



Focus

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The economics of discrimination: Part 1

by Glen G. Cain

Glen G. Cain, a research associate of the Institute and a member of the Economics Department of the University of Wisconsin, is preparing a book on work in the United States and a survey paper on economic discrimination. In this first part of a two-part series on the subject, the economic concepts of discrimination are discussed and several tables of statistical indicators of discrimination are presented. Part 2, to appear in a future issue of *Focus*, will cover economic theories of discrimination, a survey of econometric research, and the implications of both for policy analysis.

Economic discrimination has long been recognized as a cause of income inequality among families and of wage inequality among workers. Discrimination in the labor market has been a particular concern because labor earnings are by far the most important source of the income that people can obtain from their own resources.

We can view income as an index for a more comprehensive measure of economic well-being, which would include non-pecuniary aspects of one's work and the consumption of nonmarketed goods and services, such as leisure. In this article particular attention will be given to comparisons between whites and blacks and between men and women regarding economic well-being.

The topic of discrimination, because of its relation to inequality and poverty, has been a persistent theme in the research activities of the Institute since its founding, and current attention to the topic is timely. In the midst of the debates about discrimination—affirmative action, comparable worth, women's rights, the recent increase in poverty among children, blacks, people of Spanish origin, and women¹—and after decades of economic research on discrimination, there is a need to clarify how economic research can and cannot assist policy analysis. To this end I believe that the economic theories of discrimination and the econometric research are oversold, but that the guidance from economics for better conceptualization and measurement of economic discrimination is undersold.²

Definitions and measurements

There are two broad definitions of economic discrimination. First, economic discrimination may be defined as long-lasting inequality in economic well-being among individuals based on their color, gender, or ethnic ties. Second, economic discrimination is also defined as differences in pay or wage rates for equally productive groups. These definitions represent theoretical abstractions as written, because “economic well-being” and “equally productive” are not readily measurable. Nevertheless, we can begin to assess the magnitude of the problem of discrimination with the careful use of statistics on, initially, income and earnings, and, later, time spent at work and leisure.

Income inequality

The first definition permits a simple measure of economic discrimination as the mean differences in household, family, or personal income, on the assumption that annual money income is a useful indicator of economic well-being. (Adjustments to the statistics on money income will be added below.)

Some comparisons of income differences in 1981 among white,³ black, and Hispanic households (residents of a

housing unit) and families (two or more related persons living together) in the United States are shown in Table 1. They reveal, for example, that the average income of a black household, \$14,900, is 63 percent of that of a white household, which is \$23,700. On a per-person basis, the ratio is only 56 percent, which reflects the fact that black households are slightly larger: 2.99 persons per household compared to 2.67 among whites.⁴

The following points highlight and supplement the figures in the table.

- Blacks and Hispanics constitute about 17 percent of the U.S. population. Along with other smaller minority groups, such as American Indians and certain Asian immigrant groups, about 20 percent of the U.S. population may be classified into ethnic minority groups that face economic discrimination.
- The ratios of black-to-white and Hispanic-to-white incomes tend to be around .6 or .7, but the table also shows, with some additional calculations, that the average income per member of a black family headed by a woman is only 32 percent of the average income per member of a white married-couple family. (Using column 2, row 6, and column 1, row 4, we obtain $2.8/8.8 = .32$.) This is a large difference.

Table 1
Mean Annual Incomes and Income Ratios of White, Black, and Hispanic Households and Families, United States, 1981

Demographic Unit	Mean Annual Income (\$000's) and Black/White and Hispanic/White Ratios ^a				
	White (1)	Black (2)	Black/ White (3)	Hispanic (4)	Hispanic/ White (5)
1. Households ^b	\$23.7	\$14.9	.63	\$18.4	.77
2. (per member) ^c	8.9	5.0	.56	5.3	.59
3. Married-couple families ^d	28.7	21.9	.76	22.1	.77
4. (per member)	8.8	5.8	.66	5.4	.62
5. Female-headed families ^e	15.3	9.8	.61	10.8	.70
6. (per member) Families with primary earner working “full time” ^f :	5.4	2.8	.52	3.1	.58
7. Married-couple families ^g	30.5	25.9	.85	22.3	.73
8. Female-headed families ^g	18.0	13.4	.74	15.9	.88

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 137, *Money Income of Households, Families, and Persons in the United States: 1981* (Washington, D.C.: U.S. GPO, 1983), Tables 4, 13, and 19.

^aIncomes are rounded to the nearest hundred, but the ratios are based on unrounded incomes. For example, the original mean household incomes for whites and blacks in the first row are \$23,742 and \$14,856.

^bHouseholds consist of all persons who live together in a housing unit and include one-person households.

^cMean annual income per member is household income divided by the average size of the household. For example, for white households: $\$23,742/2.67 = \$8,892$, which, rounded and expressed in thousands of dollars, is 8.9.

