Volume Title: Horizontal Equity, Uncertainty, and Economic Well-Being

Volume Author/Editor: Martin David and Timothy Smeeding, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-13726-0

Volume URL: http://www.nber.org/books/davi85-1

Publication Date: 1985

Chapter Title: Economic Consequences of Marital Instability

Chapter Author: Greg J. Duncan, Saul D. Hoffman

Chapter URL: http://www.nber.org/chapters/c6158

Chapter pages in book: (p. 427 - 470)

14 Economic Consequences of Marital Instability

Greg J. Duncan
Saul D. Hoffman

14.1 Introduction

The precarious economic position of families headed by women and the explosive growth in the number of such families over the past two decades are well known. The women and children of these families constitute a disproportionate share of the poverty population and of welfare recipients; in the minds of some recent analysts, they also account for a large number of the members of America's "underclass." Although much has been discovered from cross-sectional surveys about the status of female- and male-headed families in the past few years, there is considerably less information about the dynamics of one of the most important events—divorce and separation—that produce families headed by women and about the nature of the adjustment process that takes place following a divorce or separation. Simple comparisons of families headed by married men with those headed by women ignore the selection process that leads some women to head their own families, and are apt to be a poor guide to the likely changes in the economic situation of a currently married woman if she were to divorce or of a currently unmarried woman if she were to marry.

More sophisticated attempts to gauge the economic consequences of divorce and remarriage have either estimated multiequation models with cross-sectional data (Danziger et al. 1982) or have used longitudinal data from the Panel Study of Income Dynamics (PSID) (Hoffman 1977; Bane and Weiss 1980; Weiss, forthcoming) and National Longitudinal Surveys

Greg J. Duncan is associate research scientist at the Institute for Social Research. Saul D. Hoffman is associate professor of economics at the University of Delaware.

The research reported in this paper was supported by a grant from the Ford Foundation. Helpful comments from Martin David, Martha S. Hill, Robert Hutchens, Tim Smeeding, Arland Thornton, and various conference participants are gratefully acknowledged.

(Nestel, Mercier, and Shaw 1982). Although based on smaller numbers of observations, longitudinal data make it possible to compare the economic status of the *same* individuals before and after such events as divorce and remarriage, thus providing the opportunity to look at the effects of persistent interpersonal differences, even if those crucial characteristics are not measured.

Longitudinal data solve some but by no means all of the modeling problems inherent in estimating the consequences of changes in marital status. The first attempts to use PSID data to assess the economic consequences of divorce (Hoffman 1977; and Holmes 1976) fixed the time period over which changes in economic status were measured and counted all divorces that occurred at any time in the interval. As a result, income changes were measured at varying lengths of time after the divorce or separation and thus were not easily interpreted.

In this chapter we extend the uses of the longitudinal data from the PSID to provide a more complete analysis of the income and labor supply changes that accompany divorce and remarriage. We use a method developed by Bane and Weiss in which divorces are observed over a period of several years; then data on income sources and labor supply are "lined up" around the divorce year. This procedure not only increases sample size compared to a single year—something that is crucial for a relatively rare event like divorce—but also provides a uniform time interval to assess the economic conditions and adjustments in the years just after a divorce.

Other important features of our descriptive analysis that distinguish it from past work are the following:

Previous studies have largely ignored the fact that many divorced people remarry, causing a vast improvement in their economic situation. More than 50 percent of divorced white women and considerably less than that fraction of black women remarry within five years following their divorce. The economic status of women who do not remarry is a potentially unreliable guide to the situation women are likely to encounter should they happen to divorce. Our approach integrates the probability of remarriage into an analysis of the economic consequences of divorce.

Unlike Weiss and Bane and Weiss, we have not limited our postdivorce samples to single-parent families. Instead, we use as separate analysis subgroups men, women, and children involved in divorce, as well as a comparison group of intact couples.

