practices related to childbearing is that women in executive ranks may postpone pregnancy to guarantee promotion, a factor predisposing to higher ages of childbearing and possibly poorer outcomes.

We need data that will elucidate the potential for relocating or rescheduling women who are pregnant and for adapting the industrial environment to the presence of women in fertile ages. Also needed is information on locational distribution of women within one employer's enterprise, so that possibilities for delivery of prenatal care, fertility control services, health education, and other services at different sites can be estimated.

Health care providers including institutional facilities, health maintenance organizations (HMO's), solo and joint practices, community mental health centers (CMHC's), public sector clinics, etc., should be categorized according to characteristics that are significant for women, including—

- employment of women in the higher status positions within the organization
- use of women as volunteers, compared with paid staff
- same sex/different sex combinations in practitioner-patient encounters
- arrangements for locational privacy
- arrangements for privacy of records
- available hours relative to peak-load hours for women with double roles
- capacitation for self-care and mutual aid organized around selected health problems
- adequacy of fertility control services

For women who spend much of their time at home, residential environments may have a special impact on their health.

Information should be collected on residential environments that would permit classifying them according to health hazards, recreational resources, emergency health care facilities, and other characteristics. The amount and qualitative features of time spent in residential environments should be analyzed by sex and related to health experience. One example is obesity in relation to social opportunities organized around food, and to physical demands of the homemaker role. Another example concerns television. While a body of literature has been created relating watching of television to violent attitudes and behavior, it is interesting that little is known about other mental states, such as depression, that may be connected with prolonged exposure to television.

Sampling, monitoring, and categorizing of industries, carriers, providers, households, and environments would then create a body of landmarks that could be used to evaluate reported health events. For example, adult women's use of services could be related to their insured status, employer policies governing sick leave and maternity leave, and household configurations.

SHORTCOMINGS OF CURRENT STATISTICS

Health, United States, 1976-1977 [12], is a report by the Secretary of HEW to the President and Congress, as mandated under P.L.93-353. It was prepared by the National Center for Health Statistics and the National Center for Health Services Research, with the advice of the U.S. National Committee on Vital and Health Statistics. Selection of statistics for inclusion was based on the criterion of relevance for policy and administrative decisions on resource allocation.

This compendium and review, extending to over 400 pages, draws on a variety of regular data sources and on certain special surveys. The data-collecting organizations include the NCHS through its statistical programs, State agencies reporting on venereal diseases, abortion and other subjects, ADAMHA, SSA, Census Bureau, BLS, the Environmental Protection Agency, and the Consumer Product Safety Commission. AHA data are used directly and AMA and other professional organizations provide data to the NCHS manpower statistics program.

Health, United States offers an opportunity to identify gaps and opportunities relating to adequate data concerning women's health and health care. An examination of the tables presented in part B, "Data on the Nation's Health," was undertaken for this purpose.⁷ It showed that for many topics figures by sex were not presented (for example, hazardous products as noted in emergency room records). For others, such as alcohol consumption and "usual place" of health care, sex, race, family income, and some other variables were used *seriatim* but were not used together to analyze the material studied. In other cases, additional relevant and possibly important knowledge could be gained by adding factors that evidently are not currently sought at all or that could be linked from other surveys. For example, in considering access to care, privacy concern is not included in the list of barriers to care. In another area, population, age at completion of projected fertility, a statistic of vital concern in defining needs

⁷ An annotated list of the tables in *Health, United States* that were evaluated constitutes app. A of this paper. In some instances, the desired statistics may exist in the source agency but either were not published or compiled.

and outlook for mature women, is not estimated. Many health-related questions would be elucidated by introducing information on type of job, home responsibilities, available sick leave, and other factors. In many cases, the insights would add to the useful knowledge base on health needs of men.

There is a need for special attention to health financing data on women, since many women are in employment categories where eligibility is less secure than for men and would continue to be so under certain national health insurance proposals. For these employment categories, too, benefits would be more meager. Yet, the sex variable is notably absent from finance statistics. Particular opportunities exist for relating fertility and health data, as in examining reason for change in contraceptive methods and relation of contraceptive medication history, reproductive history, and childrearing to current health.

For the set of fertility-related health services, a variety of unmet data needs on utilization and expenditure, and the reasons for data gaps, such as omitted items in data collection, insufficient disaggregation, misspecification, and failure to bring together information from different sources, are presented in an earlier paper published almost 4 years ago [7]. Most of these needs are still unmet. Because health care related to fertility is an important component of total health care for women, an excerpt from the earlier paper is attached as appendix B.

Both the stress of pregnancy and exposure to health care during pregnancy may lead to early discovery of diabetes, hypertension, and other chronic diseases. The effect of number and timing of pregnancies on general health and the variation with race, age, socioeconomic status, and other measures of interest should be analyzed. Although one of the major needs in Federal health statistics on women is to integrate fertility and general health data, the National Survey of Family Growth does not collect data on health status and utilization of services, and the Health Interview Survey does not collect reproductive data. While the Current Population Survey does collect data on children ever born and birth expectations, these are used only for population analysis and not to see how fertility may affect health. The response of women's health status to maternal and child health programs is not revealed in program statistics, yet is needed in order to plan the future size and nature of these programs.⁸ For planning purposes, information is needed on care received by women as affected by age, race and income level, and labor force status. The effect of Medicaid and Medicare on the flow of health services to women in different subgroups needs to be monitored and evaluated. Measures of quality that are appropriate to conditions for which women seek care and to the types of services they receive should be applied and a statistical record established. The needs of women in the most disadvantaged groups could, thus, be more effectively revealed.

EXAMPLES OF GAPS

A. In a major national data system, the Health Interview Survey [16], a number of issues involving measurement of health status by sex are encountered.

Measured illness and disability depend on whether

one is unable to continue usual activities, seeks medical attention, or is obliged to have personal services performed for oneself or others. Therefore, measurement is deeply embedded in the social and financial context that helps determine for each sex when it is feasible and acceptable to withdraw from activity and seek assistance within and outside the household. This context includes both the norms of personal conduct and interpersonal relationships and a variety of material circumstances, such as place of work, sick leave, family size and age distribution, income, and entitlements within health care and other systems. Current data collection for the Health Interview Survey does not measure most of these factors.

1. Sick leave has different effects on work disability, depending on whether it may be accumulated beyond a calendar year. Low-income jobs in which women are more likely to be found tend not to have carryover of leave. Do women in such jobs use up their sick leave toward the end of the year, raising reported morbidity rates?
2. Do women use it throughout the year as a way of meeting needs of other family members' illness-related or other needs that are not provided for the occupational structure, such as attending a school play or conferring with a teacher, providing home care, or escorting a child to the doctor?
3. Variation in industrial provision for pregnancy disability affects the consistency of measurement of pregnancy-related illness, concurrent illness during pregnancy, and numbers at risk. That is, if there is no coverage for pregnancy, a woman may take annual leave, report other illness but not the pregnancy, or work, although not in optimal condition. Hence, there is variability in measured work-loss days, by frequency and cause, according to company provision for pregnancy,
4. Activity limitation due to chronic illness is differently reported by women who see themselves as homemakers, rather than as gainfully employed, even if they had been previously employed, which means that current measurement of rates of limitation is inconsistent.
5. In addition, the degree of limitation experienced may be affected by the presence of others in the household. This may happen two ways. The sick person may be able to sustain a higher activity level, because certain needs, such as aid in mobility, are met by others, or independence in self-care may become less imperative. When an older person has a chronic condition, sex differences in the probability of moving in with a child may affect measured limitation.

A recent study of scaling on indicators of chronic limitations, based on the Health Interview Survey, does not analyze the data by sex [10]. The fact that a null hypothesis did test the relationship between the scales and gender [10, p. 943] does not satisfy, because a person living alone has different needs and demands from one serving as homemaker or able to receive homemaker services. The study does not elicit whether need for help, level of physical activity,

⁸I am indebted to Mary Grace Kovar, Chief, Analytic Coordination Branch, Division of Analysis, National Center for Health Statistics, for the points in the preceding paragraph.

mobility, and work activity are associated with presence and role distribution of others in the household able to provide help.

Verbrugge has discussed reasons that have been advanced for higher morbidity reported by women for nine conditions for which males have higher mortality rates [18, 19]. She addresses interview behavior specifically. A sex effect is introduced into the data by use of women proxy informants for absent members, who tend to be men. Proxies are found to underreport morbidity of others, although Kovar and Wilson [4] have found the effects to be relatively small.⁹ (Women in dependent positions perhaps may not wish to perceive the earner as ill, and this may add to other reasons for not reporting as much illness as direct respondents.) In any case, double role obligations will affect both performance as proxies and adequacy of proxy data in the future. Cooperation, recall, and verbal skills are evidently not implicated in sex differences in rates reported in interviews. Theories about women's lower threshold for perceived discomfort and whether they are less reluctant to report embarrassing conditions surely need further examination. Since reported illness is defined in terms of taking a health action and not just a physical symptom, the question of whether women have fewer time constraints than men to seeking care also needs close examination in relation to roles: The hours of provider availability may clash with household responsibilities. Also, women's supposed ability to restrict activities rather than struggle to perform them may be affected by family size and age distribution of children.

B. The National Ambulatory Medical Care Survey has much interesting output on workload, case mix, and content and duration of encounter, as would be expected from a provider-oriented data source [14]. This survey could become a more effective vehicle for understanding the use of health care by women through additional breakdowns of published or collected data, deeper inquiry into categories already used, and development of patient-oriented rather than provider-oriented statistics. Additional question items and enlarged samples would be necessary in some instances.

The first major report of NAMCS presented data on annual visit rates for the U.S. as a whole, as well as for regions and metro-nonmetro areas, and broke visits down according to physician specialty and type of practice, patient problem, seriousness of problem as evaluated by the physician, time spent with the physician, treatments and services, disposition with

respect to revisit, diagnoses, and prior status as new or old patient. Age, sex and color groupings were used to analyze all these items, but only for annual rates were all three variables used together — that is, to show rates for White women in a certain age group, and for two other tables (prior status and region breakdowns) age-sex groups were formed but not distinguished by color.

Already collected data could be tabulated to show—

1. Whether male and female physicians differ concerning perceived seriousness of the patient's condition, frequency of specific treatments and tests, and disposition of visit for male and female patients.¹⁰
2. Whether time spent with the physician for conditions of a given severity varies by sex of patient.
3. Whether treatments and services for specific diagnoses vary by sex.

An average of 60 percent of all visits are made by women. Their share is larger than 50 percent at all ages except for those under 15 years old, the excess being considerable for abdominal pain, headache, and weight gain. By diagnosis, women had higher proportions of visits than men for obesity, neurosis, diseases of the genital organs, and arthritis. Information is absent on the proportion and characteristics of women and men making high or low use of physician care, using multiple specialties, and receiving care for multiple diagnoses across a year; absent also are other patient-oriented data on use of the health care system and access to it. An important omission is the use of hospital services by those receiving ambulatory care.

Whether vague states of illness are attributed to women and, if so, the reasons why this occurs and its extent are matters of considerable interest. Hence, it would be useful to know the criteria on which conditions are classed as neurosis, observation, and specific physical disorders and if they vary by sex. Furthermore, data are needed to determine how the incidence and prevalence of neurosis, tranquilizer use, alcoholism, and other emotional/behavioral phenomena vary among women of different characteristics and whether biases of treating physicians, more careseeking by women, stresses and life style, and physiology are involved in the diagnoses.¹¹

Also relevant are the process by which presenting complaints are transformed into diagnoses by physicians and the time that this process spans between encounters. It is sometimes said that women receive more prescribed medications as a result of delay in initiating diagnostic steps; is this so? "Other" treatments and services in the language of NAMCS include therapeutic listening and counseling. Is the designation "therapeutic listening" used when no psychological support is offered? Is it given more frequently to women than to men? Is it used in life stress situations? When "counseling" is reported, does advising specific changes in habits depend on assuming household support for a dietary or other change? Is such counseling used differently for each sex and for the married and unmarried?

What is the effect of different appointment systems and

⁹Self- and proxy respondents were compared in the Health Interview Survey in 1972, as reported by Kovar and Wilson. In general, the standard respondent rules, permitting proxy replies, yielded higher estimates of excellent health and lower estimates of good health. What occurs, evidently, is explained to a large degree by wives reporting better health for their spouses than they report for themselves. There was a slight increase in males reported as in fair or poor health when "self only" was the respondent rule but a decrease in females in fair or poor health.

While the authors conclude that the results are close enough to continue using estimates based on proxy respondents they do point out that degree of health impairment reported is affected.

¹⁰To secure valid estimates, purposive sampling of male and female physicians would probably be necessary.

¹¹This observation was contributed by Mary Grace Kovar [4, p. 22].

arrangements of office hours on caseload mix, by problem and provider diagnosis, for each sex?

FUTURE RESEARCH ON WOMEN'S HEALTH

Future research could have, as one focus, the concept of women's health capital, evaluating it at different age levels and for different life styles, and studying its relation to utilization, the yield on alternative investments, and interactions with other forms of human capital. Another productive area of research would be the study of the distribution of health-related functions within the household, and opportunities for programmatic investment to improve household efficiency in production of health by diet, hygiene, and other measures.

Women's encounters with the health care system should be examined to show what relationships exist between psychosocial aspects of these encounters and the treatment options, quality of care, and outcomes that are experienced by women. Dynamic aspects of women's health and health care could be approached by both longitudinal and cross-sectional studies, development of lifetime aggregates and sequences, and other lifecycle-oriented statistics. Monitoring of women's participation in HMO's, health planning agencies, and all innovative systems or institutions in the field of health is essential in evaluating system performance concerning providing equality of opportunity. It also could be correlated with measures of system effectiveness in dealing with women's health problems and meeting humanistic norms in patient care.

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APPENDIX A

ANNOTATED LIST OF TABLES

Tables from *Health, United States, 1976-1977*. (Short titles are used for identification. Specific suggested improvements are shown under each title.)

- Table 4. **Percent of population changing county or state of residence 3/70-3/75 (age 5 and over)**
Who initiated move within household?
Relocation of school-age children (source of stress for mothers).
Is environment totally new or similar to old environment or is move a return to former area of residence?
- Table 5. **Components of population change (births, deaths, net migration)**
Geographical distribution of women, areas with large influx of women, employment status of migrants by sex.
- Tables 6-7. **Population projections under different assumptions of completed fertility; age distribution assuming 2.1 births per woman**
Age at completion of projected fertility.
- Table 8. **Percent first births/all live births**
Percent of first births by age at first birth, by social class.
- Table 9. **Contraceptive use by currently married women: method, age, and poverty level**
Users dissatisfied with or apprehensive about method.
Unmarried users and nonusers.
Women who have changed methods and reason for the change.
Source of payment for contraceptive services.
Ever users of abortion services; contraceptive failure experience.
- Table 13. **Birth rates for unmarried women**
Proportion of pregnancies terminating in induced abortion (see table 98).
Source of financing for abortion and for delivery.
- Table 15. **Live births and birth rates by geographic division and state**
Measures of adequacy of obstetrical services, by locality and by availability to low-income women (updating the 1967 survey of the American College of Obstetricians and Gynecologists).
- Table 18. **Age-adjusted death rates by geographic division and state**
Relation to morbidity and other health status indicators, by geographic area and sex.
Relation to environmental factors.
- Tables 23, 25, 28-30. **Death rates by location of residence, and for selected causes by age, sex, and color**
Relation to personal history and social class, developing measure of social class appropriate to each sex.
- Table 31. **Hazardous consumer products**
Score by sex and type of activity involved in reported cases (and by task levels).
- Table 32. **Air pollution by source and type of pollutant**
Exposure, by occupational distribution for men and women.
Time spent in exposed environment per year by sex.
- Tables 34-36. **Smoking status by sex, family income, and age**
Less stress jobs and more stress jobs and smoking, by sex.
Evaluation of stress level from household and nonpaid roles.
- Table 40. **Self-assessed drinking levels—junior and senior high school students**
Specification of both parents' occupation and relation to drinking level.
Drinking level of students by sex.
- Table 41. **Consumption of alcohol, age 18 and over**
Two-stage breakdown: sex, by race, family income, marital status, and education.
Three-stage breakdown: sex, by race and family income, etc.
- Table 42. **Selected characteristics of problem drinkers**
Unemployment control figure based on all women in labor force and not just "heads of household."
- Table 43. **Obesity (skinfold) 20-74 years**
Relation to parity, job-connected necessity for conspicuous consumption of food or for "competitive appearance."
Relation to marital status, responsibility for food preparation, eating out, psychosocial factors.