^dThe Census Bureau defines a family as two or more persons related by blood, marriage, or adoption, and residing together. In this table, married-couple families do not include a relatively small number of families in which the wife is listed as the owner of the housing unit, which is the definition of the term “householder” that appears in the Census tables.

^eDoes not include a relatively small number of female-headed families with a husband present.

^f“Full time” refers to year-round, full time, which is defined as working 50–52 weeks for 35 or more hours per week in 1981.

^gMedian incomes are listed instead of mean incomes, which are not reported.

Table 2
Sources of Inequality in Economic Well-Being, Illustrated with a
Comparison of Black and White Families in the United States

	Judgment as to Whether Accounting for the Source Would Widen or Narrow the Conventional Black-White Income Gap (No adjustment needed, N.A., implies that the conven- tional ratio already allows for the source)
<i>Income Receipts</i>	
Asset ownership	
Property (income-earning)	N.A.
Property (non-income-earning: car, owner-occupied house, etc.)	Widens gap (blacks have less wealth in these types of dura- ble goods)
Human capital (wage earnings)	N.A.
Human capital (fringe benefits and nonpecuniary aspects of work)	Widens gap ^a
Defined for "household" as unit	
Adjust for family or household size	Widens gap (unless the comparison is already "per member") ^b
Adjust for multiple earners to allow for "leisure" consumption	Narrows gap (whites have 1.65 earners per family; blacks, 1.47) ^c
Allowance for government taxes, transfers, and survey bias	
Taxes	Narrows gap slightly (reflecting the moderate degree of pro- gressivity in the tax system)
Money transfer payments	N.A.
Nonmonetary transfer payments to nonaged persons (Food Stamps, public housing, Medicaid)	Narrows gap (about 25% of black and 8% of white families receive these forms of noncash transfers) ^d
Nonmonetary transfer payments to aged persons (medical care subsidies and various tax advantages for the aged)	Widens gap ^e
Nonmonetary public benefits (parks, police service, etc.)	Widens gap ^f
Nonreported income	?
<i>Expenditures</i>	
Discriminatory pricing – housing, capital markets, consumer credit, etc.	Widens gap ^f
Expenditures on "regrettables" – items that do not directly produce utility, such as health maintenance, transportation to work, "waiting times"	Widens gap ^{f, g}

^aFringe benefits are generally larger for jobs with higher wages and salaries. For evidence that blacks have, on average, jobs with less prestige and less pleasant working conditions, see R. E. B. Lucas, "The Distribution of Job Characteristics," *Review of Economics and Statistics*, 56 (November 1974), 530-540.

^bSee Table 1.

^cSource: Table 29 in source cited in Table 1.

^dSource: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 136, *Characteristics of Households and Persons Receiving Selected Non-cash Benefits, 1981* (Washington, D.C.: U.S. GPO, 1983), p. 3.

^eMedical care subsidies are derived primarily from the Social Security system, and white persons benefit disproportionately for two reasons: (1) eligibility and payments tend to be positively related to earnings during preretirement years; (2) whites live longer. The tax advantages of the aged are generally greater for higher-income persons among the aged.

^fA personal judgment.

^gFor a definition and application of the concept of "regrettable" expenditures, see W. N. Nordhaus and J. Tobin, *Is Growth Obsolete?* (New York: National Bureau of Economic Research 50th Anniversary Colloquium, Columbia University Press, 1972).

- Poverty status for families in 1981 was officially defined to be an annual income of \$9300 or less for a family of four and of \$7300 or less for a family of three. Thus, a substantial proportion of black and Hispanic families headed by women are poor, whereas only a small proportion of black and Hispanic married-couple families are poor. For most minority-group families, therefore, discrimination regarding income is not so much a problem of poverty as it is of inequality—their incomes relative to the incomes of the white majority group.

- One reason why black and Hispanic incomes are lower is the larger fraction of families headed by women among these minority groups, and if both headship status and the presence of a full-time worker as primary earner are held constant, the income ratios rise to around .8. Marital instability and slack labor markets thus appear to be important sources of income inequality among ethnic groups in the United States. In 1981 12 percent of white families were headed by women. The comparable numbers for Hispanics and blacks were 23 percent and 41 percent.⁵

What adjustments to the available statistics for money income that are shown in Table 1 are required to measure relative economic well-being more completely? No fully satisfactory answer is available, but most of the issues that lend themselves to quantification or informed judgments are listed in Table 2. In the table the sources of inequality and the accompanying adjustments are separated into those pertaining to income receipts and those pertaining to expenditures. In measuring income receipts there are further distinctions among the issues of (a) the proper measures of income from a household's assets (or wealth components); (b) the appropriate demographic unit of analysis; (c) allowances for government taxes and subsidies; and (d) allowances for survey biases. Although one message from Table 2 is that the concept of economic well-being is complicated, it is fair to conclude that the money measures in Table 1 understate the true degree of inequality between blacks and whites, and, by extension, between majority and minority ethnic groups generally. Seven of the ten required adjustments serve to widen the gap.