We adopt functional definitions of *marriage* and *divorce*, the former including instances where unmarried couples are living together and the latter covering cases where residential separation occurs without divorce, or where unmarried couples who had been living together have separated. Unlike Weiss (forthcoming), we were able to identify and include in-

stances where both the divorce and remarriage occurred within the same year.

Like Weiss's study, our analysis focuses on the distributional consequences of marital dissolution by carrying out separate analyses of white women from the upper and lower halves of the family income distribution. Unlike Weiss, however, we choose a different year in which to define the high- and low-income segments than that used as a base year for measurement of predivorce economic status. There are truncation problems with Weiss's procedure which lead to an overstatement of the distributional consequences of divorce.

Since the economic situation of women and children involved in divorce depends crucially upon the event of remarriage, we focus a great deal of attention in this chapter on the process and consequences of remarriage. To address the policy questions of whether anything can be done to increase remarriage rates of women, especially black women, we must understand the process of remarriage and learn whether programs such as AFDC play a role in discouraging remarriage, why remarriage rates are lower for black than white women, and whether the experience of women who do remarry is a reliable guide to the likely economic benefits marriage would bring for women who are currently choosing not to remarry. Investigation of the latter point is fraught with potential problems of selection bias, and we develop and estimate a model of the likely improvement in status that adjusts for this consideration. Although sample-size limitations prevent us from estimating the selection effect with precision, we do find evidence that the likely favorable income consequences of remarriage are much smaller for women who had not remarried than for otherwise similar women who had remarried.

This introduction is the first of a total of six sections. Section 14.2 summarizes the general framework that guides our approach. In the third section the sample and data are described. The fourth section presents a descriptive analysis of the income and labor supply flows that surround divorce and separation for the men, women, and children concerned. The fifth section details our modeling and estimation of the likely gains associated with remarriage for women who have divorced. The results are summarized in the sixth section.

14.2 Framework

It is easy to understand why the economic consequences of divorce may be especially adverse for women and children. In most cases children remain with the mother, who has considerably less capacity for earning a generous income in the labor market than her former husband, partly because her responsibilities for the children may reduce her labor supply.

Alimony and child support are the principal mechanisms for transfers from the ex-husband to the ex-wife, but the frequency and amount of payments rarely make up for an appreciable amount of the labor income lost through the departure of the ex-husband (U.S. Bureau of the Census 1983). Human capital investments on the part of the mother are one way in which the economic situation of her family may be improved, but the main route to financial betterment for her has been remarriage.

As pointed out by Hutchens (1979), striking parallels exist between the process of divorce, remarriage, and "marital search" on the one hand, and job change and job search on the other. That comparison suggests one crucial but frequently overlooked idea. Although the short-run economic impact of unemployment and job search may be severe, unemployment is rarely permanent. Just as it would be inappropriate to assess the economic impact of job change by focusing exclusively on the period of unemployment between jobs or on a sample of permanently unemployed persons, it is equally inappropriate to ignore the possibility of remarriage in an analysis of the economic consequences of divorce. Many studies of the consequences of divorce do that, however, by focusing exclusively on a sample of still-divorced women. We do not mean to minimize the adverse economic situation of women and children involved in a divorce or separation. Indeed, as pointed out by Bane and Weiss (1980), a five-year spell of female headship may be a relatively short period in the life of the female head but it constitutes a major portion of the time that her children spend in their childhood. Adverse economic circumstances in childhood may leave lifetime scars. Nevertheless, an evenhanded assessment of the economic consequences of divorce should take account of the probability of remarriage and the economic gains associated with it.

These ideas are illustrated in figure 14.1 which shows hypothetical income flows surrounding a divorce or separation. Suppose that economic status is measured by family income, adjusted for family size and composition; call this measurement family income/needs.[1] If a couple remains married, some growth in economic status over time is likely, accompanying additional investments in human and financial capital. This growth is illustrated by the line labeled "continuously married" in figure 14.1. Some couples will choose to divorce or separate, however, and that event will likely entail a substantial decline in economic status for the ex-wife and children. But within any fixed period of time there is the possibility that the ex-wife will remarry and substantially improve her economic status. For a woman whose new spouse is more capable than the former one, the economic circumstances associated with remarriage may well be higher than the status that would have resulted from continuing the first marriage. If remarriage is a random event among divorced women, then the

1. Nonmoney income should be included in this analysis as well but it is ignored here and in the empirical sections of the paper.