(See also table 43—self-assessed weight status and tables 45-46—weight control effort and methods.)

Familial convergence: Both spouses overweight and trying to lose and other combinations of weight status goal and method.
- Table 47. **Persons exercising regularly**
Exercise opportunities by sex.
- Table 48. **Live births by starting month of prenatal care, by race**

Relation to insurance coverage, pregnancy testing, and regular source of care.

(See also table 49, by age.)

- Table 54. **Persons with a usual place of medical care, by age, sex, color, and family income**
Two-, three-, and four-way breakdown (see table 41).
- Table 55. **Barriers to medical care**
Two-, three-, and four-way breakdown.
Add privacy concern to list of barriers.
Inconvenient hours analyzed by sex in relation to demands of household roles and nonhousehold roles.
- Table 57. **Usual place of care**
For women, record usual place for fertility-related services, as well as for other health care.
Tabulate breakdown by sex by color by family income.
Adjust family income for family size.
Explore availability of income for each member's health needs.
- Tables 58-60. **Deaths from selected causes by weather, holidays and day of week**
Report by sex and employment status.
- Table 61. **Self-assessment of health**
Two-, three-, and four-way breakdown.
Analysis of meaning of excellent, good, fair, and poor health levels to individuals in such terms as readiness to take part in certain activities, comparison to parents' health, comparison to other family members, and dependence on medication; differentiate by sex and role categories.
Monitor adjustment for proxy responses.
- Table 62. **Occupational injury and illness in the private sector**
Report by sex.
- Table 63. **Selected chronic conditions by degree of limitation (all ages, and 45-64)**
Report by sex and definition of major activity.
- Table 64. **Chronic conditions by age, sex, and family income**
Breakdown of sex by family income.
- Tables 65-67. **Influenza and other upper respiratory conditions: incidence, restricted-activity days and bed disability days**
Report by sex.
- Table 68. **Disability days by type of disability day, age, sex, and family income**
Rates for currently employed women, by double-role responsibility.
- Table 69. **Disability days and acute conditions by sex and occupation**

Rates by type of sick leave. Check for end-of-year reporting bias, if any.

- Table 71. **New active cases of tuberculosis**
Two-, three-, and four-way breakdown.
- Tables 74-75. **Venereal and notifiable diseases**
Report by sex.
- Tables 84-87. **Office visits to physicians**
87. Use of telephone to supplement office visits, by sex.
- Table 95. **Outpatient psychiatric services**
Report by sex.
- Table 101. **Discharges from non-Federal short-stay hospitals**
Relabel pregnancy complications (XI) so that normal childbirth is not encompassed in an illness label.
Reexamine symptoms and ill-defined conditions to find if there is a sex difference in the apportionment of conditions to this category rather than to definite diagnoses.
Identify familial and social stress as category.
Present figures by employment status.
- Table 105. **Discharges and persons with 1+ episodes**
Two-, three-, and four-way breakdown.
Identify home support network for patient and nurturing duties of patient as variables that may affect discharge rate and probability of hospitalization (marital status, family size and composition, and labor force status).
- Table 106. **Nursing home residents**
Rates by sex related to previous occupation, pension, and family composition.
- Table 109. **Inpatient psychiatric services—patient care episodes**
Present data by sex.
- Table 110. **Place of inpatient psychiatric care**
Present data by sex.
- Section 301-320. Health Manpower**
- Tables 112-122. None of these tables shows sex of the professionals covered. Also valuable would be changes in school enrollment by sex, and estimated male/female, male/male, and female/female distribution of practitioner/patient pairings (a) by specialty and (b) adjusted for physician-substitute personnel.
- Table 123. **Inpatient facilities, beds, employees, and patients**
Sex distribution of employees and patients by type of institution could be added.
- Table 129. **Percent of hospitals with specified services**
For fertility-related services, prevalence in relation to number of women in given geographical area.
Development of estimates of family-member time

required to take advantage of rehabilitation and other special services.

Section IV, 341 - 373. Health Expenditures and Health Insurance Coverage

None of the tables estimates expenditure, insurance coverage, and reason for lack of coverage by sex. Some of this is due to reporting systems of operating programs, such as Medicare and insurance carriers. Some is possibly due to exclusion of sex variables in reports of surveys. (Another factor may be summarization from more complete reports.)

Part E. Medical Care Price Changes

It should be possible to price a sex-specific package

of services adequate for needs of a cohort of women and for a cross section. Physician fees for obstetrical cases are shown, but this falls short of the concept of a package by sex. Such data would be useful because (1) fertility-related services including fertility control, delivery care, etc., are needed for healthy (and sick) women and (2) prices pertinent to women's needs could be compared with insurance benefit provisions to determine adequacy.

Table 176. Economic costs of illness

Present estimates by sex, but also show alternative assumptions about labor force participation and valuation of homemaker services that enter into final estimates of indirect costs. Also show relation of direct cost to insurance and use of services at a given level of severity by sex.

APPENDIX B

DATA GAPS ON FERTILITY-RELATED SERVICES [7]

Several different types of data gaps can be distinguished. First, data on a subject, such as dollar expenses of hospital departments of obstetrics and gynecology, may be absent. In this category we cite the lack of information on infertility care received, the utilization of drugs in pregnancy, early infancy, etc., with the exception of obstetrical anesthesia, and expenditure on drugs, and the omission from statistics of many cases of fetal loss in which no surgery was performed. Sterilization is noteworthy for the dearth of information on the reasons for selecting this option for fertility control, the use of hospitals for the purpose, unit costs, expenditures, and insurance experience. We need to correct this type of gap by additional questions within present surveys which cover an untouched area (e.g., charges) or add detail to an area (e.g., purpose of a medical visit) or even by new surveys.

A second type of gap is insufficient disaggregation. This can be corrected by expansion of samples so that additional breakdowns of data are feasible. Whereas, for example, color and region may be included in study variables, to show a piece of information by color within a region requires larger numbers than presentation related to either variable alone.

A third type of gap is lack of relatedness—that is, because information on different subjects is from different sources, it is difficult to tie together, for example, receipt of prenatal care, outcome of pregnancy, and presence of insurance. The time reference may be different, the populations not identical or compatible, and the questions in one area not planned with a view to shedding light on the other. We need to correct this by expanding the range of topics in a survey—the number of fertility-related service components included, and the aspects covered—utilization, expenditure, preference or potential demand, perceived availability, and insurance. An alternative to the single survey is studies that can be linked as to time, space, and comparability or identity of the population.

A fourth problem arises from misspecification, including incomplete specification. (1) For example, "partial" insurance

for maternity is associated with aspect of care—for example, whether coverage applies only to hospital care for delivery rather than amount or adequacy. (2) To relate medical, service, and financial aspects of a pregnancy to the mother's employment status, a definition of usual activity would be in order which not only referred to labor force participation during "most of the past 12 months" but elicited how this might be influenced by the pregnancy itself. The finding would have implications, *inter alia*, for adaption of employee group insurance to fertility control. (3) The statistical formula must be appropriate for extraction of needed material from a study. In the Health Interview Survey, questions about care received by infants under 1 year may miss neonatal illness for children of 11 months, since only the experience of the past 6 months is used. It is doubled to produce tabulations and the earlier experience is not utilized in the numerator whereas the older babies are retained in the denominator. (4) Finally, within the problem of specification is use of categories which make it possible to identify abortions performed in outpatient facilities or outpatient units of hospitals where a stay of several hours is customary.

The incomplete universe exemplified by the excellent data from PAS, regrettably available only for subscribing member hospitals, holds back the process of generalization from otherwise valid experience and is a type of gap. The member hospitals, being larger, probably care for both the medically solvent and the poor with selected medical and demographic characteristics and the effect of these biases is not easily established.

Attention to these various gaps would increase the potential of our important national surveys to produce data on numbers in need of fertility-related health services, branch frequencies (expected utilization of specific services within a broad category, such as Caesarean section within the category of obstetrical deliveries), money charges, and insurance coverage.

COMMENTS I

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INTRODUCTION

Charlotte Muller's paper reviews many factors which affect women's production of health status and their consumption of health services. Her discussion points out an important fact, namely, that our understanding of women's production of health and consumption of health services is a function of our understanding of the various roles which women assume, roles which are changing but about which many historical biases still exist. Unfortunately, these biases are reflected in traditional health data sets and, therefore, limit true understanding of women's health status.

Muller points out that, in order to understand the production of women's health status, data collection on women's health should include information about reproductive efficiency, fertility, general health status, personal health history, and employment and nonmarket (household) responsibilities. Her conclusion is based on a definition of health that is similar to Grossman's concept of "health capital" to which she adds the concept of "reproductive efficiency" and a more precise statement about women's roles as homemakers, mothers, and wage earners. These roles may be complements and/or substitutes, and women move into and out of them over time.

This comment first discusses general points in Muller's work which warrant further elaboration. Several omissions are then noted and discussed. We also question the importance of other issues in the paper which, while being useful and interesting research questions, are possibly less useful in determining Federal statistical needs on women's health. Specific points in Muller's paper on data gaps are then combined with the authors' work for a summary of important data questions to be considered when studying women's health.

Before commenting in detail on Muller's paper, however, it may be useful to reflect on the basic rationale for Federal data collection efforts as a way of putting into perspective the various issues discussed in this and other conference papers. First, Federal statistical needs relating to women are presumably a direct input into Federal policy relating to women. For economists, any Government intervention should be based on public finance criteria. While the general knowledge acquired from Federal data-gathering efforts clearly has the character-

istics of a public good, it is important to establish other grounds on which the acquisition of specific information is justified. Women-specified data are needed only where (a) sex may be the basis for differential social and private benefits/costs, e.g., where health problems affect men and women differently, (b) sex-based discrimination in health policy is suspected, or (c) program evaluation pertaining to the alleviation of (a) or (b) is required. While it may be easier to collect information on every aspect of life, the role of government must be properly delineated in terms of policy purposes.

COMMENTS ON GENERAL ISSUES

One of the more important issues raised in Muller's paper is the influence of sex-specific differences in perceived health status, according to one's role, on the demand for certain health services. However, the analysis of the importance of role differences and corresponding perceptions about health status is not well integrated in the paper. The various impacts of one's role on perceived health status are mentioned in nearly every section of the paper, but the subject does not receive systematic attention. Similarly, the distinction between the static and dynamic aspects of women's roles on their health status is incomplete. Further, Muller discusses only role differentiation as a result of women having both household and labor market duties; participation in voluntary activities is only briefly acknowledged.

While we certainly agree that many public policy issues in women's health directly relate to sex-specific role differentiation, there are other factors that may augment our understanding of how roles affect health status. For example, economists recently became aware of the concept of "dependency," a concept originating in the psychological and sociological literature. Muller touched on the notion of economic dependency when she advocated that data on income source be collected for *each* household member and especially female members. We support this suggestion and contend that females' health status perceptions, their demand for health services, and their time allocations are affected by the extent to which both economic and noneconomic dependency may prevail. Further, we contend that the relationship between economic

dependency and female health status is an area in which there is a great need for data and research.¹ Thus, the entire question concerning the influence of role perceptions on health status and the demand for health services is an area in which there are numerous interesting and, with appropriate data, testable hypotheses.

Another important contribution of Muller's paper is its analysis of sex-specific differences in the content of health capital. Muller suggests that women's health capital includes the capacity for successful reproductive experience. She concludes, therefore, that identical measures of output and the use of the same inputs to produce that output may not be used between men and women. While these points are important, there are conceptual problems in Muller's discussion. First, by including the capacity for successful reproductive experience as a component of women's health capital, the possibility that health capital is also an important input into reproductive efficiency is precluded. While the exact interrelationship between health capital and reproductive efficiency has not yet been specified, it certainly appears to be more of an interactive rather than unidirectional one as Muller posited. Exact specification of this synergistic relationship is, albeit, technically difficult and requires longitudinal panel data.²

We are also unclear why Muller differentiates health capital output measures on a sex-specific basis. It would seem that Grossman's measure, the flow of healthy time yielded by a stock of health capital, is not a sexually biased output measure. It may be that different combinations of inputs such as education, fecundability (on the part of both men and women), employment, household status and roles, income, and health care yield a different stream of healthy time for men versus women; this remains another testable hypothesis.

CRITICISM OF CONCEPTS DISCUSSED AND THOSE OMITTED

Muller's paper basically discusses data needs on women's health in terms of a set of research questions which are presented as being specific to women's health, e.g., childbearing and related reproductive-efficiency issues, potential discrimination in health insurance coverage and privacy in the release of information about health service consumption. The following sections discuss concepts which we feel were relevant, but omitted, as well as our criticisms of some points that were included.

¹ While the study to be cited was conducted in an entirely different society and the focus of the analysis on another economic issue, the importance of the dependency status concept concerning women in understanding their labor market behavior is instructive and would yield considerable depth to our understanding of role-definition change and its impact on the health status of women in the United States. (See [3].)

² The term "reproductive efficiency" is used in the text. However, the terms "fecundability" and "fecundity capital" are more appropriate from several important perspectives. Reproductive efficiency is an *ex post facto* measure of pregnancy outcome, similar to fertility, but more expansive in the sense that it focuses on all outcomes, not only live births. Fecundability, on the other hand, is a measure of potential reproductivity which can be considered as an important choice variable not only by the individual but also by policymakers. One's fecundability can be considered as a human capital asset which can be augmented by various health and other investments; it will yield a flow of services from that capital over time. For those with an interest in these topics, see [4; 5; 8].

Omissions

While Muller expands Grossman's concept of health capital to include the concept of reproductive efficiency and to account for women's different and changing roles, she omits some important issues. First, the paper focuses almost entirely on prime-age (working) women whose physical health problems are often directly related to fertility. While this subset of the female population does attract much current public policy attention, health status questions on elderly and teenage females do merit discussion, particularly since these age groups are frequently target ones for Federal programs. For example, Medicare and federally subsidized family planned services for teenagers are not insignificant Federal health programs whose primary beneficiaries are females. Furthermore, Muller makes no mention of chronic diseases, the incidence of which is often higher for females.

Second, Muller relegates discussion of mental health status to a brief footnote. We submit that any comprehensive data collection effort must consider the joint and independent effects on both mental and physical components of health status. Indeed, recent work indicates that self-reported mental health status appears to have a statistically significant effect on later self-reported physical health status.³

Questionable Inclusions

Muller's approach to and extensive discussion of problems between privacy and access seem questionable. First, a more appropriate term than "access" appears to be "utilization." The term "access" connotes both demand and supply issues, i.e., the geographic availability of services and/or the financial requisites for consumption of these services. Utilization is precisely a demand issue, i.e., the consumption of or willingness to pay for a particular service. In a Lancasterian model, privacy would be one attribute of a service for which the consumer would pay or, assuming that health care is a merit good, to which the consumer is entitled.

Having resolved definitional problems, we also contend that the effect of privacy concerns on utilization is generic to health care. For example, social stigma is a centuries-old barrier in the diagnosis and treatment of venereal disease. Whether the social stigma effects are more profound on women's utilization of health services, particularly fertility-related services, is a testable hypothesis.