Table 1 shows a static picture of income differences, and it is essential in an analysis of discrimination to describe how these differences have changed over time. The time-series data are, unfortunately, incomplete in several respects. Income statistics prior to 1940 are scanty. The Census Bureau's time series of annual family income begins in 1947, and separate income statistics for blacks begin in 1967 and for Hispanics in 1972.

The income ratios are relatively stable year by year (not shown), but the change over decades is notable. To summarize the trends, roughly 10-year averages of the annual ratios of minority-to-majority incomes for the period since 1947 are shown in Table 3. The ratios of nonwhite-to-white

Table 3
Time Series of Median Family Income Ratios:
Black-and-Other Nonwhite Races/White; Black/White; and
Hispanic/White; Annual Averages for Five Periods,
1939-82

Year or Period ^a	Black-and-Other Races/White ^b	Black/White ^c	Hispanic/White ^d
1939	.37	—	—
1947-56	.54	—	—
1957-66	.54	—	—
1967-76	.63	.61	.69 ^d
1977-82	.62	.57	.68

Sources: U.S. Bureau of the Census, Current Population Reports, Series P-60, Nos. 43, 137, and 140, published in 1964, 1983, and 1983 respectively. No. 137 (full citation in Table 1), p. 39, gives the family income figures for 1947-81.

^aThe years 1947-82 are divided into four periods, and the average of the annual ratios are reported for each period. The first year for the continuous time series of annual incomes is 1947 (see sources).

^bThe category black-and-other nonwhite races is more than 90 percent black for most of the period, and is the only category continuously available for the earlier years. Except for the recent decade or so, the trends in the ratios for nonwhites and for blacks appeared very similar, based on the scattered evidence available. In recent years, however, the proportion of blacks among the nonwhite races has declined. Also, the proportion of families headed by a woman among blacks has risen most sharply during the last ten years or so, and this has tended to make the family income statistics for blacks diverge from those of other nonwhite races.

^cThe first year in which blacks are reported separately is 1967.

^dFamily incomes of Hispanics (persons of Spanish origin) were first reported in the annual series in 1972; therefore, the period for the Hispanic/White ratio is 1972-76.

family income rose from .37 in 1939, when most blacks lived in the low-income Southern region and on farms, up to .6 or more in the middle 1960s, when the ratio more or less stabilized. Since then it has been held down by the increasing proportion of black female-headed families and, probably, by the relatively high unemployment levels from 1975 on. Whatever the reason, progress regarding the first type of economic discrimination, family income differences—and, by implication, differences in economic well-being—has been painfully slow.

Earnings inequality

In Table 4 the earnings of workers instead of the incomes of families are shown. If earnings measure the economic well-being of workers, the table shows economic discrimination by the first definition specified above. According to the second definition, based on wage rates, Table 4 would provide

Table 4
Mean Earnings and Earnings Ratios of All Workers and of Year-Round,
Full-Time Workers for Men and Women; Whites, Blacks,
and Hispanics, United States, 1981

	Mean Annual Earnings (\$000's) and Black/White and Hispanic/White ratios ^a				
	White	Black	Black/ White	Hispanic	Hispanic/ White
All workers					
Men	\$17.5	\$11.6	.67	\$12.5	.72
Women	8.3	8.0	.97	7.5	.90
Women/men earnings ratio	.48	.69		.59	
Year-round, full-time workers ^b					
Men	22.8	15.7	.69	16.5	.72
Women	13.3	12.0	.90	11.5	.87
Women/men earnings ratio	.58	.76		.70	

Source: Table 55 in source cited in Table 1.

^aEarnings are rounded to the nearest hundred, but the ratios are based on the unrounded earnings. For example, the earnings for whites and blacks in the fourth row are \$22,791 and \$15,660, respectively. The use of median earnings, which are about 8 percent lower, would not much change the comparisons.

^bA year-round, full-time worker is one who works (or is paid for) 50–52 weeks and 35 or more hours per week.

a measure only if we considered the worker groups—three ethnic groups and two gender groups—to be equally productive.

In Table 4 ratios ranging from .5 to .7 characterize most of the comparisons between minority men and white men and between women and men within each ethnic group. However, minority women earn around 90 percent of the earnings of white women. The earnings ratios of women to men and of black men to white men are smaller for “all workers” than for “year-round, full-time workers” (hereafter, “full time”), because women and black men are less likely to work full time. The proportion of white men who were full-time workers in 1981 was .65, which is somewhat higher than the proportion for blacks, .58, or Hispanics, .61. More young workers and higher unemployment among these minority groups are two sources of these lower figures. The corresponding proportions for white, black, and Hispanic women are .44, .49, and .45, respectively.⁶

Clearly, the ratios for full-time workers are closer to the ratios of hourly wage rates, because the all-worker variation in hours worked in the definition of earnings—hours worked times the average wage per hour—is nearly equalized. Among working women, minority women are more likely to be full-time workers, so the ratios of minority women’s earnings to white women’s earnings are higher in the all-worker group (row 2 compared to row 4).