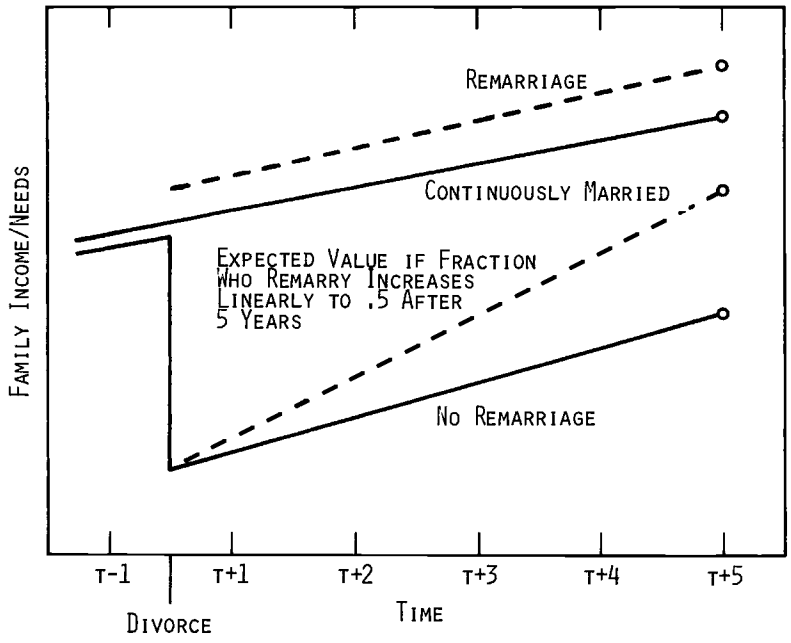

Fig. 14.1. Hypothetical levels of family income/needs associated with divorce and remarriage.

expected economic situation following a divorce is the expected value of the income flows associated with the states of remarriage and no remarriage. Shown in figure 14.1 are expected values, associated with remarriage probabilities, that increase linearly with time from 0 to .5 over the first five years following divorce or separation.

Measuring status changes immediately after a divorce is likely to overstate considerably its longer-run effects because the measurement minimizes the chances of remarriage and thus its likely beneficial economic effects. It would be preferable to take an expected-value approach to economic status that weights the remarriage situation by the probability of occurrence. A crucial aspect of this procedure, however, is that remarriage may not be a random event across groups with different characteristics. Racial differences in remarriage rates are well known (Thornton and Rodgers 1983), and there may well be crucial but typically unmeasured characteristics of divorced spouses that affect remarriage chances. These issues are addressed in section 14.5 of the paper.

14.3 Data and Subsamples

The analysis presented in this paper was conducted on data from the Panel Study of Income Dynamics. The PSID provides a continuous repre-

sentative sample of individuals in the population of the United States (except for recent immigrants), and thus also a representative subsample of adults and children undergoing a divorce or separation. All of the descriptive analyses reported here are estimated with sample weights that adjust both for differential initial sampling fractions and for differential nonresponse.

Samples were drawn from the fourteen-year family-individual file, covering the period from 1967 to 1981. The sample of women undergoing a divorce or separation was limited to sample women between the ages of twenty-five and fifty-four in the year prior to the divorce. A divorce or separation was defined as the transition from a state of living with a husband or long-term partner to a state of not living with that same person. Changes due to the death of a husband were excluded from the analysis. Remarriages are defined by the acquisition of a new husband or partner. The sample of men was drawn with analogous restrictions.[2] Corresponding criteria on their parents were used to determine the sample of children. The group of children was restricted to sample children who were between the ages of one and five in the year prior to the divorce.[3] The sample of children was further restricted to exclude those who were living with neither parent. In about one-tenth of the included cases, the children remained with the father rather than the mother after the divorce.