Muller assumes that the effects are greater for women and then discusses the need to collect data to specify and then measure provider/insurer breeches of privacy and employer misuse of health data. The direct relevance of this exercise for Federal statistical policy on women's health is unclear. The policy implication appears to be Federal policing of health data uses and recrimination for data misuse. The policing would likely, at best, be only a mild deterrent. Proving an employer's unprofessional use of health data is a heroic

³ The work by David W. Dunlop, Sandra Tychsen, and Larry Revo on longitudinal data from the Human Population Laboratory of the State of California's Department of Public Health shows a significantly positive relationship between a measure of mental health status as of 1965 and a measure of general physical health status in 1974. The work and related analysis are being incorporated into a final report to the National Center for Health Services Research and Development on a research project titled "Economic Impact of Unemployment and Inflation on the Health Status of the Poor."

task, and under present sanctions, the resolution of a problem would lie within the courts and not the Federal data-gathering agency. Difficulties encountered with affirmative action suits are good similar examples. Suffice it to say that we question the assumption that policing of data distribution and use will significantly reduce the effect of privacy concerns on *utilization* of health care services.

Most importantly, Muller does not address what we consider to be the most problematic issue related to privacy and the conduct of research, namely, patients' under- or nonreporting of the receipt of certain health services. This problem jeopardizes data validity and compromises the relevance of research findings for public policy purposes. The problem of underreporting by consumers can be partially reduced by reliance on collecting data from providers. This collection process, however, must be subject to even stricter confidentiality regulations.

SPECIFIC POINTS ON DATA GAPS

In the latter sections of her paper, Muller discusses gaps in existing information on women's health status. She uses data presented in HEW's *Health, United States*, the national Health Interview Survey (HIS), and the National Ambulatory Medical Care Survey (NAMCS) as examples. Generally, the lack of data for understanding women's health problems, which Muller identifies, e.g., the dynamics of role changes on health status, *could* be remedied if longitudinal-panel data sets were established. Also, she identifies and discusses a need for data on health insurance.

Longitudinal Data Sets

The present availability of longitudinal panel data sets is minimal. One possibility is that a set of health status questions could be added to existing longitudinal data-gathering efforts such as the University of Michigan's Consumer Panel. By adding a health status and health-care utilization module, health status could be studied in relationship to role and employment changes. Also, the Bureau of the Census could add health questions to its surveys. The census is an excellent source of data on labor force participation behavior and also could provide an excellent longitudinal data set on health status. The Bureau could also add health questions to its samples from which *Current Population Reports* are generated.

It should be noted that several health-panel data sets are available and, though none is a perfect substitute for the oft-dreamt-of national longitudinal panel, they could be useful. For example, the Human Population Laboratory of California's Department of Public Health has a panel of approximately 5,000 people, 50 percent of whom are female, who were surveyed in 1965 and 1974. Health status and other socioeconomic and demographic variables for the interim 9 years were monitored retrospectively. Also, the cities of Tecumseh, Mich., and Framingham, Mass., received funding to establish longitudinal panel data in order to study heart disease. Other information in the data base, however, could be used to study other health problems, including those of females. In addition, these cities could be used to conduct health surveys on other related health problems, and records could be linked to obtain longitudinal information.

Finally, several panel data sets are available on American

Indian tribes.⁴ While economic and cultural roles of women may differ in these groups, the data are available and could prove insightful.

Health Insurance Data Needs

The health insurance research questions that Muller raises are important. However, her discussion focuses only on questions of employment-linked insurance benefits for working women. Total insurance benefits over one's lifetime must also be analyzed. For example, due to increased female longevity, Medicare benefits accrue mainly to women.

Second, while there is some evidence to show that (a) women insurance policyholders receive fewer benefits than women who are beneficiaries of male policyholders and (b) there are discriminatory coverage provisions between men and women holders, the issue may be more germane to the specific policy question of private health insurance as a means of financing health care rather than as an issue in ongoing Federal statistical collection.

Other Data Needs

Muller omits other data needs on women's health which merit discussion. For example, abortion is not only an important component of Muller's reproductive efficiency measure, it is also the most commonly performed surgical procedure in the United States. It is, of course, only consumed by women [9]. Pre- and postabortion consumption of other physical and mental health services must also be considered. It seems that even though political realities may preclude or impede dispassionate analysis of policy issues on the consumption and/or financing of abortion services, one must specifically address data needs on abortion when analyzing data needs on women's health.

While estimates of the unmet need for abortions [17, pp. 58-59] have been developed, data for a more thorough analysis of the *demand* for and *supply* of abortion services are limited. Currently, the Center for Disease Control coordinates collection of information on abortions performed in each State through State health departments. The information is published in the CDC's abortion surveillance reports. However, a recent report of the National Committee on Vital and Health Statistics (NCVHS) concluded that the available data on abortion were limited and of variable quality and that a program to gather abortion data should be an important priority of the National Center for Health Statistics [15, pp. 35-37]. Further, the NCVHS suggested that (a) the data obtained from the National Survey on Family Growth related to abortion be more widely analyzed and (b) that "funding be made available for properly prepared surveys of the population at risk to allow a more complete understanding of the forces behind the decision to have an abortion" [15, p. 37].

A proposed survey instrument has been developed to address the latter issue by analyzing the demand for abortions performed in free-standing abortion clinics. The survey is based

⁴ Joseph Lipscomb of Duke University is conducting health program evaluation research on the Papago Indians in southern Arizona, and he reports an excellent longitudinal data set on the health status of this group of native Americans. To understand his analytical approach, see [7].

on individual observation data and incorporates not only medical information about the type of procedure consumed and possible complications but also a number of social and economic characteristics of the woman and the household.⁵

Nutrition and Women's Health

There has been little systematic analysis of the impact of women's nutritional status on their health status. In reviewing the health status section of [12], many of the differences in the sex- and age-specific death rates for the 15 most common causes of death can be related to differences in nutritional intake between men and women. For example, diabetes is the only disease of the 15 common causes of death in which the female death rate is greater than the male death rate. It is interesting that of the major nutritional problems identified in the Ten State Nutrition Survey, obesity is a major nutritional problem in adult women. While the onset of diabetes has not been firmly linked to obesity, studies have shown a high correlation between the probability of developing diabetes and being overweight [16].

There are three excellent sources of nutrition data available on the U.S. population on an individual observation basis. An analysis of these data on a sex-specific basis could yield some additional insight into the health status of women. These data include (a) the data collected from the Ten State Nutrition Survey, conducted from 1968 to 1970 [3], (b) the first and second Health and Nutrition Examination Surveys, conducted in 1971-72 and 1977,⁶ and (c) the U.S. Department of Agriculture Study on Food Consumption,⁷ particularly the 1978 study.

Chronic Health Problems, the Disabled, and Vocational Rehabilitation

While women generally have lower earnings than men, it is important to recognize that disabled women, regardless of race or age, are even more poorly paid than any other group. According to data from the Bureau of the Census in 1973, disabled females, depending on their age and race, earned

between 5 and 12 percent of the earnings received by non-disabled White males 45 to 54 years old.⁸ The earnings figures for disabled females were at least 30 percent below any other group considered.

Vocational rehabilitation, a major State-Federal program, is designed to provide rehabilitation services to individuals suffering from chronic health problems and is a way to address this income disparity. The program has expanded in recent years to serve a larger set of the disabled population. While the estimated rate of return to vocational rehabilitation services for both men and women has been calculated as being very high [1], the program may be sex biased. There are two key issues: (a) are there sex biases concerning who is accepted into the program and (b) are there sex-biased outcomes of the rehabilitation process.

In order to analyze the program's admission policy, it would be useful to know what proportion of all applicants who are not initially accepted for services are women as compared to men, by age and type of disability. Second, two authors recently suggested that the vocational rehabilitation program has essentially only increased the number of female rehabilitants categorized as "homemakers" [6, p. 45]. It would be useful to know what proportion of all women who are successfully rehabilitated are rehabilitated as homemakers, rather than prepared for reentering the labor force or entering it for the first time.

SUMMARY

This paper has further discussed the main research and data needs defined in Muller's paper. The conceptual contributions of her discussion of (a) the impact of differential roles on women's health and (b) reproductive efficiency and its impact on women's health capital were both acknowledged and critiqued.

The need for longitudinal panel data sets for analyzing the health problems of women was discussed and the pressing need for data to study abortion services was highlighted. The importance of nutrition on women's health status and the role of vocational rehabilitation for women were also reviewed. The intent of the comments was to both critique and expand the concepts presented in Muller's work. The comments are offered in a spirit of collegiality and intellectual stimulation. Muller's paper and these comments still have much to cover; the work evidences the importance and complexity of the issues on Federal statistical needs relating to women's health as well as the usefulness of this type of forum for exploration of the issues.

⁵ For further information on this issue and a copy of the proposed survey instrument, see [2].

⁶ The results from the first HANES study are reported in [14]; the results of the second HANES study have not been tabulated as yet.

⁷ See, for example, [10]. This document and others in the same series provide information on household food consumption in 1945, 1955, and 1965-66. The 1977-78 survey, completed in April 1978, will provide more detailed information about nutritional intake by individual members of the household, as well as many other important social and economic characteristics of each individual household member.

⁸ See [6, fig. 3, p. 9]. Their source was [11, table 9].

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COMMENTS II

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University of Illinois

The notion of "health capital" has recently been used in economics to explain individuals' investments in health care (both preventive and corrective) and, ultimately, their "choice" of life span. According to this theory, a person chooses the amount of health to purchase on the same bases that govern the demand for any commodity: prices, income, risk preferences, time discounting factors, etc. An implication of health capital theory is that, other things being equal, those who suffer from poor health have chosen not to invest as much in health capital as those whose health is good.

Although such a theory may be logically consistent, there is a potential danger in treating the purchase of health similarly to the purchase of any other commodity, for example, apples. This danger consists of the possibility that, by treating health status as resulting from individual choice, we end up blaming the victims of poor health for their plight. Although individuals clearly do make choices about health care subject to constraints, in this area, social policy and data collection procedures might be well directed toward the constraints themselves, as well as individuals' choices. For example, an obvious constraint on individual choice about which we have good data is income: Low income people can less afford to pay for good health care (if provided on a payment-for-service basis) than high income people. However,

other constraints on individual choice suggest themselves. First, localities vary in their provision of public health information and in publicly subsidized delivery of health care services. Information on the availability of these systems can be added to census data on individuals to better explain their investments in health care. For example, birth control information and services aid women (and men) in their choices about family formation. Second, establishment data can reveal race and/or sex differences in the type of health insurance plans that are provided. Such plans vary according to the kind of services covered, deductibility, maximum benefits, etc. For example, the availability of maternity and/or paternity leaves may well influence birth control decisions. Third, many health problems result from factors beyond the control of individuals. For example, many diseases are caused by viruses that are difficult, if not impossible, to avoid. It would, thus, be useful, along these lines, for health researchers to determine the degree to which it is possible for people to prevent and/or cure diseases. Fourth, it may well be the case that a major influence on individuals' health status is their environment—cleanliness of air and water, purity of foods, etc. In conclusion, it appears to me that the decomposition of the causes of good or bad health into those subject and not subject to individuals' control is at least as important as the study of individuals' choices, given their environment.

RESPONSE TO DISCUSSANTS' COMMENTS

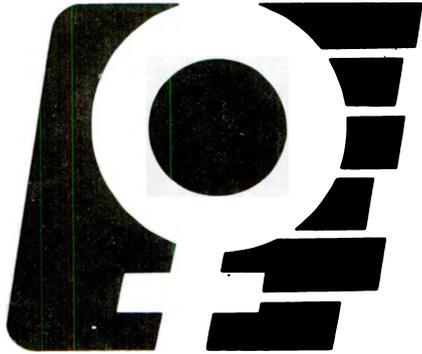
Charlotte Muller
City University of New York

The specific focus of this paper was those aspects of the life situation and experience of women that are distinct from those of men and that affect health status and health care. The gross distinction—and interplay—between household and labor market roles, and the disadvantaged status often occupied by women in the labor market, have not been systematically considered by the statistical organizations that provide data used for making policies. The relation of fertility and fertility health services to general health has often been undervalued. While undertaking to point out several broad issues and exploring a conceptual framework to guide statistical compilation and analysis, the paper did not attempt to review all data needs on women at different ages and in different conditions of health. To have done so would, in many instances, have involved presenting statistical needs that were not unique to women. However, the paper and the appended review of NCHS data do include references to desired data on elderly, teens, behavioral and mental problems, and chronic illness. Clearly, there are many subjects for investigators to pursue.

It is true that the issue of privacy is not confined to

women. However, the specific way in which privacy needs in relation to fertility care interact with opportunities for discrimination against women in the labor market and elsewhere in society does make it reasonable to include privacy in this paper. Raising the issue may speed correction of an important deficiency in the previous definitions of access to service for all sensitive health conditions. Policing is by no means the only remedy. The revised text now includes reference to desirable features of insurance design that would promote privacy and that have been discussed in previous work by the author. Considering these in relation to specific situations, such as those involving abortions, clarifies the implementation issues.

The concern of Kahn with victim blaming is appreciated. The paper itself has many examples of problems traceable to factors of income, environment, etc., mentioned by him. However, the concept of health capital itself is not tied to assuming free choice and absence of various specific constraints; it can easily be applied to expressing the effect of poor environment, availability of services, and other adversities on individuals.



***VIII.
Challenges***

CHALLENGE I

Barbara A. Mikulski
U.S. Congress

On behalf of the Congresswomen's Caucus, we feel that we played a role in instigating this particular conference. When the 95th Congress convened, the majority of the women in Congress decided to form a Congressional Women's Caucus. We felt that, as a group, we could, in many ways, become the Congresswoman-at-Large, rather than any single one of us taking on that responsibility. We decided that one of the things that we wanted to do was to meet with individual Cabinet people to do what, particularly on affirmative action issues, we called "consciousness-raising" or "jawboning." Other people had other words for what we had to say to them after they left. One of the very first people we met with was Secretary Kreps. As soon as she walked into the room, I tell you, it was like sisterhood in bloom. We said, "Pull up a chair. God, do we need you."

We knew of her brilliant career as an economist and someone who has played a major role in developing the theory, thinking, and quantitative tools to measure issues like the woman in the household economy and a variety of other things.

We began to ask Secretary Kreps a variety of statistical and data questions that we felt we needed as we undertook the issues for which we had priority. And she said, "Wait a minute. I'll call my staff." Well, of course, then it became calls to many of you here, and I think out of that came the idea that perhaps there were insufficient data on the whole issue of women and particularly women in Federal policy. So we were happy to play that starting role.

We women in Congress are very sensitive to data and particularly what we would consider demographic forecasting. You know, we hear all the time, "You've come a long way, baby," as well as, "What do you all want?"

First of all, without resorting to cloning, we would like to double or quadruple our numbers. One day Congresswoman Schroeder walked over to the Library of Congress computer and said, "Given our current incremental advancement, how long will it be—now that there are 18 of us women in Congress—before 50 percent of the House of Representatives are women?" We didn't even ask about the Senate. And the computer came back and said, I think, "216 years."

We were somewhat dismayed and depressed at that but, nevertheless, we intend to proceed, and we look forward to working with you.

My own professional background is that of a professionally trained social worker. So in many ways, for years, I've been a closet data collector. And I am very happy to be with my colleagues here tonight, particularly those of you who are involved in social policy.

Essentially, my talk has four points that I would like to

make. Number one, the way, or the failure of the way, we gather data shows our systematic discrimination against women.

Number two, what we do, or rather what we do not do, with the data that we have shows a lack of concern and commitment to women's issues. Third, the data have to be humanized. And fourth, that both data gatherers and data users have to become much more activist—activist in the workplace, activist in the community, and activist in terms of other women's groups.

Now, let me go back and elaborate on those four points that I've just made. Number one, I'd like to comment on the way we gather data and how I feel that it has shown discrimination, particularly in three issues that I've been involved with as a member of the U.S. Congress.

About a year ago, I took the initiative, as my role in the Congresswomen's Caucus, to work with Lindy Boggs and Newton Steers on drafting legislation for family violence. Immediately I was besieged, both by press and by other members of Congress and their committees, for data. How many women are victims of battering? What are the statistics? On and on went the questions.