The time series of earnings ratios for full-time workers, which is shown in Table 5, is useful because among the available measures it comes closest to providing a comprehensive comparison between minority and majority workers of the trend in the relative price (wage) of labor services.

For this interpretation, one must assume that the full-time workers remain about the same fraction of the total population of workers, or that deviations represent (a) voluntary shifts to part-time work, and (b) no systematic selection regarding workers’ productivity traits in the changing distribution of part- and full-time workers. A change in age composition could change the distribution, and, ideally, one would want to hold constant an exogenous trait like age when constructing the time series. Assuming that any group differences in these compositional shifts are minor, the trends in Table 5 show gains over time in the earnings ratios for black women relative to black men (column 2), black men relative to white men (column 4), and black women relative to white women (column 5). The earnings ratio of white women to white men (column 1) has been remarkably stable at around .6 over this 43-year span. The ratios for Hispanics (columns 3 and 6–7) are for too brief a period to measure a trend.

Further analysis of these trends will be discussed in Part 2, but the following several points may be helpful and are non-controversial.

1. The ratios generally are still so far short of unity in 1975–82 that “slow progress” is a fair and regrettable assessment. The exception is the remarkable rise to near-equality for black and white women, despite the fact that this ratio was the lowest in 1939. This rise is partly explained by the huge exodus of black women from domestic service, one of the lowest-paid occupations, and the migration of blacks generally from the low-income rural sector of the South to urban places. Earnings of domestic servants were understated in 1939 because of the receipt of income-in-kind payments (meals, sometimes lodging, and so on).

Table 5
Time-Series of Ratios of Median Earnings for Year-Round,
Full-Time Workers, Gender and Ethnicity Comparisons,
Annual Averages for Four Periods, 1939–82

Years of Period ^a	Women/Men Earnings Ratio (by Ethnicity)			Black/White Earnings Ratio		Hispanic/White Earnings Ratio	
	White (1)	Black (2)	Hispanic (3)	Men (4)	Women (5)	Men (6)	Women (7)
1939 ^b	.61	.51	—	.45	.38	—	—
1955–66 ^b	.61	.61	—	.62	.65	—	—
1967–74 ^c	.58	.70	—	.68	.83	—	—
1975–82 ^d	.59	.76	.70	.73	.94	.72	.86

Sources: Various years for the P-60 Series of the Current Population Reports. See Table 1 for a full citation in the series.

^aThe years 1955–82 are divided into three periods, and the average of the annual ratios are reported for each period. The first year for the continuous time series of earnings for year-round, full-time workers is 1955, but the 1940 census provides this figure for 1939.

^bRatios are for wage and salary earnings (excludes self-employed workers) for whites and nonwhites, who are defined as blacks and other nonwhite races in later Census publications.

^cRatios are for all earnings (includes self-employed workers and self-employment income) for whites and blacks. The first year for which blacks are reported separately is 1967. The black/white earnings ratios for men are, on average, about .01 lower than the nonwhite/white earnings ratios for men. Thus, we may surmise that the black/white earnings ratio for 1955–66 would be approximately .61 instead of .62. The black/white earnings ratios for women are, on average, about .02 lower than the nonwhite/white earnings ratios. Thus, we may surmise that the black/white earnings ratio for 1955–66 would be approximately .63 instead of .65. The trends in both ratios, black/white and nonwhite/white, are virtually the same.

^dSame as c; also, 1975 is the first year in which earnings are reported separately for Hispanic workers.

2. Another probable reason that black earnings were particularly low in 1939 is the high rate of unemployment then and throughout the 1930s. Black earnings rose sharply in World War II (1941–45). The rate of increase in the men's black-to-white ratio has been slow but steady since the mid-1950s.

3. Blacks made relative gains between 1940 and 1960 in educational attainment and, probably, in other pre-labor-market investments in human capital, such as health and access to better jobs by migration. In the 1960s and 1970s there were further gains in relative educational attainment and also in antidiscrimination legal activities.

4. The stable ratio of women's earnings to men's earnings among whites is, to some extent, a product of two conflicting trends: (a) more participation in the labor force by women, and, associated with this, more accumulated work experience and advancement into higher occupations; (b) increasing numbers of women are new entrants or reentrants into the labor force, and their years of experience are less than the average years of experience of the existing stock of women workers. These trends contrast with the relative stability of the age-adjusted trend in experience of men over this period. Thus, (a) exerts a compositional effect that raises the ratio of women's earnings to men's, while (b) has the opposite effect.

The descriptive statistics presented in Tables 1–5 have shown two manifestations or definitions of economic dis-

crimination, one dealing with incomes and another with wage rates, for three types of groups affected by discrimination: women, blacks, and Hispanics. The economic disparities are large and have persisted over time. Do these disparities indicate the presence and persistence of different wage rates for groups of workers for whom the assumption of equal productivity—or, alternatively, equal productive capacity—is maintained? The answer is yes. It is an answer that has challenged economists for many years, because in a competitive economy workers who are equally productive should receive the same wages (on average). The challenge will be taken up in Part 2. The remainder of this article deals with the conceptual problems of, first, measuring productivity differences in labor, and, second, accounting for the differences between men and women in the allocation of their labor to the home and market sectors of the economy.