So we turned to Federal agencies and people whom we thought could help, so that we could begin to rally support. Number one, we found out that there was no way, at this point, or at least a year ago, of knowing how many women were battered. Number two, that there was no reporting to police. Number three, that it wasn't required in crime statistics. LEAA didn't include it. The FBI didn't include it. The Justice Department didn't necessarily take a look at it in any kind of systematic way that we could use.

I could only conclude that one of the reasons that those questions have not been asked in the 200 years of our Republic was that people simply did not consider them important. Let me go on to another issue.

I'm on the Communications Committee, and one of the things that I feel that I took on was the whole issue of EEO in public broadcasting. I was very much concerned that public broadcasting could offer tremendous opportunities for employment. I also felt that one of the places to begin was in the area of public broadcasting, that before I could get NBC, ABC, and CBS to have a different employment profile, we had to take a look at public broadcasting, because it is my theory that if you take money from all the people in America, then you should open the doors of employment to all the people in America.

When we began to look at just basic raw facts, we saw that public broadcasting had a very dismal record in terms of employing women and minorities. Public broadcasting has

been around for almost a decade. It was established in 1968, and, in 1968, Martin Luther King was assassinated. 1968 was 4 years after the Civil Rights Act had passed, and now it has been 15 years since the famous march on Washington in which there was a cry for employment opportunities, particularly in the public sector.

At the recent hearings on new legislation for public broadcasting, I asked the Corporation for Public Broadcasting, "What is your data collection methodology?" And first of all, they told me their dazzling civil rights record. You know, everyone brings out their vita and says how terrific they are, that they gave to CORE in 1959, or something like that.

And that's supposed to be so terrific. So I said, "What are you doing?" And they said, "Well, we're developing a quantitative tool." Well, I thought that was great. So I said, "What is your quantitative tool? Describe for me its nature. Describe for me its methodology." You know, all the kinds of questions you would have asked if you had been a member of Congress at that hearing. And they said, well, they were working on it. And I said, "When did you begin working on it?" And they said, "Four months ago, Congresswoman." And I said, "When will your quantitative tool be done?" And they said, "Well, you know, this is very difficult. This is a primitive new field. We can't tell you when it will be done." Well, I said that I felt that for a field, broadcasting, which is a genius at ratings, which knows how to target its facilities and so on, that they could develop a tool, consult with other EEO specialists, which would begin to tell us the data that they have, number one, on access to employment, and number two, on upward mobility with employment, because I'm tired of their coming in to tell me how they've increased something by 500 percent. You know what that means? That they've gone from hiring one Black secretary to five Black secretaries. That doesn't exactly turn me on.

So we just show you that in public broadcasting many people don't really see or sometimes aren't aware that this could be an important issue.

There's also been a lack of sufficient data and information as we've moved along in Congress on things like part-time and flex-time jobs, on displaced homemakers; how many are we really talking about, as we've begun to work for the extension of the Equal Rights Amendment. We continually hear how good women have it on these so-called lush alimony payments. Somehow or another you get it that half of the divorced women in the United States are living down in Palm Beach, picking up John Travoltas off the beach.

And what we find is that there are no real data on child support or on alimony, both number one, that's been awarded and number two, on what is actually collected. It is just my perceptions, as it is Congresswoman Heckler's on the Joint Economic Committee, that alimony is not really what everybody cracks it up to be.

But one of the things that concerns me, too, has been Social Security. This again shows the problem of collecting data. I'd like to really salute many of the women who worked at Social Security, particularly people like Mollie Orshansky, the great creator of the poverty line.

Mollie, ever since I did my thesis at the University of Maryland School of Social Work in 1965 and used your poverty line, I've been dying to meet you. You've been a folk hero to me. I feel like I'm meeting the statistical Margaret Mead. But I really say that with a great deal of warmth and affection, because I think her work has really been pioneer

work. But one of the things that we found (we, meaning again the Congresswomen's Caucus) was that the data on Social Security reform really were not there. Congresswoman Keys and Congressman Fraser have been attempting for more than 3 years to get certain essential data that they needed for their efforts in changing the inequities in Social Security.

Let me tell you the kinds of things that they've been asking for 3 years. We wanted to know, for example, at a recent meeting with Joe Califano, why are the majority of SSI recipients women? Are they poor because they lack Social Security coverage or because their Social Security payments are so low that they qualify for SSI or because the very nature of our work cycle means that they are both in and out of the work force and, therefore, don't accumulate enough quarters for coverage, or whatever? How many of the retirees receiving the minimum Social Security are women? He said he couldn't tell us that.

We asked, "Who collects survivors' or retirement benefits early? Are they mostly women? How would that affect public policy?" Again, no answer to something as basic as that. "How many women have worked in Social Security covered employment but don't qualify for their own benefits? And how many men? And how does that compare? How many children today are collecting survivors' benefits on the basis of their mother's coverage? How many are collecting them on the basis of their father's coverage? And what are the future projections because of the changing profile?"

Now these were basic questions, and we couldn't get answers and until we do, the Ways and Means Committee tells us they cannot, and will not, begin to act on some of the discriminatory aspects of Social Security as they pertain to women.

We've met with Califano twice and, finally now, he says he's going to get the data, but I can tell you, we met with Wardman before he left, then we went back to Califano. We met with everybody else who was there to liaison and coordinate with us. You know how that all goes. We're still looking for our data.

Now, this brings me to a second point. Although the data may not be in, those of us in this room and, generally, American society know that society has radically changed since the 1930's when Social Security was first created. Families are no longer composed of a husband who earns the money and the wife who takes care of the children and the home. In fact, this picture represents probably less than 10 percent of the households in our country.

These are the facts that we know and, yet, even though we know those facts, it is not resulting in any kind of major changes related to public policy. The point that I want to make is that, very often, even though we know the data, we don't use the data in a way that generates action. On many issues, there's plenty of data available. Right now, we know that there are 7 million children of working mothers and less than 1 million licensed day-care slots for preschool children and that there are, therefore, 6 million children in unsupervised, unlicensed type homes and, yet, there is no major day-care legislation pending in the Congress of the United States.

We know that people are growing older in this country and that most of the old people are women and that most of the old people who are women are poor and, yet again, no action was happening until Maggie Kuhn and her Gray Panthers got people together and began to organize to create the awareness for the kinds of programmatic actions we need. We know that

40 percent of American women are now working, and that whole business of "Run, Puff, Run" readers with Dick and Jane is dead. We know that that just isn't true. While Dick is off to the factory, we know that Mom is pounding the beat and, very often, the only job she's going to get is maybe working as a salesgirl at the Roy Rogers fast food chain, where, at age 40, with varicose veins, she's going to have to dress up in a mini-skirt and go "Ya-hoo!"

Now I have problems with that, and I feel that right now, we're not paying attention to our data, and we're not setting up our society and our social policy as if that 40 percent actually existed.

If, in the Congress of the United States, I hear one more debate about the little woman at home, I'm going to either get neurodermatitis, my hair's going to fall out, or I'm going to go out and get drunk with Billy Carter. I don't know which.

There's a growing feeling that for all the research that we do, the only thing that sometimes happens is that think tanks are getting money to study victims with very little action going to help the victim. In fact, there's now, even in Congress, a growing backlash against research and quite candidly, with you here tonight, I'd like to say, in many instances, I have felt that same reaction myself. In terms of my own feelings, for example, on some of the issues pertaining to women, what we see very often is that people, again, want to study the victim and not want to help the victim. In my hearings, George Miller and John Brademas and those of us involved with family violence, the grassroots groups told us, time and time again, that we're tired of seeing the money go off to some Massachusetts think tank when we can't get the bucks to run a hotline in Iowa. Let me just give you two examples of what we mean.

During the course of the hearings on family violence, the National Institute of Mental Health told me that they had been studying family violence since 1968. That's already a decade. During that testimony, they told me, "We've been studying it for 10 years and it's in epidemic proportion." So I said, "Can you tell me how many women have been killed?" "No." "Can you tell me anything about battering? Can you tell me about the women who have been bloodied and burned and beaten?" "No." Then I said, "Even if you can't give me the exact numbers, you're sitting there telling me it reached epidemic proportion?" They said, "Yes." I said, "What the hell did you do with those numbers? Did you even tell anybody? Have you told Califano?" "No, he's new."

"Did you tell anybody in the past 10 years who's been a Secretary? Assistant Secretary? Did you even tell your liaison or your coordinator? You know, the new chair of your inter-agency task force on coordination."

The answer was "No," so that, though they have studied the problem for 10 years, there was no initiative to do anything with those particular data to generate action. If we take a look at this problem of women and alcohol and drugs, we know that there has been a tremendous number of studies done. Right now, a study's just been completed by a wonderful feminist who has really, I think, completed a definitive work on the subject.

It was delivered to my office. We began to contact some grassroots groups who were interested in lobbying and developing programmatic responses in this area, and they began to call the agencies. Now this is a great report, lots of good, sound professional data, good recommendations for oversight and legislation and when we began to call and get copies of

the report, they told us there was none available. Now that report's just been done. I can't believe that I'm the only woman in America with a single copy and, if I am, then I ask IBM to step forward so that we can copy America with it.

We found out, as we began to call about the results of that study, that nobody within the agency knew that the study had been done. There was no plan for followup on that study and the woman who had been contracted for the job, now an expert in the field, is out of a job, now that her statistical data gathering is over.

We called the coordinator of the study, and she called an institute at the University of Washington in Seattle, one of the largest users of Federal research dollars on the issues of drugs and alcohol. One of the questions she asked them was, "What action has ever come out of all the studies that you've done on women alcoholics?" And they said, "We don't think that's our responsibility. Our responsibility is to gather the data." Well, this isn't a butterfly collection, ladies and gentlemen, that people gather for their own private enjoyment. This is public dollars to get public information to help the American people.

For those of you who have data, and maybe it's in your bottom desk drawer—I know how it works. I used to be a welfare administrator. I had a lot in my bottom desk drawer, waiting for the minute I could bring it forward. Let's bring it forward, because I happen to think that data are important. But data must be turned into action. Corporations and foundations, which are excellent users of data, must begin to take that data and begin to put it into action. Let's get those reports off the shelves and let's get them in the mainstream. Let's get them out to the grassroots. Let's get them to the State Houses. Let's get them to Congress. We don't know half the things we buy with that research. There's no way. People like me are victims of data overkill. A member of Congress goes from one hot potato to another in a given day.

I might be sitting on the Communications Committee one minute, going off to Maritime Authorizations in another, and being picketed later on in the afternoon. It's a little hard for me to keep up with everything. We had withdrawal symptoms when the farmers left, because we weren't being demonstrated against. It didn't seem like Capitol Hill.

The problem is we need people who will organize, particularly in your professional associations, to bring this to our attention.

Another point that I want to make is my theory that data will lead to action if it is humanized. I feel that one of our problems is that data aren't always made human. Let's just take statistics and I don't mean that cavalierly. We can talk about—a recent TV show brought this to mind—6 million Jews killed in World War II. You hear the number 6 million and somehow, it doesn't evoke anything, but along comes a TV show called "Holocaust," and it traces the family of Weiss and all of a sudden, that 6 million has a whole different meaning.

We know other statistics. We know that 60 percent of psychotropic drugs, 70 percent of the antidepressants, and 80 percent of the amphetamines are prescribed to women. We also know that 80 percent of women alcoholics use other drugs. Now you heard all that—60 percent, 70 percent, 80 percent and yet it doesn't do anything until Betty Ford issues a press release and says, "I have a problem with overmedication and I'm going into the hospital to find out what I can do about it." And a few weeks later, that very gallant and brave

woman comes out and says, "I've not only got a problem with drugs. I've got a problem with alcohol. I'm going to stay in the hospital and I'm going to fight it." All of a sudden, that whole issue of women being overmedicated, the women who have had drinking problems, the women who've been overmedicated by their own physicians, becomes a national problem, becomes a national issue and, I hope, becomes a national priority.

Now that's what I mean about humanizing data. Certainly with Mrs. Ford as a national figure, she really brought it to public attention and for that, we should be eternally grateful. But I think for all of us in our work, we need to begin to humanize data. The way I see it being done is by a few techniques with which I'm sure you're familiar. One, get the anecdote, get the personal story, that somehow, when I read those reports and read about 40 percent or 80 million or whatever, if I have one story about one person or three case examples, it has a tremendous impact on me. When I know how it's going to affect an individual or how it's going to affect a family, it means a great deal.

I know that many of you are in work that's very tough, in many ways, very tedious, and is very difficult. I would encourage you to go out into the field. That is another one of the ways I keep myself, or try to keep myself human, because in Congress, with all the volume we deal with, you can kind of forget why you're there. In Congress, we continually work with enormous quantitative data, and we vote by a plastic card, and we use very abstract language. For example, when we talk about the neutron bomb, we don't talk about murder, we don't talk about killing, and we don't talk about exploding the cells in your body. We talk about irradiation of the entity or of the target. We don't talk about blowing up the people of the Ukraine, with their cells exploding all over the place. I mean, that would be a little too gruesome. It's not gentlemanly to talk about that on the floor of the House of Representatives.

So when you deal in things like that, you have to do things that give you a human perspective. What I do is hold regular town hall meetings, and I try to go to the people that are most affected. When I was working on my family violence legislation, I went to the House of Ruth in Baltimore and talked to the women's shelter and spent hours there, getting to know their problems, talking with them. I can tell you, it had a major impact on me, not only on what the shape of that legislation should be, but every time I began to falter, every time there was pressure to water it down, I saw those women's faces in my mind's eye, and it kept me going in the same way I know that Lindy Boggs' being on the Board of Directors of the House of Ruth here has kept her going in this rather prolonged fight. So, I would encourage you to do that.

Look around in your own office. When you hear about 40 percent of the women in the work force and the difficulties that they're having, walk down the hall and talk to the secretary or to the women delivering the mail and say, "How much do you make?" "Where are your children in day care?" "How much does your day care cost you?" "How much does your transportation cost you to go back and forth to work?" Pretty soon, you'll find that just the cost of coming to work on transportation and child care probably takes about 40 percent of her income. But when you hear her and when you see her, working to get that corporation to establish a day-care facility or to get them to begin to think about having day care on the premises of their factories will become a very different kind of reality to you.

I feel that if we began to do that, we'd get more human policies in corporations and maybe even in Congress, or we'd have day care and van pooling. Maybe if McIntyre at OMB came out from behind his charts and talked to some of the women who worked for him, he wouldn't be so quick to deny the concept of day-care facilities in Federal buildings.

One of the things that I feel is that we've got to ask the right questions, and we've got to have the right people asking questions. I'm glad that you all are here and that you're concerned. I've been part of that brainwashing of America, where they told me because I had certain biological characteristics, I wasn't supposed to like math and I'm sure you know that, or that statistics were for boys, and the only numbers I ever had to worry about were in playing post office. Ha-ha-ha!

Remember all those rotten jokes when you were a teenager? Am I glad I'm not a teenager anymore!

But the fact that you're here, the fact that you're professionals in this field, go back to your old high school, go back to your own college, encourage women to come into the fields you're in, into economics, into other aspects of data gathering. If it's one thing I heard during transition team was, "Where are the qualified women?" And when Secretary Kreps said, "If you'd look around, you'd find us," she was right.

But in order to look around and find more of us, just as there need to be more women in Congress, there need to be more people like you in this room. Guidance counselors don't know what you do. But if you could, on your next vacation back home, go to that high school, maybe there's somebody just like you who, at age 16, is a little scared in trying to make up her mind on what to do and maybe you could change her life by telling her how, through your work, you're changing the lives of others and maybe even changing the destiny of America, which takes me to my very last point.

Both people who gather data and people who use data, I feel, need to become more activist, and I think that the way we need to do that is by volunteering our time. I know sometimes the word "volunteering" is not a very good word with women, but I feel the only way we're going to bring about social change is by volunteering our services in the grassroots activities.

Let me give you a couple of examples, because I feel you have very special skills, very special abilities, and very special resources. My background is that of a community organizer, and one thing that I know, as a former warrior in the poverty program and a neighborhood organizer in my own community, is that we did not have the time or the resources to develop the data that we needed to bring about social change. I'd like you to think about getting more involved.

Think, for example, about getting involved in political campaigns, those of you who know about demographics and those of you who know about statistics. You know, very often, there are women who want to run for political office who don't know how to gather all that precinct information, who when they take a look at the census information, don't know what it means. You could help us to gather it and target our own resources. When I was running for the City Council for the very first time, the only information I had is what the bookies were telling my Uncle Pete, and the bookies were telling my Uncle Pete that the odds were 200 to 1 against me. So much for bookies.

But there are other things that you could do, even in your own job or as part of the Federally Employed Women or other

groups. I know that when we first got elected, the representatives of the National Women's Political Caucus and I met with Secretary Kreps to talk about affirmative action policies within U.S. Department of Commerce agencies, which, at that time, were not particularly aggressive. She had the data from her own personnel department which was, quite frankly, not the best. They didn't have those quantitative tools.

However, there had been a group of women who, on their own, had volunteered, who very much are like the women in this room, maybe some of you are actually here, who gathered the data of both entry and upward mobility in the Commerce Department. At that meeting, we were able to share with Secretary Kreps important data regarding the lack of opportunities for women and minorities which we know then resulted in a major policy reorganization and certainly a reorientation of thinking that changed the Commerce Department in many ways.

I could go on and on about other opportunities to serve, whether it's working with a hotline that helps rape victims, so they could begin to quantify how many they help and where referrals come from, what happens in the way of follow-up, so that, number one, they could get funding to keep themselves going, and, number two, when they went to the police or to the social service departments, they could deal in hard facts about what happens to people.

The opportunities to be an activist—well, the list is as long as your computer printouts, and I think that if we took the time to take a look at them, you would find whether you want to work in politics, whether you want to work in the job, or

whether you want to work in grassroots groups. I feel that there are lots of opportunities to plug into.

Quite frankly, I just want to conclude by saying that we need each other. I know that I have colleagues and sisters all over this country who are on City Councils in the Minneapolis and the San Franciscos and in the little rural townships, and women who are on school boards and library boards and that there are women in State House positions, etc., and we don't have our data resources.

When I was a member of the City Council, all I had was a part-time clerk, which was a \$4,000-a-year patronage job. I didn't have the resources to gather the information on what was happening to rape victims, what was happening to women in the CETA programs, etc., so that if I found people like you, who could have helped me, and could have helped other City Councilwomen, and other women in State legislatures and not only women, but those other people—other gender—who would also like to play a role in bringing this change, it would have been of tremendous help.

So when I say we need each other, you can help us get the information, and together we can lead the fight. We can speak out, not only with rhetoric, but with fact, with substance, with a feeling within ourselves and a security within ourselves that what we're talking about is real and, by damn, you'd better listen to us. That's one of the key ways we're going to bring about social change.

So God bless you. I know She's on our side and I look forward to working with you.

CHALLENGE II

Sarah Weddington
The White House

The question that I want to address is that of the consequences of the conference. Often, it seems to me, we go to conferences; the papers are good; and we enjoy meeting the other attendees. Then the conference is over, and we all go home. Even with the best of intentions, somehow not much ever happens.

As you attend these sessions, there are a number of issues that you ought to be considering in your own minds. One obvious issue is how the work of the conference fits into policy considerations. More importantly, what should we be asking of the Federal Government in terms of what they should do in statistics? Can we reach a consensus on that?

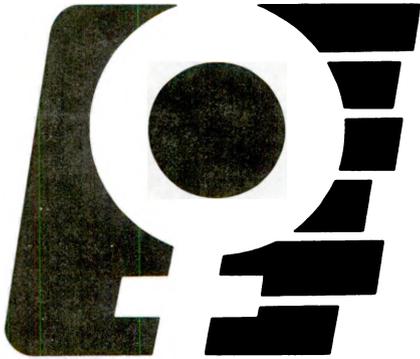
Obviously, not everything we ask for can be done all at once. But it is important that we know what it is that we do want and that we have backup options that are realistic and practical and that can be done now.

Another thing I find that most groups never do is to determine who the proper person is to accomplish what the group wants done. For example, the Domestic Council is currently in the process of preparing a paper to present to the President on how he can respond to the International Women's Year (IWY) suggestions.

A conference like this cannot accomplish all of its objectives by itself. It must build coalitions with other groups to achieve a lot of possibilities.

I know that all of you paid a registration fee. I wish the registration price were the fee and three good ideas. I am sure someone had an idea and said to Juanita Kreps, Secretary, U.S. Department of Commerce, "Why don't we have a conference on statistical information?"—and that is the reason we are all here. Sometimes a simple idea, worked through, brings marvelous results. There should be not only a group commitment to issue a report, but also there should be an individual commitment—a commitment of personal involvement—to help alleviate the problems discussed at this conference through your suggestions to the steering committee and through your efforts in the future.

No group is ever effective unless there are individual participation and dedication. One of the old sayings I used to like in the Legislature was, "If you aren't a part of the solution, then you're a part of the problem." If you're not a part of solving the problems that you've raised, then you are a part of the problem.



***IX.
Public Policy on
Statistical Issues***

WOMEN AND NUMBERS: SOME POLICY ISSUES

David W. Breneman
The Brookings Institution

It is a pleasure to have been asked to comment on the public policy issues involved in the extremely interesting papers prepared for this conference. In fact, I have found the papers and the discussions both interesting and disturbing; certainly, many of the statistics presented in the Farley-Bianchi paper regarding the rapid increase in divorces and in the numbers of illegitimate children born in this country are enough to make anyone reflective. In my comments, I will discuss initially some of the broader implications of the rapidity of social change for statistical agencies, then make some remarks about the relation of research to public policy, and conclude with a few implications drawn from the conference for universities and statistical agencies.

A common theme in all of the papers is the degree and rapidity of social change in the United States in recent years and the increasing irrelevance of many of our statistical categories for coping with the evolving nature of society. This discussion has prompted me to ponder how a statistical agency, charged with keeping useful and meaningful time series of data, can accommodate increasingly rapid change. It seems to me that two capabilities are required: First, the statistical agency must develop the ability to identify the fundamental categories and structures, avoiding the transitory and ephemeral, and second, it must develop the ability to withstand the pressures applied by the growing numbers of single purpose, special interest groups that want to see questions relevant to their interests introduced into every statistical survey.

Turning to the first point, the discussion led my thoughts back to undergraduate studies of Spinoza's metaphysics, with its emphasis on reality manifest through fundamental modes and infinite attributes; in fact, rather than having an economist serve as a discussant, I almost think the conference would be better served by a philosopher. In any event, the reason I found this line of thought interesting is that in a time of rapid social change, many of the developments that we take to be of great importance and lasting significance are likely to be found trivial and ephemeral. The best example from recent experience is Charles Reich's book, *The Greening of America*, published roughly 10 years ago [3]. No sooner was the ink dry than what Reich was announcing as a dramatic and permanent shift in attitude and behavior had become passé. However, had the Bureau of Labor Statistics sponsored a conference at that time on the significance of the social trends discussed in the book, I shudder to think what we might have done to our statistical surveys on labor force participation.

The second capability relates to the growing number of special interest groups that are focused on Washington,

establishing associations and other forms of organization in an intense effort to lobby for highly specific interests. For example, in the field that I know best—education—there are few organizations that are concerned with education in general, with a willingness to investigate budgetary tradeoffs; instead, each categorical program has spawned its own special interest group that argues strenuously and effectively for increased appropriations and for other special treatment, such as the development of survey data and statistical series relevant to its interests. The pursuit of good public policy is clearly hindered by the rapid increase of special purpose pleading of this type.

Given these two needs—an ability to sort out fundamental categories from the ephemeral and to fend off special interest groups not critical to society's broader interests—how does one evaluate this conference? First, the conference's focus on women as an organizing category is clearly fundamental, not transitory. Furthermore, one could hardly call a majority of the U.S. population a special interest group. Consequently, the basic concerns of this conference easily meet the criteria I have set up for evaluating the legitimacy of requests for changes in Federal statistical surveys.

There are some aspects of what has been discussed, however, that strike me as verging perilously close to the transitory and the ephemeral. For example, Watts' and Skidmore's argument that surveys should concentrate on the individual as opposed to the family unit, on the grounds that families are no longer stable nor a particularly useful statistical grouping, may place too much emphasis on what might become a transitory phenomenon of the 1970's. Perhaps it is just the word they used—individual—but I was reminded of several recent and persuasive essays that have described the 1970's as the decade of narcissism, with each member of society concerned not with his or her role in a community or social setting, but rather with the person in splendid isolation. I think many of the broken marriages that have occurred during this period have resulted from the sudden force of the women's movement striking people who were married under a different set of values. People caught in this rapid change may have had little recourse but to dissolve marriages contracted under very different understandings. But this shock to the

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social system will not strike successive age groups with similar force—the young will have grown up with it. Consequently, I suspect that in its emphasis on the individual, this conference is no longer on the cutting edge of social change, but rather it is in danger of institutionalizing a brief, but important, transition in the Nation's history. As successive age groups come to maturity, I believe that marriages will be contracted in ways that will not produce the type of instability that we have witnessed in recent years. The intensely individualistic lifestyles of the 1970's will not endure, in my view, because the strong emphasis on the individual in isolation and not in relationship to other human beings is not a stable or satisfactory basis for development of the human personality. So, much as Charles Reich captured an important aspect of a brief period in the 1960's in his *Greening of America*, but an aspect that did not survive, I suspect the heavy emphasis on the individual that permeates this conference will also not endure.

What one can safely predict is that the nature of human relationships will continue to evolve in ways not easily foreseen. Thus, in establishing a format for surveys and for social statistics, the Census Bureau must search for a comprehensive structure that is able to accommodate any type of social change. Although I have quibbled with aspects of the rationale that Watts and Skidmore present for their proposed classification system, the structure they have developed seems able to handle virtually any change I can imagine. Before their classification is adopted, however, I hope that people from many different fields would be asked to test it against their visions of society's development to make sure that the classification could accommodate all of the varying views of possible trends.

My second set of comments concerns the relationship of social science research to public policy. A basic weakness in this conference—assuming that one of its purposes is to enhance the ability to influence public policy—is that only one side of the market for research is present—the supply side. Suppliers of research are represented here both by those who collect and supply data and by those who use that data for research. What is missing, however, are the potential users of that research, the policymaking groups that we all hope to influence.

When a group of researchers interested in women's issues confronts representatives of the various Federal statistical agencies, the results are completely predictable (and have occurred at this conference). First, there are calls for more data, new surveys, better longitudinal studies, etc. Second, there are pleas for greater disaggregation of existing surveys, such as we have heard in the discussion of alimony and child support payments as separate items in income surveys. Researchers always want more and better data and have every incentive to press their requests, since the costs will be borne by the statistical agencies. Thus, while many interesting ideas have surfaced here, this easily predictable result will not have been very useful unless some organized followup is made, wherein the costs and benefits of each proposed change are carefully weighed. In my view, the steering committee has just begun its work, with the real effort required in the months to follow.

If the policymaking side of our market had been present, we might have found that the issues would have been very differently posed. I cannot give a good example from the area of women's issues, but I have observed in recent months how

the issue of the middle-income financial squeeze, coupled with rising college costs, managed to catch the research community almost totally by surprise. And yet, no issue has recently dominated education debate in Washington more than the drive for tuition tax credits or expanded student aid for middle-income students. Not only did the research community get caught by surprise, but this is the type of emotionally charged issue where the outcome is not likely to be much affected by data and rigorous analysis. Economists could demonstrate that college costs have not risen more rapidly than median family income, but that information has done little to blunt the political drive for some sort of middle-income tax relief. The constantly changing nature of policy issues and the inevitable lag in the statistical base and the ability of researchers to pose and develop answers to pressing policy questions suggest, at a minimum, that we must constantly bring policymakers, politicians, and researchers together in some forum so that those who are endeavoring to supply research results pertinent to public policy will have a better notion of the issues that decisionmakers see as important.

What are the implications of this conference for universities and statistical agencies? First, concerning universities, I believe there is a critical need for graduate programs to allocate more time than is currently done to the study of existing data bases, survey sources, and their limitations. In my own graduate study of economics at Berkeley, we received extensive and elegant training in economic theory and the theory of econometrics, but very little time was spent on the much less glamorous, but equally important, task of learning about data currently being collected and how those data could be used (or misused) in empirical research. The type of training that many graduate social science programs currently provide overemphasizes theory relative to data in ways that cause many graduate students to develop a somewhat cavalier attitude toward the latter. The typical dissertation often involves skillful development of a theory followed by a cursory attempt to test it using any data that can be found, without submitting the data to rigorous examination. I submit that many of the problems and limitations of our current data bases would be caught much earlier if more graduate programs were teaching students about existing data sources and requiring students to become familiar with the actual surveys used and some of the problems associated with survey research. Many years ago, Oscar Morgenstern wrote perceptively about this issue in his book, *On the Accuracy of Economic Observations* [2], a volume that should be required reading in every social science graduate program.

Second, if we want academic research to influence policy, we must rethink the incentives that operate within the academy. Scholars will produce what is valued and rewarded within the setting that they function, and often this is not the type of work that is useful in the public policy forum. To be effective in that forum, scholars must communicate with generalists, and this requires the ability to interpret results in ways that can be understood and acted upon by busy people. Perhaps the graduate schools of public policy will develop professionals who understand the needs of the groups they hope to influence; there is no intrinsic reason, however, why all of the social sciences cannot make valuable contributions, but academics (particularly the untenured) who do so must not be penalized.

In my comments directed to the statistical agencies, I will not discuss the many suggestions for survey changes made during this conference, since others have done that well. Instead, I have a few general comments that are applicable to the topic of this conference, as well as others.

First, the discussion brought to mind Earl Cheit's observation, some years ago, that statistical agencies and museums share in common a tendency to spend large sums of money on acquisitions but relatively little on analysis (or display) of those acquisitions. We still have not reached the point where social scientists have ready and easy access to the survey data bases collected by the Bureau of the Census and other agencies. For example, in work underway at Brookings, we recently had hoped to use the Survey of Income and Education, as well as the National Longitudinal Survey of the high school graduating class of 1972. Although, in both cases, data tapes are available, extensive cleanup and other work are still required before the information can be readily used for research. In the case of SIE, the would-be user must stand ready to purchase more than 10 separate data tapes. Perhaps these problems are inevitable, but if each agency were successful in arguing that a greater share of its budget should be spent on intramural research and analysis, a more useful product would emerge.

A second and very different point is the need for surveys to be designed to capture changes that are taking place in variables of interest, rather than merely recording their absolute sizes at any given date. In economists' jargon, this is a plea for more emphasis on flows rather than on stocks. The reason for this request is that virtually any policy change one can imagine will have little immediate effect on the total stock of individuals of whatever type or grouping one is interested in, but can have an effect on the changes occurring in the group under consideration. Thus, for policy purposes, surveys should always be designed in ways that can detect changes in variables rather than simply total size.

A final point concerns the incompatibility of surveys designed by different agencies, although concerned with the same sector of the economy. A recent editorial in *Science* magazine [1] discussed this problem well in the context of surveys about academic science. In these several surveys, the editorial pointed out that fields of science are defined differently, levels of aggregation differ, and basic definitions differ, resulting in only limited use being made of merged files linking surveys about the same population. Perhaps the current Congressional interest in a Federal Education Data Acquisition Council (FEDAC) will be a step toward improving this situation.

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TWO SUGGESTIONS FOR STATISTICAL POLICY

Robert Parke

Social Science Research Council

One strong theme running through these papers and commentaries is the need for statistics on transitions—the changes people undergo from enrolled to dropout and back again, from employed to unemployed, from nonpoor to poor, etc. Barbara Bergmann asks for good data on flows (that is, transitions) from employed to unemployed and vice versa, data on flows between these states and not in the labor force, and data on the duration of these states [1]. Harold Watts and Felicity Skidmore point out that household configurations are transitory [4], and Reynolds Farley and Suzanne Bianchi ask for data on the rapidity of household change, the differences in the impact of widowhood and divorce on various population groups, and how long children spend in families [3]. Isabel Sawhill, in her discussion of Nancy Barrett's paper, points out that divorce—which breaks the relationships through which most women are connected to the wage and salary producing parts of the economy—is one of the prime factors throwing women into poverty. We are not getting the data we need on these transitions.