Conceptual problems

The problem of measuring productivity differences

The first measure of discrimination, illustrated by the difference in overall average income between majority and minority households (or families), may be considered to measure societal economic discrimination. (Recall also the supporting evidence in Table 2.) The second measure of discrimination, which is commonly measured as the difference in the average wage for equally productive majority and minority workers, may be considered to express labor mar-

ket discrimination—obviously a narrower concept than that of the first definition.

Implicit in labor market discrimination, which I will also refer to as wage discrimination, is the proposition that the group status that defines the majority or minority group has no intrinsic effect on productivity. This proposition may simply be viewed as defining the economist's measure of wage, or labor market, discrimination, in which any measured negative effect of group status on wages, after controlling for productivity, is defined to be discrimination. Typically, a statistical regression function is used to estimate the effect of group status on wages, and the control over productivity, as measured by various characteristics of the workers, is handled by this statistical technique. But the important conceptual question is what productivity characteristics should be held constant when estimating wage discrimination. The criterion I propose is that the variables that are held constant should *not* be determined by the process of discrimination under analysis. Consider the following two applications of this criterion.

Case 1: Assume the analysis pertains to a given employer or firm, and that we ask whether white workers are paid more than black workers after taking account of (holding constant) the available productivity variables. Let us further assume that a panel of experts provides us with the worker characteristics that determine productivity in the given firm. The productivity variables might include previous vocational training, tests of manual dexterity, age, years of schooling, and so on. However, to meet the above criterion, each variable should be exogenous to the employer; that is, the characteristic should not be affected by the employer's behavior. If it did, it might reflect discrimination. Thus, a variable defined as "supervisor's rating" would not be admissible.

Case 2: Assume the analysis pertains to the entire labor market. We ask whether white workers are paid more than black workers after holding constant an admissible set of productivity variables that meet the criterion that they are not affected by the process of discrimination under analysis. But because the entire labor market is under analysis, variables like "previous training" almost surely reflect previous discrimination in the labor market, so they are not admissible.

Unfortunately, there is no simple rule in market-wide studies for determining when a variable may be appropriately held constant. Among the variables mentioned in Case 1, age would be appropriately held constant as an exogenous variable. Years of schooling would be held constant if we believed that the decision to attain schooling did not reflect discrimination in the labor market. Perhaps less education among minorities reflects societal discrimination—not labor market discrimination, but pre-labor-market discrimination. On the other hand, blacks and women may perceive that higher levels of schooling yield smaller earnings for them than for white men. If this were true, then

these groups may have curtailed their schooling, in which case educational attainment would reflect labor market discrimination.

Certain genetic differences might be admissible in analyzing differences in pay between men and women. Physical strength is a genetic difference between men and women, but we may agree that this is not an important explanation for pay differences in the modern urban society. On the other hand, the cultural, and partly biological, differences between men and women in the division of labor between market work and housework—raising children, in particular—may be considered exogenous, or they may not.

Determining the productivity variables that are admissible is the first step in estimating wage discrimination. Accurate measures of the agreed-upon variables are also needed. A look at the econometric research in this area will be presented in Part 2 of this article in a future issue of *Focus*.

Special issues that arise in comparing men and women

Theories of discrimination against women should deal with two factors that differentiate women from a racial minority group like blacks. First, women may be said to choose to specialize in home production, thus rationalizing a lower market wage. No such alternative employment is credible among black men. Second, even if women suffered lower market wages because of discrimination, they might recover all or part of these losses by marrying the favored group, men.

Both factors direct our attention to the division of labor between home and market sectors. Wage comparisons, which are the key ingredient in measuring labor market discrimination, should, for some purposes, measure the total remuneration of men and women per hour of work. For men, this may be reasonably approximated by the market wage rate, recognizing that the fringe benefits and non-pecuniary aspects of one's job are not readily measured. For women, however, the actual hours involve both market and home work, and the full remuneration includes market earnings and, say, the wife's share in household income—specifically that share which reflects her time and effort in "household production." Income comparisons, which measure another type of economic discrimination, should not only allow for household money income but also for leisure consumption.

Specialization by men in the labor market is to some extent a legacy of the past, when the following environmental and biological constraints prevented women from having equal access to labor market opportunities: (a) seriously imperfect control over fertility and the limited alternatives to breastfeeding for the proper nurturance of babies; (b) physical disadvantages relative to men in performing much, and perhaps most, market work; (c) a collusive monopolization by men of various instruments of power, often institutionalized into laws, that prevented women from having equal access to market work.

These constraints may not prevail today to any significant degree. However, the legacy may play a role in the determination of current preferences, and preferences are conventionally taken as given by economists.

The measure of full income as an economic concept must confront the issues raised in Table 2, one of which was the component of one's standard of living that is attributable to the consumption of nonmarketed goods and services, which economists often summarize into a single category, leisure. Leisure may be inferred from an accounting identity in which total time, say 24 hours per day, is divided into work time, time for personal care (including sleep), and leisure. For men, the assumptions that work is entirely market work and that personal care is roughly constant across time have permitted a rough measure of an increase in their leisure consumption by the measured decrease in their time spent at work over the past 100 years or so. Analogous assumptions may permit a comparison among men in different countries at a point in time.

The accounting identity also applies to women, but the practical difficulty is the measurement of housework, which must be added to market work to obtain a measure of total work. Several surveys of time use, often employing time-use diaries by the respondents, have presented rather convincing evidence that men and women, or at least the husbands and wives who constitute the main focus of these studies, work about the same amount of time, on average. Table 6

shows my recalculations of the reported total hours of work—home and market—for three surveys from 1965 to 1976.⁷ The units of measure are weekly (7-day) hours of work. The averages for wives, which range from 61 to 68 hours depending on the definition of work, are actually weighted averages of employed wives, who work more total hours, and nonemployed wives, who work fewer total hours. However, employment status is defined at the time of the survey, and because most wives will work in paid employment at some time in their married life, the average of the two employment states is a more accurate picture.

As the table shows, husbands work about the same number of total hours. Note that in these surveys husbands typically work from 10 to 20 or so hours in tasks other than their paid employment, which is usually from 40 to 50 hours per week. This tells us that the conventional economic assumption that market work defines total work by men is no longer accurate, if it ever was.

The change in time spent in market work over the decades presents the following challenge to economists and to other social scientists interested in the comparative economic well-being of men and women. The decline in market work by men is substantial and undoubtedly reflects an increase in leisure consumption.⁸ But women's time in market work has increased substantially, so a parallel-to-men rise in leisure consumption by women would require their time in housework to decline sufficiently to more than offset their increase in market work.

Table 6
Total Hours of Work per Week, Home and Market, by Wives and Husbands, Reported in Three Surveys, 1965-76

Employment and Marital Status	National Survey 1965-66 ^a	Syracuse, N.Y., Survey, 1967-68 ^b	National Surveys 1965-66 and 1975-76 (averaged) ^c	
			Travel to Work Not Included	Travel to Work Included
Employed husbands	62	64		
Employed wives	71	68		
Nonemployed wives	56	60		
All husbands (same as employed husbands)	62	64	62	67
All wives	61	63	65	68

Source: Cain, "Women and Work: Trends in Time Spent in Housework," IRP DP no. 747-84. The table relies on the sources cited in the notes below.

^aJ. Vanek, "Household Work, Wage Work, and Sexual Equality," in *Women and Household Labor*, ed. S. F. Berk, Sage Yearbooks in Women's Policy Studies, Vol. 5 (Beverly Hills, Calif.: Sage Publications, 1980), p. 277.

^bK. E. Walker and M. E. Woods, *Time Use: A Measure of Household Production of Family Goods and Services* (Washington, D.C.: American Home Economics Association, 1976), p. 64.

^cF. Stafford, "Women's Use of Time Converging with Men's," *Monthly Labor Review*, 103 (December 1980), 58. The results for the 1965-1966 and 1975-1976 surveys are averaged to limit the distorting effects of the recession in 1975-76.

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The most widely cited evidence on this issue is a study of the period from 1920 to 1966 by Joann Vanek, who concluded that there was no decline in time spent in housework by non-employed women over this period.⁹ Vanek pointed out that surveys in the 1920s mainly involved farm women, who worked an average of 8 to 10 additional hours in unpaid farm work, but she also noted that the much higher rates of market work by urban wives in 1965-66 more than offset the decline in time spent in farm work. She concluded that "modern life has not shortened the woman's work day."¹⁰ The normative implication of this finding for the change in the economic status of men and women is rather startling. Women would appear to have benefited much less than men from the rise in per capita income during the past 60 years. Men's standard of living has improved from both increased consumption of goods and services and increased leisure. Have women benefited only from the gains in material well-being? If so, and unless their material well-being increased a good deal more than men's, they have apparently failed to keep pace with the overall gains made by men. There is no evidence that women have received a larger share of the increases in consumption of goods and services stemming from (or defining) the rise in per capita income in this century.

My reanalysis of these two issues—the time trends in housework and total work, and the amount of total money income women and men receive, allowing for an equal sharing of household income by husbands and wives—is summarized in Tables 7 and 8.¹¹

In Table 7, the trends in housework and in total work (defined as housework plus market work) are shown for the period 1920 to 1976, originally reported by other scholars, and for the period 1890 to 1976, as I have recalculated them, using the original studies along with a variety of other sources. Over the longer period and with my adjustments, the decline in housework time per week is substantial, 27 hours, and the decline in total work is about 15 hours—significant, but probably less than the decline in total work by men. If women's consumption of market goods and services has kept pace with men's consumption, then their lesser decrease in total work time implies that the rise in their standard of living has lagged behind that of men during this century.