Our statistical system relies on survey designs that produce the world's best statistics on the state of the population—its enrollment, level of education, labor force status, poverty status, etc. Few, if any, countries produce statistical series having the substantive richness and technical quality illustrated, for example, in the charts presented in the Farley-Bianchi paper.

What we get from most of our surveys is cross-sectional estimates of the numbers of people in various statuses. But when we turn to the subject of change, what we get, with few exceptions, is net change, measured very roughly by comparing cross-sectional estimates. We get very little data on transitions.

We don't put up with this in our basic population figures. We insist on the components of change, that is, how many people were born, how many died, and how many migrated. Why? Because it makes an enormous difference how change occurs. The numbers of people involved in these processes have at least as much meaning for us as the size of the net change. This is no less true of employment, marital status, household membership, poverty, and other matters.

We need data on transitions between these states, and if our current statistical designs won't produce them, new designs will be necessary. However, I share the view that our present designs are up to the task; they just have not been used for this purpose. We know how to conduct followup surveys of divorce records. We can learn to get transition data from our major surveys if we use them in a truly longitudinal fashion. For example, Leonard Norry pointed out, in his remarks from the floor, that the Annual Housing Survey now returns annually to the same housing units. Moreover, the Current

Population Survey returns annually to half the housing units visited 1 year prior. They can give us longitudinal data on housing units but not on all of the people who live in them. Those who get married or divorced, or get a job, or have another child are likely to have left by the time we return. It is essential to follow them, and experience with such followups shows that it can be done very satisfactorily.

We have good economic accounts in this country and fair demographic accounts. If we make progress in developing data on transitions, we will have gone a long way toward a set of social accounts too. From what I have heard here, the expectations of this conference will not have been met until we have made such progress.

The second point I wish to make is that the work of this conference will not be done until we look not only at women's issues but also at national issues as they impact on and involve women. We have heard that we need statistics on child care, welfare, dependency, and job discrimination and that we need such data for program planning and to keep score on affirmative action. My point is that we also need statistics that answer questions about what is happening to the society as a whole, so that we can understand the data on what is happening to women. This, I take it, is the thrust of Barbara Reagan's call for the examination of societal changes related to the status of women.

In the past 10 years, the largest birth cohorts in U.S. history have been finishing school and entering the labor market. This has occurred at a time of extraordinary demands from women of all ages for jobs and careers and rising demands from minorities for the same things. And, all this has happened at a time of unusually slow economic growth—at times, a recession.

We will not understand the implications of these developments for young people, for women, for minorities, or for anyone else, until we ask and answer the following questions: What has happened over the past 10 or 20 years to the match between qualifications and entering job levels? What has happened to the pace of advance from entering level to journeyman level? What has happened to the aspirations and expectations of new workers as they compare their experience with that of their older colleagues? What has happened to their sense of their own future and their commitment to the system? Richard Easterlin has suggested that clues to some of these questions may be found in high unemployment and relatively lower incomes of young people, later marriage, lower childbearing, and suggestions of rising social pathology [2].

In summary, we need to keep score, and we need to plan. But the correction of inequities and the meeting of needs will

be worked out within social and economic systems that have dynamics of their own. We also need statistics and research

that will tell us more about how these systems are working and how they are likely to change.

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PUBLIC POLICY ON STATISTICAL ISSUES RELATING TO WOMEN

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This conference was designed to examine the data needs and concepts relating to the status of women in order to insure that reliable and useful information is obtained. "It is essential that statistical data be available for making sound legislative decisions, for studying institutional changes, and breaking down discrimination barriers." I see the Census Bureau as being central to achievement of most of these objectives, but the Federal Government as a producer of statistics relating to women includes many other departments and agencies not mentioned in our 2 days of deliberation. For example, I have three case studies under the category that I will call "Income, Occupation, and Employment":

1. Billions of dollars are being spent to create Public Service Employment jobs under the Comprehensive Employment and Training Act (CETA). These funds are allocated to State and local governments. Thousands of women will be channeled into jobs that may or may not enable them to make the transition later into private sector jobs. Impact analyses of these programs, longitudinal tracking programs, and MIS systems at the local level are all a part of the statistical and analytical apparatus of these CETA programs.
2. For more than 10 years, the Equal Employment Opportunity Commission has collected a vast amount of data, by sex, race/ethnicity, industry, occupation, and geographic location from employers and unions. Recently, data on part- and full-time work and wages have been added to questionnaires submitted by State and local governments. I do not know whether the instruments designed for higher education, other educational institutions, include these data. The EEOC is an agency with a sizeable statistical system that has not been examined by researchers to determine whether it is consistent with measures used elsewhere or whether there are useful additions. This EEOC data base is an alternative statistical system that would enable us to study institutional changes and to design procedures for the reduction of employment discrimination.
3. About 1.5 billion dollars will be spent on experimental demonstration and employment programs for youth. The links between school and work, career development, health status, and child care are critical ones. (I hope that the program managers understand that there are both female and male unemployed teenagers.) Also, recommendations from the Commission on Unemploy-

ment Statistics, Commission of Minimum Wages, will be significant for women workers.

Thus, although the Census Bureau is to be applauded for this initial effort of convening a conference of users and producers of statistics, I see, as a next step, the necessity to take an inventory across all Federal agencies on what kinds of data they now collect on women (of all socioeconomic groups) and how these data are related to the major ongoing statistical series (CPS, census, Social Security, (LEED)). There are enormous data banks on women at the Civil Service Commission and the Defense Department. How do these internal Government data sources complement vast amounts of data on women now being collected by research organizations (undertaking large-scale survey work with Government funding—RAND, Mathematica, Urban Institute, and Survey Research Center at Michigan)?

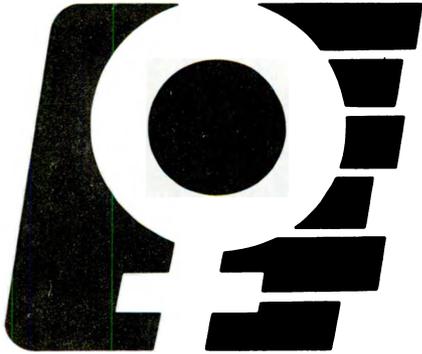
Who should do this inventory and make the findings available to a variety of groups and individuals? The statistical agency that Secretary Kreps mentioned in her keynote speech is a logical place to begin. What is more important is what kind of mechanism can be established now to begin to monitor, evaluate, assess, and, perhaps, modify the Federal statistical effort. Should it be an external advisory group working with an interdepartmental task force? How can these issues remain visible? Need such a group have liaison with the White House and the Congress? What kinds of followup activities should flow from this meeting? Have we identified all of the priorities? Every participant at these sessions should be sent a sample questionnaire asking him or her to comment on critical issues, deficiencies in data, sources of new data, and stories to be told. After these proceedings are released in a form that nonacademicians understand, similar comments from women's organizations and professional groups should be sought.

Another question is how can statistical treatment of data, which may be of enormous significance sometime in the future, be brought to the attention of decisionmakers? I was struck by the fact that no mention has been made in the conference of "reverse discrimination," which I define as the perception by some individuals that other individuals are advancing at their expense. How does a statistical system respond to this issue? Were adequate data available to have anticipated an issue that would have been so divisive in the larger society?

How can we more effectively utilize the data that are already available? How can we initiate dialogue between the decision-

makers and those from the external social science research community who could be helpful? How can we achieve some of the objectives of this conference, given certain budgetary constraints? Publication of proceedings cannot be the final phase of this effort. Some standing or ad hoc committee should meet with Secretary Kreps to identify the options,

costs, benefits, and future courses of action. Some of the findings from this conference could shape the lives of women during the next century. Thus, I see action and advocacy, as well as statistical talent, as being basic ingredients for formulating a future program. We have heard from the data users. The data producers must now respond.



***X.
Summary and
Agency Responses***

IN RETROSPECT: SUMMARY AND ISSUES

Barbara B. Reagan
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and
Conference Coordinator

The charge for this conference was to consider the status of women and related societal changes and then to suggest additional data needed in Federal statistics or additional tabulations of data already being collected. Secretary Kreps also asked us to remember the practical constraints of confidentiality, limited money, sample reliability, limited public willingness to provide data, and the limited space to publish analytical detail as we explored the changes so greatly needed.

This was a conference whose time had come. Clearly, all felt the urgency of the questions raised.

The discussions had an immediate effect on the Government statistical representatives. The immediate effect and an idea of future effects are reflected in the agency responses in this part of the report. For example, note the efforts made since the conference to provide separate estimates of income from (a) alimony payments and (b) child support. Many of the other suggestions, such as new household typologies, are being considered following the conference but will take longer to implement even though no new data are required. Subsequently, there should be a further ripple effect through the association of participants with others and the publication of this report.

This conference brought together statistical policymakers and a sample of the most outstanding among the academic researchers across the country who had been working on various topics relating to women—occupation, income, education, health, household and family issues, and discrimination. These topics really are not mutually exclusive, and the discussion interrelated them throughout the 2-day conference.

Papers and formal discussion were commissioned among academic researchers. Producers of statistics were not used as formal discussants of the conference papers, because the Steering Committee felt that these issues crosscut the statistical producers from various agencies, and time could not be allotted in a formal way to each statistical producer. However, the invitations carefully asked for representatives from each of the major statistical agencies. Papers were sent out to the participants in advance so that a large proportion of program time could be set aside for formal and informal discussion of the concepts, alternative ideas, gaps in the papers, and related ideas. The floor discussion provided opportunities for the data producers to answer, "We've been working for this for years, and we do agree it's important," or, "Yes, but it isn't practical." The discussion included cost considerations, confidentiality problems, and practicality issues, as well as the

overwhelming needs we all saw for coping with change and having statistics respond to change.

Most importantly, paper writers and formal discussants were asked to revise their papers for publication in this volume to reflect the discussion from the floor and to respond to it. Therefore, this volume, although based on the proceedings of a conference, is not a verbatim transcript. It is far more. Furthermore, after the conference, the data producers at the Bureau of the Census, the Bureau of Labor Statistics, and the National Center for Education Statistics prepared responses to those conference issues appropriate to the concerns and missions of their agencies; these agency responses are presented in this section. Thus, we hope that this volume will be useful to data producers and users on the important topics of what statistics are needed to be able to assess the status of women in this country, to estimate women's probable future, and to eliminate any deficiencies.

As a background for the responses of the statistical agencies, the highlights of the discussion are summarized here to focus on the issues.

The overarching problem noted was the constraint imposed by conscious and unconscious acceptance of outmoded stereotypes. Nearly all of the papers called attention to the changing patterns in households, families, and labor force participation which make inappropriate the former assumptions underlying analytical paradigms in research relating to American women.

The major trends discussed were the increase in one-person households, particularly among the young; the shifting composition of family units over time (not, let me stress, a lessened importance of the family, but family re-formation over time); the increase in multi-earner families; and the importance of women in the role of the only breadwinner in a family with dependents.

Four examples of the many stereotypes that no longer fit are as follows:

1. A family has a single head.
2. The male breadwinner has dependents, including his wife.
3. Women workers are secondary workers in the labor force, with the implication of second-best jobs for secondary workers.
4. Life is made up of three distinct stages: Education, work, and retirement with enjoyment.

Data needs and other issues relating to women called for by the conference participants are presented in the following outline.

ISSUES IN FEDERAL STATISTICAL NEEDS RELATING TO WOMEN

A. Longitudinal Data Needed

1. Data to study changing patterns of labor force behavior by sex, especially occupational mobility, job turnover, gaps in employment and mobility, the transitions among employment, unemployment, and nonparticipation, the duration of these states, and factors influencing them.
2. Data on public service jobs under CETA and special programs for employment and education of youth, and the transition of these workers into the private sector, classified by sex.
3. Income-sharing information, as well as data on individual earnings by sex over time.
4. Data on the rapidity of household change and how individuals move over time among various types of households, and the average length of the interval which adults and children spend in different types of households.
5. Statistics on career paths of academic personnel at all educational levels and on educational development by sex.
6. Data on health status and health care.

The possibility of meeting longitudinal data needs by merging CPS data with Social Security and IRS data, of course needing to protect confidentiality, was raised. Combination of the CPS sample into a longitudinal file was suggested.

B. Cross-Section Data—New Data Needed

1. BLS establishment data including turnover data by sex, race, and major occupation (three-way classification).
2. Data on employer attitudes collected from time to time along with establishment data.
3. Job vacancy data.
4. Counts of public service officials by sex and race (two-way classification).
5. Data on fringe benefits and pensions by sex of recipient.
6. The use of occupation data would benefit from measures of variation in skill requirements within groups, studies on the consistency of employer and employee classifications of occupation, and a standardized occupational classification system.
7. Data on nonmarket productive activities, including time input, and on the wages that would be required to draw homemakers into the paid work force (i.e., reservation wages).
8. Information on the use of child-care facilities by age of child, marital status and occupation of parent(s), cost of care, and location of facility.
9. Separate data on income from child-support payments and from alimony payments, along with information on the amount of such support payments due.
10. Data on economic arrangements of divorce by State.
11. Data on fraternal or paternal support for children, as well as maternal.

12. Data on the extent and financing of abortion services, factors affecting supply and demand of these services, and links to subsequent births.
13. Measures of the duration and replication of certain statuses, such as poverty status or single-parent family status, to quantify the dynamic processes for policy formulation.
14. Data on the physical and mental health status of women of all ages.

C. Cross-Section Data—New Tabulations Needed of Currently Collected Data

1. Data on new household typologies. The version suggested at the conference classifies households as single-person units, couples, parent-child units (subdivided by one and two parents), three-generation units, etc. This typology emphasizes the childrearing unit and can be built up from questions already being asked.
2. Separate income breakdowns for men and women for various household types.
3. Data on the flow of students from secondary to higher education by sex, race, and income (three-way classification).
4. Data on average or median wage rate by occupation, sex, and race (three-way classification).
5. Statistics on hours of work by sex, and on the availability of part-time and flex-time jobs.
6. Occupational data at the three-digit level on an annual basis by sex and race (two-way classification).
7. Monthly data on occupation by industry, race, and sex, and on occupation by age, race, and sex (three-way classifications).
8. Local or regional data on unemployment rates for occupation by sex and race (two-way classification), and local data on job vacancies.
9. Data should be presented by age cohort.
10. Wherever appropriate, data should be classified by age and race as well as sex (three-way classification).
11. Tabulation plans for the 1980 census should reflect response to this conference.

D. Other Issues

1. An inventory should be made across all Federal agencies on data collected on women of all socioeconomic groups and how such data relate to the major ongoing series.
2. Communication should be improved concerning what data are available to elucidate issues relating to women.
3. Gender-specific terms should be removed.

Why is it that this conference wants these changes? Let me summarize some of the reasons. Data concepts and definitions, as well as the choice of the paradigm, influence both the questions asked and the answers found. We want changes to permit statistical analysis of men and women's economic situations, equality of opportunity, and barriers to equal advancement opportunities.

We want to provide an adequate basis for analysis of discrimination by sex in the marketplace. We want to see research that will avoid a demeaned status for women in either the terms used or the analytic model used. We want to monitor support patterns for children. We want to provide a useful basis for policy questions related to equity, income or earnings distributions, and distribution of wealth and property rights.

Changes in the data collected and tabulations made are necessary if we are going to progress beyond hypothesis generation and description of results of dynamic processes. We have said very little about the timing of change, except to express hope that tabulation plans for the 1980 census will reflect response to this conference.

Academic researchers and policymakers may well talk past each other unless we recognize our differences. Academicians have the great opportunity to consider options broadly in all their diversity, and from this may come imaginative policy suggestions. In fact, however, many academicians are captives of those models that are thought to yield the greatest expected academic respect, and thus, they perpetuate analysis and policy prescriptions that are based on sometimes ill-fitting

assumptions. This is a reasonable, rational description of the constraints under which academicians operate. Policymakers, on the other hand, are constrained to a time frame that has a heavy payoff for short-run solutions and instant analysis. Also, they have a view of options to be considered that is heavily conditioned by the path of what is deemed to be politically feasible. Thus, we may, if we don't watch out, talk past each other.

With thanks to our increased computer capabilities, to those who see their professional responsibilities as moving back and forth between the two worlds of academic social science researcher and political policymaker, and to those that are committed to expediting such movement, this conference demonstrates that we can work together to bring academicians and statistical policymakers into more effective focus. We hope this volume will help statistical producers and data users deal on a timely basis with the adjustments in data collection and tabulation needed now in light of major social and economic phenomena of our time—the movement of women into the work force in unprecedented proportions, the shifting composition of family units over time, and a new consciousness of women's status in America.

RESPONSE TO THE ISSUES

Bureau of the Census

A. Longitudinal Data Needed

Item 1. Data to study changing patterns of labor force behavior by sex, especially occupational mobility, job turnover, gaps in employment and mobility, the transitions among employment, unemployment, and nonparticipation, the duration of these states, and factors influencing them.

Response. The Census Bureau is currently planning for a proposed new project, the Survey of Income and Program Participation (SIPP), which would become operational in the early 1980's. It is anticipated that the major subject content of this survey, or series of surveys, would include money and nonmoney income, wealth and assets, participation in Government income transfer programs, work experience, and selected disability and health topics. Current plans call for the program to have a longitudinal component, including following households which move during the period and interviewing a portion of the sample for 2 or more years. The basic design calls for five (or six) quarterly interviews with the same household. Such a program, when instituted, would meet many of the needs mentioned in relation to longitudinal work experience and earnings data.

Also, there is potential for providing more timely information on labor force behavior from the Current Population Survey (CPS) gross flows data, but further investigation of the potential problems, including rotation group bias and response variation in the CPS, is warranted. This is one of the issues being addressed in a study currently underway to investigate potential methodological problems in the CPS.

Merging CPS data with Social Security and IRS data would produce only a limited longitudinal file. Since a household is in the CPS for 4 months, out for 8 months, and back in for 4 months, only a limited time frame is available. It should be noted that a voluminous amount of work on matching these files has already been done in (a) the 1963 Pilot Link Study and (b) the 1973 Match Study. The Population Division of the Census Bureau has some materials on the results from both of these studies, as does the Social Security Administration.

Item 3. Income-sharing information, as well as data on individual earnings by sex over time.

Response. There currently is not much information available on income jointly received by members of a family or household. One notable exception is the reinterview for the Survey of Income and Education (SIE), which identified shared income for several types of income (e.g., self-employment, Social Security and Railroad Retirement, Supplemental Security Income, dividends, interest, and rent). These data should have high validity because of the detailed nature of the reinterview. However, there are limitations since the sample was small (9,000 designated housing units) and was concentrated in low to moderate income households, and the data are available only for 1976.

The SIPP mentioned above would collect data on shared income. Also, statistics on total money income and on wage and salary income by sex are available annually from 1947 to the present from the CPS; data on earnings by sex are available from 1948. These data are published in *Current Population Reports*, Series P-60, "Consumer Income."

Item 4. Data on the rapidity of household change and how individuals move over time among various types of households, and the average length of the interval which adults and children spend in different types of households.

Response. We are attempting to incorporate the questions necessary to provide this information in the planning stages for the SIPP. If we are successful, SIPP will collect information on length of time in household. The proposed longitudinal component of SIPP, which would follow movers, would answer these needs.

Item 5. Statistics on career paths of academic personnel at all educational levels and on educational development by sex.

Response. We assume this item refers to a suggestion that statistics be gathered on the number of teachers and professors by rank, institutional type, and sex, so that studies could be conducted on the career progress of women who work in educa-

tional institutions. The Census Bureau will provide some limited statistics on the characteristics of teachers in the 1980 census occupational reports. However, a special series of surveys would be required to provide all the data needed. We are not aware of any such plans at the present.

Item 6. Data on health status and health care.

Response. No real longitudinal data on health status or care exist at present, but the new Medical Expenditure Survey, conducted by the National Center for Health Statistics, collects health status information several times during the year in which respondents are in sample. It should also be noted that the Survey of Income and Program Participation (SIPP) potentially could provide data of a more truly longitudinal character.

B. Cross-Section Data—New Data Needed

Item 4. Counts of public service officials by sex and race (two-way classification).

Response. There is work underway to increase the detail of occupational classification for public administration employees for use in the 1980 census. It is not feasible for the Census of Governments to collect such data, because the information is derived by the State and local governments from payroll records, which normally do not contain sex or race information.

Item 5. Data on fringe benefits and pensions by sex of recipient.

Response. The proposed Survey of Income and Program Participation (SIPP) would provide data on several sources of nonmoney income, including fringe benefits, for persons at all income levels. Data on pension income for women and men are currently available from March Current Population Surveys. These data identify the source of the pension income (private, Federal, State, or local) and age of the recipient.

Item 6. The use of occupation data would benefit from measures of variation in skill requirements within groups, studies on the consistency of employer and employee classifications of occupation, and a standardized occupational classification system.

Response. There has been some private research in the area of variability within census occupation groups. This research utilized a sample file which contains *Dictionary of Occupational Titles* codes and scores and census occupation codes. It is hoped that such a file will also be available after the 1980 census.

The 1970 census evaluation study, titled *The Employer Record Check* (PHC(E)-12), did provide information on the consistency of employer and employee reports on occupation. However, such a study is not planned in connection with the 1980 census.

The Census Bureau will base its 1980 census occupation classification on the *Standard Occupational Classification Manual*, issued in January 1978 by the Department of Commerce, Office of Federal Statistical Policy and Standards.

Item 7. Data on nonmarket productive activities, including time input, and on the wages that would be required to draw homemakers into the paid work force (i.e., reservation wages).

Response. The organization, ACTION, has conducted at least one survey of volunteer work. Some independent research on "reservation wages" has been done using the National Longitudinal Surveys, under the direction of Ohio State University, Center for Human Resources Research.

Item 8. Information on the use of child-care facilities by age of child, marital status and occupation of parent(s), cost of care, and location of facility.

Response. The 1974 October Current Population Survey included questions on child-care arrangements of children 3 to 6 years old which resulted in a publication of characteristics of children attending day-care centers by age, and by marital status and employment status of the mother. No information was collected on cost or location. The National Longitudinal Surveys, mentioned previously, also have included questions on child-care arrangements. The proposed SIPP survey may collect more detailed statistics on child-care arrangements, but these data probably would not be available until the mid-1980's.

Also, analysis (by Harriet Presser and Mary Powers) of the June 1977 supplement to the CPS provided information on the potential use of child-care facilities under certain contingencies.

Item 9. Separate data on income from child-support payments and from alimony payments, along with information on the amount of such support payments due.

Response. Separate data on income from child-support payments and from alimony, and data on such support payments due, would be available in the future from the Survey of Income and Program Participation (SIPP). Currently, very limited data on the amounts of alimony and child-support payments received have been tabulated

from the 1976 Survey of Income and Education (SIE) and the CPS. More extensive data, including some State data, were tabulated from the SIE and published in a report released in June 1979. To address the issue of the amount of alimony and child-support payments due, as well as other issues, current plans call for separate supplements to the CPS in April 1979 and April 1981. However, to obtain very detailed data at the State level, a multimillion-dollar follow-on survey to the 1980 census would be required.

Item 10. Data on economic arrangements of divorce by State.

Response. We had planned to obtain such information from a follow-on survey connected to the 1976 SIE, but the funding was not approved. As was mentioned in the previous item, a multimillion-dollar effort would be required to derive these data for States.

Item 11. Data on fraternal or paternal support for children, as well as maternal.

Response. As distinguished from the alimony/child-support issue, such information probably would require a "kin network survey." It is possible that, in the near future, the Bureau would be able to get funding for such a study.

Item 12. Data on the extent and financing of abortion services, factors affecting supply and demand of these services, and links to subsequent births.

Response. The National Survey of Family Growth, sponsored by the National Center for Health Statistics, did include questions on abortion. Also, the Center for Disease Control does maintain counts of legal abortions by selected characteristics. However, survey researchers within the Federal Government generally are wary about asking questions on such a controversial and emotional issue.

Item 13. Measures of the duration and replication of certain statuses, such as poverty status or single-parent family status, to quantify the dynamic processes for policy formulation.

Response. A detailed classification of single-parent families in poverty is available annually from the CPS, but no longitudinal data are available at present. The SIPP would provide longitudinal data, since it would enable researchers to examine the effect of participation in various Government transfer programs and other factors on the duration and replication of poverty.

The whole area of durations in various status categories is more a question of analytic

approach than a data collection problem. There is currently much interest in the "life-course" analysis method, and we will be attempting to design tables that can be used in such analyses.

Item 14. Data on the physical and mental health status of women of all ages.

Response. The Health Interview Survey and the Health Examination Survey, sponsored by the National Center for Health Statistics, provide data on physical health status. Certain questions on depression have been included in the Health Examination Survey and on the 1978 Disability Survey, sponsored by the Social Security Administration. The National Institute of Mental Health is working on the development of measures of mental disorders.

C. Cross-Section Data—New Tabulations Needed of Currently Collected Data

Item 1. Data of new household typologies. The version suggested at the conference classifies households as single-person units, couples, parent-child units (subdivided by one and two parents), three-generation units, etc. This typology emphasizes the childrearing unit and can be built up from questions already being asked.

Response. New household typologies are being developed to coincide with our new relationship question for the 1980 census. They may not be in the exact form suggested, but our method of disaggregating will allow for analysis of the types cited. We likely will publish such information in the series of subject reports based on the 1980 census.

Item 2. Separate income breakdowns for men and women for various household types.

Response. Income distributions for men and women, by relationship to the family head, are available annually since 1947 from the CPS. In the past, income data by type of family have followed a fairly rigid classification: Husband-wife; male head, no wife present; and female head, no husband present. Since family and household structure has undergone pronounced changes, additional tabulations are being programmed and most likely will appear in an upcoming income report. Some of the categories in these tables are two-parent and one-parent families with only one child present, married couples, and families with subfamilies present; and for unrelated individuals, those who are unattached (single), living in group quarters, or other.

Item 3. Data on the flow of students from secondary to higher education by sex, race, and income (three-way classification).

Response. The Census Bureau has been requested in the past to tabulate year of high school graduation by income, sex, race, and whether enrolled in college for several CPS years to assist in a study of the social characteristics of first-time college students. However, these tables were not run because of the great cost involved. Although a limited amount of information on year of high school graduation has been published in annual CPS reports, the detailed tabulations requested have not been completed because of the cost and the limitations of sample size in the CPS. However, a great deal of information on college enrollment by age is currently available and should provide a reasonably accurate description of the changes in college enrollment by social characteristics of students. Further analysis of these data is now underway in the Census Bureau.

Item 4. Data on average or median wage rate by occupation, sex, and race (three-way classification).

Response. This information will not be collected directly in the 1980 census. However, using the earnings and weeks worked data with the new usual hours worked question, better approximations can be made. Wage rate questions are asked in the CPS, and the data are published by the Bureau of Labor Statistics.

Item 5. Statistics on hours of work by sex, and on the availability of part-time and flex-time jobs.

Response. Decennial censuses and the CPS provide data on hours worked by sex and race. If "work schedule" data are needed, the Bureau of Labor Statistics is the appropriate source. Also, data on the availability of part-time and flex-time jobs would need to be collected through establishment surveys.

Item 7. Monthly data on occupation by industry, race, and sex, and on occupation by age, race, and sex (three-way classifications).

Response. The sample size of the CPS would not permit reliable tabulation of detailed distributions on a monthly basis.

Item 8. Local or regional data on unemployment rates for occupation by sex and race (two-way classification), and local data on job vacancies.

Response. The 1980 census will provide local data on unemployment and occupation by sex. Some local data on unemployment, occupation, and job vacancies are currently available from the Bureau of Labor Statistics.

Item 9. Data should be presented by age cohort.

Response. There is interest in doing an age cohort report based on data from the 1960, 1970, and 1980 censuses, but there are no firm plans at this point.

Item 10. Wherever appropriate, data should be classified by age and race as well as sex (three-way classification).

Response. Plans for 1980 census publications and reports in the *Current Population Reports* series are responsive to these needs.

Item 11. Tabulation plans for the 1980 census should reflect response to this conference.

Response. The input received at the conference, as well as comments and suggestions from various groups of users, is a major resource in our preparation of tabulation plans for the 1980 census and other data collection activities.

D. Other Issues

Item 1. An inventory should be made across all Federal agencies on data collected on women of all socioeconomic groups and how such data relate to the major ongoing series.

Response. The Office of Federal Statistical Policy and Standards potentially could initiate an agency-wide inventory. Abundant descriptions of Census Bureau data products are available from our Data User Services Division.

We have compiled a reference sheet detailing selected reports containing data on women published by the Census Bureau. In addition, the report, "A Statistical Portrait of Women in the U.S." (*Current Population Reports*, Series P-23, No. 58), is currently being updated and is scheduled for release in the fall of 1979.

Item 2. Communication should be improved on what data are available to elucidate issues relating to women.

Response. The conference itself helped to serve this purpose. Also, our Data User Services Division has made major efforts in this area and will continue to do so.

Item 3. Gender-specific terms should be removed.

Response. Unnecessary gender references have been removed from publications and other documents.

RESPONSE TO THE ISSUES

Bureau of Labor Statistics

A. Longitudinal Data Needed

- Item 1.** Data to study changing patterns of labor force behavior by sex, especially occupational mobility, job turnover, gaps in employment and mobility, the transitions among employment, unemployment, and nonparticipation, the duration of these states, and factors influencing them.

Response. Current Population Survey (CPS) data on occupational mobility by sex and race were published by BLS for 1965-66 and 1972-73 and will be available for 1977-78 in 1979. Data on job tenure were published for 1965-66, 1967-68, and 1972-73 and are now available for 1977-78. Information on the job search of the unemployed is available for 1972 and 1976, and of the employed for 1976. BLS reports on the gross flows of men and women in and out of the labor force were published in 1963, 1968, and 1977. BLS and Census Bureau staff are seeking ways to reduce known biases in the gross flow statistics, so that the data can be published on a more timely basis.

B. Cross-Section Data—New Data Needed

- Item 1.** BLS establishment data including turnover data by sex, race, and major occupation (three-way classification);
- Item 2.** Data on employer attitudes collected from time to time along with establishment data;
and
- Item 3.** Job vacancy data.

Response. A nationwide sample survey of some 160,000 business establishments is conducted each month by BLS with the cooperation of the States. Data on the number of employees in industries, their hours, and earnings are compiled, analyzed, and published by BLS monthly, quarterly, and annually. Most data are from employers' payrolls, and some data series are not collected by sex. In June 1978, BLS began publishing seasonally adjusted monthly numbers of employed women in 39 industries. This is in

addition to the estimates published each quarter for women on the payrolls of 402 of the 419 industries covered in the nationwide survey.

There are a number of unique factors that circumscribe BLS' freedom of action with respect to the establishment survey. First is the availability of funds. The collection of statistics for subgroups of the population can be extremely expensive, because sample sizes must be expanded as the size of the group to be represented gets smaller. Second is the availability of records. Most establishment data are collected directly from payroll records. Where payroll records do not contain employee sex identification, these data cannot be collected. In recent years, employers—partly in response to equal rights legislation—have removed identifying symbols from payroll records. Frequently, separate records are kept to comply with various laws, but these records do not contain the payroll hours, earnings, and employment data required by BLS. Thus, many employers are unable to relate the different statistical records in a satisfactory manner. Third is the cooperation of respondents. The BLS does not have general authority to compel respondents to provide us with the data required. We rely on the voluntary cooperation of respondents. Many well-intentioned employers cannot or do not wish to spend the time required to provide additional data or to reprogram their entire recordkeeping system in order to fulfill a BLS request. Experimental work in some areas has indicated that the response rates for an entire survey can be adversely affected by requests for too much detail or for data considered by the company to be particularly sensitive.