Table 7
Weekly Hours of Housework and Total Work of Wives
in the United States, 1890-1975, Estimated by Various Adjustments
to Data from Earlier Studies

Years	Estimates from Studies by Vanek and Robinson		Estimates with Extensions and Adjustments ^a	
	Housework	All Work	Housework	All Work
1890	—	—	66	68
1920-28	53	57	56	60
1965-66	48	59	—	—
1975-76	41	55	39	53
Change in hours from beginning year to ter- minal year	-12	-2	-27	-15

Source: Author's calculations based on the original work by J. Vanek, "Keeping Busy: Time Spent in Housework, United States, 1920-1970," Ph.D. diss., University of Michigan, Department of Sociology, 1973, pp. 80-82; and J. P. Robinson, "Housework Technology and Household Work," in *Women and Household Labor*, ed. S. F. Berk, Sage Yearbooks in Women's Policy Studies, Vol. 5 (Beverly Hills, Calif.: Sage Publications, 1980), pp. 53-67.

^aSeven hours of housework are added to the 1920s hours to estimate the hours of housework in the 1890s. Three hours of housework are added to the 1920s hours to allow for the understatement of numbers of children in families in the 1920s survey. Two hours are subtracted from the total of 18 that are devoted to "family care" (including child care) and "shopping" and "other" categories of housework in the 1970s to allow for leisure components of these activities. (See Cain, "Women and Work," IRP DP no. 747-84, for a full explanation of these adjustments.)

The issue of the comparative lifetime money incomes of men and women is the final topic of this article, and its conclusions are summarized in Table 8. The incomes of men and women, previously shown for certain categories of families in Table 1 for 1981, are computed for each age of adulthood and summed over all adult ages to obtain the lifetime money incomes. The figures refer to the cross-section of the age-income profile in 1981 and are only crude estimates of the actual lifetime incomes of cohorts. Incomes received by married-couple households are allocated equally to husbands and wives, so differences in lifetime incomes are definitionally associated with periods when the men and women are not married (or not living together if married). Incomes of women include alimony and child support payments made to divorced, separated, and wid-

owed women; and the payments by men are subtracted from men's incomes. A discount rate of 5 percent is used to compute the present values, and different survival probabilities between men and women at each age are used.¹²

The principal findings and interpretations of Table 8 are the following:

- Women receive substantially less income than men during their adult life, even though they are assigned a share of income equal to that of their husbands during marriage. However, the amount of time an adult spends in an unmarried state is sizable. When single, women have much smaller household incomes and a larger household size than men. Assuming equal leisure consumption, as implied by Table 6, it follows that the results in Table 8 show that women experience economic discrimination in terms of total economic well-being.
- Women fare better when income rather than earnings is the basis for a comparison with men. Even the lowest ratio of income, .67 in row 6, which is for all persons, adjusted for household size, is larger than the highest earnings ratio, .61 in row 9, for full-time workers.
- Allocating the household income on a per capita basis by dividing by the average household size sharply lowers income for women relative to men, because the size of the household headed by a woman is considerably larger than that of the household headed by a man, and there are more female-headed households (excluding households of married couples).

Generally, a larger household implies more housework and, among full-time workers, less leisure time. Sometimes dependent members perform a substantial amount of housework, but this would not be true of young children, who are more likely to be living with the mother when the parents separate. The per capita figures in rows 4–6 allow for the reduced consumption of market goods per person, but not for reduced leisure.

There is a strong presumption, therefore, of less leisure consumption by women who both head households and work full time. How leisure consumption compares among single-parent households where the head does not work full time is not known. Many of these women are on welfare and probably consume more leisure than the average, but their incomes are very low, and their lives are often adversely constrained by administrative rules.

No value is attached to work, other than the income received. Regarding market work, this issue arose in Table 2 concerning nonpecuniary aspects of such work. The issue is more complicated regarding housework, because there is a close connection between the work performed and the worker's consumption of the services of the work. For example, dependent children require housework, but they also pro-

Table 8
Present Values and Female-to-Male Ratios of Present Values of Lifetime Income and Lifetime Earnings in the United States: Synthetic Cohort Data from Cross-Section Surveys, 1980–81 and 1979

Unit and Income	All Persons	Full-Time Workers ^a
Household income, 1980 (Household income divided equally for married couples)		
1. Men	\$280,831	\$285,841
2. Women	227,636	249,731
3. Women/men income ratio	.81	.87
Per-person household income, 1980 (Household income divided by average size of household)		
4. Men	185,541	190,180
5. Women	123,638	134,265
6. Women/men income ratio	.67	.71
Per-person earnings, 1979		
7. Men	350,170	429,660
8. Women	157,033	263,971
9. Women/men earnings ratio	.45	.61

Sources: Glen G. Cain, "Welfare Economics of Policies toward Women," IRP DP no. 732-83, Table 3, which relies on the following sources: U.S. Bureau of the Census, Current Population Reports, P-20, No. 372, *Marital Status and Living Arrangements, March 1981*, Table 2; P-20, No. 371, *Household and Family Characteristics, March 1981*, Tables 3 and 13; P-60, No. 132, *Money Income of Households, Families, and Persons in the United States, 1980*, Tables 10 and 26; P-60, No. 139, *Lifetime Earnings Estimates for Men and Women in the United States: 1979*, and *Vital Statistics of the United States*, Vol. II, Section 5, Life Tables, 1978.