Today, BLS collects and publishes labor turnover data for all employees on manufacturing payrolls and three nonmanufacturing industries (metal mining, coal mining, and communications). Between 1958 and 1968, turnover data for women employees in manufacturing were collected monthly and published quarterly. The collection of the women's data was discontinued in 1969 when job vacancy statistics were introduced and resources would not permit the collection of both data series. The job vacancy series was discontinued in December 1973.

The problem of reintroducing both of these series is a major one, requiring each State agency's approval of changes in the collection instrument, as well as a large expansion in our resources. Currently, BLS is planning to explore both issues by means of a pilot survey to be conducted in four States (Texas, Florida, Utah, and Massachusetts) in the spring of 1979.

Item 9. Separate data on income from child-support payments and from alimony payments, along with information on the amount of such support payments due.

Response. BLS has published the number of recipients of such payments from data obtained in the CPS income supplement each March but has been unable to obtain separate dollar values because of the way the data are combined on the questionnaire. Based on test results in April 1978, the Census Bureau has collected, on an experimental basis, income data for child-support and alimony in a CPS supplement for April 1979. Currently, BLS does not obtain separate expenditure and income data for child-support and alimony in its Consumer Expenditure Survey. This procedure is being reviewed in light of the new developments in the CPS.

C. Cross-Section Data—New Tabulations Needed of Currently Collected Data

Item 1. Data on new household typologies. The version suggested at the conference classifies households as single-person units, couples, parent-child units (subdivided by one and two parents), three-generation units, etc. This typology emphasizes the childrearing unit and can be built up from questions already being asked.

Response. For the past several years, BLS staff have been actively pursuing changes in the collection, analysis, and publication of data on households and families. We were instrumental in having the collection of CPS data discontinued on the basis of an outdated "head of household" concept (as of October 1978). In 1977, BLS eliminated the use of the term "head" in connection with all CPS data for husband-wife families. In July 1977, BLS introduced quarterly statistics on the employment status and interrelationships of individuals in families, and in 1978, these statistics were published monthly. BLS staff are continuing to explore new ways to classify both the monthly data and the long-standing marital-family data from the annual March CPS supplement.

Item 3. Data on the flow of students from secondary to higher education by sex, race, and income (three-way classification).

Response. BLS has published statistics on the numbers and proportions of high school graduates who go on to college by sex since 1959, and by sex and race since 1967. Data for 1978 on school enrollment by sex and race are now available.

Item 4. Data on average or median wage rate by occupation, sex, and race (three-way classification).

Response. Earnings data are obtained for the BLS by the Census Bureau through the Current Population Survey (CPS) and are published by sex, age, marital status, race, occupation, union-nonunion status, and other characteristics. Unpublished data are available on request. Data on weekly earnings were first collected in May 1967 and 1969-78, and data on hourly earnings in May 1973-78. BLS plans to replace the May series on weekly and hourly earnings with a quarterly and annual average series in 1979.

Through its Industry and Area Wage Survey programs, the BLS publishes data on average, straight-time hourly or weekly earnings and earnings distributions by occupation in selected industries and in 70 metropolitan areas. Earnings are published separately by sex except when the data are inadequate to provide reliable estimates. Personal characteristics other than sex are rarely available from establishment payroll records, as discussed in the BLS response to B-Item 1, above.

Item 5. Statistics on hours of work by sex, and on the availability of part-time and flex-time jobs.

Response. Data on hours worked per week are available from the CPS for 1948 forward and on part-time work for 1954 forward. Information on usual weekly hours, work schedules (number of days per week, shift work, and beginning and ending hours) has been collected in May beginning in 1973. A series on time lost from work as a result of illnesses, injuries, and miscellaneous reasons (excluding vacations, holidays, labor disputes, and bad weather) is available for May 1973 forward. BLS generally publishes hours statistics by sex, age, marital status, occupation, industry, union-nonunion status, and other characteristics, with unpublished data available on request.

Item 6. Occupational data at the three-digit level on an annual basis by sex and race (two-way classification);
and

Item 7. Monthly data on occupation by industry, race, and sex, and on occupation by age, race, and sex (three-way classifications).

Response. Since 1975, annual average CPS data at the

3-digit level have been published each year for some 200 occupations by sex and race. These data have been available on an unpublished basis since 1962. Currently, tables published monthly feature major occupations by sex and age and by sex and race. Data on major occupation by industry group are published monthly for all employed persons, with unpublished data by sex and race available on request.

Item 8. Local or regional data on unemployment rates for occupation by sex and race (two-way classification), and local data on job vacancies.

Response. In 1967, BLS began publishing annual average CPS data on the labor force, employment, unemployment, and unemployment rates by sex and race for the 10 largest States and 20 metropolitan areas. By 1976, annual average data by sex were available for all 50 States, the District of Columbia, and 30 metropolitan areas. Unemployment rates by sex are not published monthly because sample size precludes reliable estimates on a local or regional basis.

Item 9. Data should be presented by age cohort.

Response. Although age cohort data by sex are not part of the BLS regular data series, they are included in various special studies, such as those on work-life expectancy and labor force projections. Currently, BLS staff are engaged in research on age cohort methodology for use in new studies on earnings.

Item 10. Wherever appropriate, data should be classified by age and race as well as sex (three-way classification).

Response. At present, over 80 percent of the CPS data published by BLS are presented by sex and about 40 percent by race. Age is frequently included in sex and race tables. Upon request, unpublished data by sex and race are provided to users. Moreover, BLS is always willing to consider expanding the publication of presently unpublished data if resources permit.

As in past years, BLS policy requires that breakdowns by sex and race be considered in all new program designs. However, the principal deterrent to publication of certain details from the CPS by sex and race is that some of the sample numbers are too small to be statistically reliable. Logistical considerations of publication cost, space, and time factors, as well as the

limitations on clerical and computer resources, also impose some finite limits on the amount of data published. Nevertheless, where a demonstrable need exists for an expansion of publication tables, this can often be accomplished.

D. Other Issues

Item 1. An inventory should be made across all Federal agencies on data collected on women of all socioeconomic groups and how such data relate to the major ongoing series;
and

Item 2. Communication should be improved concerning what data are available to elucidate issues relating to women.

Response. To answer our data users' increasing needs for current statistics on working women, we produced two new publications in 1978. The first is the new series of quarterly reports, *Employment in Perspective: Working Women*, and the second is an inventory of all of our women's data, *Where to Find BLS Statistics on Women*, BLS Report 530, 1978. These publications are free upon request. In addition, we have established a new mailing list (BLS-326), especially for persons interested in receiving our publications on working women and on families.

Item 3. Gender-specific terms should be removed.

Response. Over the past few years, we have desexed all occupational and other terms—such as changing “man hours” to “work hours”—in all BLS publications.

Two activities should be mentioned that could have a substantial effect on our statistical series over the next decade. First is the National Commission on Employment and Unemployment Statistics, which held its initial meetings in 1977 to reassess the entire labor force statistical system in this country. The Commission continues to hold a series of open, in-depth meetings and to elicit option papers on many of the same issues discussed at this conference. Their final report is due in late 1979. The second activity is that of the CPS Methods Test Panel (MTP). Phase I concerns CPS collection procedures, and plans for Phase II include modifications of CPS questions on discouraged workers, hours worked, and unemployment. The MTP is scheduled for completion in 1980 or 1981. The test results will provide guidance in the redesign of the CPS questionnaire which will incorporate many of the National Commission's recommendations. A large-scale test panel is planned for 1981.

RESPONSE TO THE ISSUES

National Center for Education Statistics

A. Longitudinal Data Needed

Item 5. Statistics on career paths of academic personnel at all educational levels and on educational development by sex.

Response. The National Center for Education Statistics (NCES) has a very adequate data bank of statistics on academic personnel at all levels and educational development by sex. These data are not longitudinal, but they are detailed time series showing (in the aggregate) the numbers, proportions, and salaries of women employees in education by field, rank or grade, type of institution, etc. We also have time series of similar data for women administrators in higher education. Some of our data on numbers and salaries of women go back, with considerable consistency of definitions and categories, to the academic year 1962-63.

All of our enrollment data are broken out by sex.

B. Cross-Section Data—New Data Needed

Item 2. Data on employer attitudes collected from time to time along with establishment data.

Response. Our Vocational Education Data System, which we expect to implement in 1979, will be generating data on employer attitudes on an annual basis. The establishments employing women will be classified and tabulated.

C. Cross-Section Data—New Tabulations Needed of Currently Collected Data

Item 3. Data on the flow of students from secondary to higher education by sex, race, and income (three-way classification).

Response. The data needs described in this item can be met by reference to our National Longitudinal Survey. We have the National Longitudinal Survey of the High School Class of 1972, which is about to be followed up for the fourth time and has an enormous amount of data on the flow of

students from secondary to higher education by sex, race, and income. There are many additional variables also. Our new NLS initiative, *High School and Beyond*, which has already begun, has a larger population, permitting more subsamples, and will be following two groups, the sophomore and senior classes the same year.

Also, NCES' Census Mapping Project restructures census geographic areas into school district aggregates. This project was carried out using 1970 census data and is also being planned for the 1980 census to provide data for educational administrative areas.

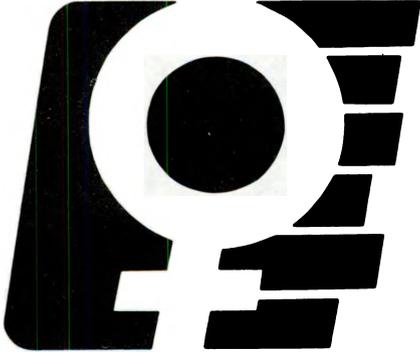
D. Other Issues

Item 1. An inventory should be made across all Federal agencies on data collected on women of all socioeconomic groups and how such data relate to the major ongoing series;
and

Item 2. Communication should be improved concerning what data are available to elucidate issues relating to women.

Response. NCES has a number of activities which will satisfy, in part, the needs described in these two items. NCES is assembling computer tapes of all education data gathered by all Federal agencies. Work has begun on creating consistent formats and structures in relation to these tapes so that they can be utilized by researchers. In addition, NCES has let a contract to produce a computer-based indexing system for all data gathered or planned to be gathered by any Federal agency either addressed to an educational institution or relating to an educational issue. The improvement of communication will come with regular directories and lists of all these data and data bases.

In summary, NCES is quite prepared to assist anyone undertaking efforts to better understand or better communicate the status of women in education, either as students or as employees. It is hoped that the work of the conference will help to publicize and stimulate increased use of these data in the future.



Appendix



PROGRAM

Census Bureau
Conference on
**Issues in Federal
Statistical Needs
Relating to Women**

April 27-28, 1978

U.S. Department of Commerce
BUREAU OF THE CENSUS
Washington, D.C.

LOCATION:

Holiday Inn
8120 Wisconsin Ave.
Bethesda, Maryland

MEETING ROOMS:

Program Sessions—Versailles 1-2
Luncheons, dinner—Versailles 3-4
Hospitality Room—Maryland Room

REGISTRATION:

6:00-10:00 p.m.

Wednesday, April 26—Second Floor Lobby

7:30-8:30 a.m.

Thursday, April 27—Second Floor Lobby

OBJECTIVES

This Conference on Issues in Federal Statistical Needs Relating to Women is the first of its type, designed to examine the data needs and concepts relating to the status of women in order to insure that reliable and useful information is obtained. It is essential that statistical data be available for making sound legislative decisions, for studying institutional changes, and breaking down discrimination barriers. It is anticipated that meaningful discussion of these issues by data suppliers and data users will result in a better understanding of data deficiencies, the design of new statistical series, revision of statistical terminology, where necessary, and delineation of areas for further research and analysis.

CONFERENCE AGENDA

**THURSDAY,
APRIL 27**

8:45-10:00 a.m. Session A—OPENING

- Call to Order
Shirley Kallek
Bureau of the Census
- Introductory Remarks
Manuel D. Plotkin, *Director*
Bureau of the Census
- Opening Address
Honorable Juanita M. Kreps
Secretary of Commerce
- About this Conference
Dr. Barbara B. Reagan
Southern Methodist University

10:00-10:15 Coffee Break

10:15-11:15 Session B—INCOME

- **Chair**—Professor Joseph L. Gastwirth
George Washington University
- **Topic**—“Data Needs for Evaluating the Labor Market Status of Women”
Dr. Nancy Smith Barrett
Urban Institute
- **Discussant**—Dr. Isabel Sawhill
National Commission for Manpower Policy
- **General Discussion**

11:15-12:15 Session C—OCCUPATION

- **Chair**—Dr. Janet L. Norwood
Bureau of Labor Statistics
- **Topic**—“On the Use of Occupational Statistics”
Dr. Ronald L. Oaxaca
University of Arizona
- **Discussant**—Dr. Myra Strober
Stanford University
- **General Discussion**

12:15-12:45 p.m. Social Period

12:45-2:45 Luncheon Program

Session D—DISCRIMINATION

- **Chair**—Daniel B. Levine
Bureau of the Census
- **Topic**—“The Use of Federal Data in Combating Discrimination Against Women”
Dr. Barbara R. Bergmann
University of Maryland
- **General Discussion**

3:00-5:00 Session E—HOUSEHOLD STRUCTURE

- **Chair**—Dr. Harriet Presser
University of Maryland
- **Topic**—“Household Structure: Necessary Changes in Categorization and Data Collection”
Dr. Harold W. Watts
Columbia University
and
Felicity Skidmore
University of Wisconsin
- **Topic**—“Household Structure and Welfare: Comments About Data Sources, Data Needs, and Concepts”
Dr. W. Reynolds Farley
University of Michigan
- **Discussant**—Dr. Walter Allen
University of North Carolina
- **Discussant**—Dr. Joan Aldous
Notre Dame University
- **General Discussion**

6:15-7:00 Social Period

7:00-9:15 Dinner Program

- **Chair**—Shirley Kallek
Bureau of the Census
- **Speaker**—
Honorable Barbara A. Mikulski
U.S. House of Representatives

**FRIDAY,
APRIL 28**

9:00-10:00 a.m. Session F—EDUCATION

- **Chair**—Marie D. Eldridge
National Center for Education Statistics
- **Topic**—“Data Pertaining to the Education of Women: A Challenge to the Federal Government”
Dr. Alexander Astin
University of California
- **Discussant**—Dr. Mary G. Powers
Fordham University
- **General Discussion**

10:00-10:15 Coffee Break

CONFERENCE AGENDA—Continued

**FRIDAY,
APRIL 28**—Continued

10:15-11:15 **Session G—HEALTH**

- **Chair**—Dr. Francine D. Blau
University of Illinois
 - **Topic**—"Data Needs Relating to Women's Health"
Dr. Charlotte F. Muller
City University of New York
 - **Discussant**—Dr. David W. Dunlop
Vanderbilt University
 - **General Discussion**
-

11:45-12:15 **Summary of Sessions A-G**

Dr. Barbara B. Reagan
Southern Methodist University

12:15-2:15 **Luncheon Program**

- **Chair**—Dr. Barbara A. Bailar
Bureau of the Census
 - **Speaker**—Sarah Weddington
General Counsel
Department of Agriculture
-

2:30-4:00 **Session H—PUBLIC POLICY ON
STATISTICAL ISSUES**

- **Moderator**—Dr. Courtenay M. Slater
Chief Economist
Department of Commerce
 - **Panel Members**—
Dr. David W. Breneman
Brookings Institution
Mollie Orshansky
Social Security Administration
Dr. Robert Parke
Social Science Research Council
Dr. Phyllis A. Wallace
Massachusetts Institute of Technology
-

4:00-4:15 **CONCLUDING REMARKS**

Shirley Kallek
Bureau of the Census

4:15 p.m. **Adjournment**

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