^aFor households headed by a woman or man (not including married couples), the income calculations in this column are restricted to households where the heads are full-time workers. For married-couple households, income is measured for all couples, not just those where the primary earner worked full time. In these calculations income of married couples is shared equally between husband and wife, so a focus on couples where the primary earner worked full time is not necessary. In rows 7–9, which refer to persons rather than families, the calculations are for full-time workers for this column.

vide pleasure for their parents, and the extra burdens on the divorced mother may be offset by this extra value. More generally, the presumed higher skills of women in housework might permit unmarried women to enjoy more household consumption than unmarried men—sufficient, perhaps, to offset their income (and leisure?) disadvantage.

Several additional questions about Table 8 may be raised. Do women feel a stigma if their market *wages* are lower, even if their *incomes* equal those of the men with whom they may be comparing themselves? Is the shorter life span of men attributable to their specialization in market work? Biologists tell us that women are probably endowed with more longevity, but whether the sex differences in time spent in home and market work add to this endowment is unknown.

Although the difference between men and women in earned income has decreased during the past 30 years, the probability of divorce and separation has increased. As a consequence the current generation of women may have suffered a decline in lifetime income (as defined above) relative to men, despite their increased relative earnings. One must ask whether the rise in divorce and separation is a *consequence* of the relative rise in earnings and whether all of this reflects a greater independence of women and an overall improvement in their well-being.

The empirical measure in Table 8 of gender equity avoids the question of why market wage rates are lower for women and does not attempt to measure discrimination in the labor market. Instead, the question is, Regardless of why men are paid higher wages, are women compensated in whole or part by alternative income receipts? It appears that they are partially compensated, but that their shortfall remains so large that an economic inequity is strongly suggested. Of course, data for actual cohorts of men and women, more information about leisure consumption, and, ideally, more information about actual consumption of home and market goods are needed for definitive conclusions. ■

¹"Poverty in the United States: Where Do We Stand Now?" *Focus*, 7:1, p. 3.

²For a list of the IRP Discussion Papers on which this article is based, see box on this page.

³The term "white" will be used to refer to non-Hispanic whites.

⁴U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 137, *Money Income of Households, Families, and Persons in the United States: 1981* (Washington, D.C.: U.S. GPO, 1983), Table 4.

⁵*Ibid.*, Table 13.

⁶*Ibid.*, Table 55.

⁷Cain, "Women and Work" (see box).

⁸See Cain, "Lifetime Measures of Labor Supply" (box), for supporting evidence on the generalizations about market work by men and women in this paragraph.

⁹J. Vanek, "Time Spent in Housework," *Scientific American*, 231 (November 1974), 117-120.

¹⁰*Ibid.*, p. 120.

¹¹Cain, "Women and Work," and "Welfare Economics of Policies toward Women" (see box).

¹²Other details of the calculations are discussed in Cain, "Welfare Economics."

Institute Publications by Glen G. Cain on the Economics of Discrimination

"Welfare Economics of Policies toward Women." IRP Discussion Paper no. 732-83.

"Economic Discrimination against Women and Racial and Ethnic Minorities." IRP Discussion Paper no. 745-84.

"Women and Work: Trends in Time Spent in Housework." IRP Discussion Paper no. 747-84.

"The Economic Analysis of Labor Market Discrimination: A Survey." IRP Discussion Paper no. 748-84. Forthcoming.

"Lifetime Measures of Labor Supply of Men and Women." IRP Discussion Paper no. 749-84. Forthcoming.

Wingspread conference on poverty in Wisconsin

In conjunction with the Wisconsin Department of Health and Social Services, the Office of the Governor, and the Johnson Foundation, the Institute for Research on Poverty sponsored a conference at Wingspread—the Frank Lloyd Wright landmark just north of Racine—on March 13-14, 1984, to examine the causes and consequences of poverty in Wisconsin and to seek to identify measures and policies to prevent or remedy poverty. In addition to discussions among the participants, presentations were made by the following people:

Ken Bowler, Legislative Consultant, James C. Corman Law Firm

Carol Croce, Executive Director, Wisconsin Nutrition Project, Inc.

Sheldon Danziger, Director, IRP

John Driggs, Member, President's Commission on Hunger

Howard Fuller, Director, Department of Employment Relations

Irwin Garfinkel, IRP

Maurice MacDonald, IRP

Robert Milbourne, Vice President, the Kohler Company

Linda Reivitz, Secretary, DHSS

Judith Weitz, Director, State and Local Affairs, Children's Defense Fund

Barbara Wolfe, IRP