These samples were selected by scanning adjacent pairs of years from 1969–70 to 1975–76 for divorces or separations. Where there were multiple occurrences, the first such instance was taken. The first year of the adjacent pair in which a divorce or separation occurred was designated as year t. Income and employment information was then compiled from years $t - 2$ through year $t + 5$. References to these years in this paper concern statistics for the calendar year rather than for the interviewing year in which they were reported. Because the three subsamples of individuals involved in divorce are selected through a procedure that pools the data of various sets of years and because no marked differences in the incidence of divorces occurred over the business cycle, macroeconomic influences are averaged over all the relevant years.[4]

The sample of intact couples consists of all couples who were married continuously from 1971 to 1977, where the wife was between the ages of

2. Note that identical age restrictions on the sample of divorcing men and women will cause some ex-husbands to be included in the sample of men without their ex-wives being included in the sample of women, and vice versa.

3. Since the measurement of economic status extends for seven years, the age range for children was set narrowly to avoid situations in which the children would be old enough to set up independent households by the end of the measurement period.

4. The fraction of all divorces observed for the seven years between 1969 and 1975 were .168, .145, .120, .124, .094, .170, and .184, respectively. The largest fractions are indeed associated with the recession years of 1974 and 1975, but the third largest is associated with 1969, a period of exceptionally low unemployment and high growth.

twenty-five and fifty-four in 1971. For these couples, years $t - 1$ through $t + 5$ correspond to calendar years 1971 through 1977. Note that this span of years includes the severe recession of 1974 through 1976 (years $t + 2$ through $t + 4$, respectively) and thus provides some information about how income flows among intact couples are affected by macroeconomic fluctuations. All dollar figures have been inflated to 1981 prices using the Consumer Price Index. Contributions to the support of dependents outside the household have been subtracted from the family incomes of the subsample of men who have been divorced or separated.

As shown in the appendix in table 14.A.1, the resulting female subsample included 349 divorced or separated women, of whom 140 were black. Separate analyses are presented below by race and, for white women only, according to whether family income in year $t - 2$ was above or below the unweighted median.[5] Comparable distinctions are made for the subsamples of men, children, and intact couples. We also present separate calculations for women who remained divorced or separated in each year and for all of the initially divorced women, regardless of whether they had remarried. As table 14.A.2 shows, remarriage rates for all groups are substantial—for women they are about 20 percent after one year and over 50 percent after five years. Black remarriage rates are always lower than white rates.[6]

14.4 Descriptive Analysis

14.4.1 Changes in Total Family Income

The most dramatic economic effects of marital instability show up as changes in the total family income of the women and children involved. These changes are detailed in the appendix in tables 14.A.3 through 14.A.6 and are summarized in figure 14.2, which shows time profiles of income relative to year $t - 1$ for four groups—intact couples, divorced women who remained unmarried, and all divorced women and men re-

5. This division (at $23,000 in 1982 prices) is based on the year $t - 2$ because truncation on income in $t - 1$ would bias the analysis of income changes between year $t - 1$ and subsequent years.

6. The remarriage rates for whites are remarkably similar to those calculated from the June 1980 Current Population Survey's retrospective marital histories. Thornton and Rodgers 1983 calculated annual remarriage probabilities for white women, less than forty-five years of age, who separated between 1970 and 1974. Their figures, with comparable PSID figures in parentheses are: .22 (.21), .34 (.33), .43 (.46), .49 (.49), and .55 (.54). Comparable figures for blacks are not nearly as well matched: .05 (.18), .08 (.28), .12 (.31), .17 (.32), .20 (.42). A notable difference in the procedures used in computing these figures is that the CPS asks about official remarriages and the PSID does not distinguish between official remarriages and "living-together" situations. Thornton and Rodgers also note that there is substantial disagreement between the CPS figures and vital statistics calculated from official records.

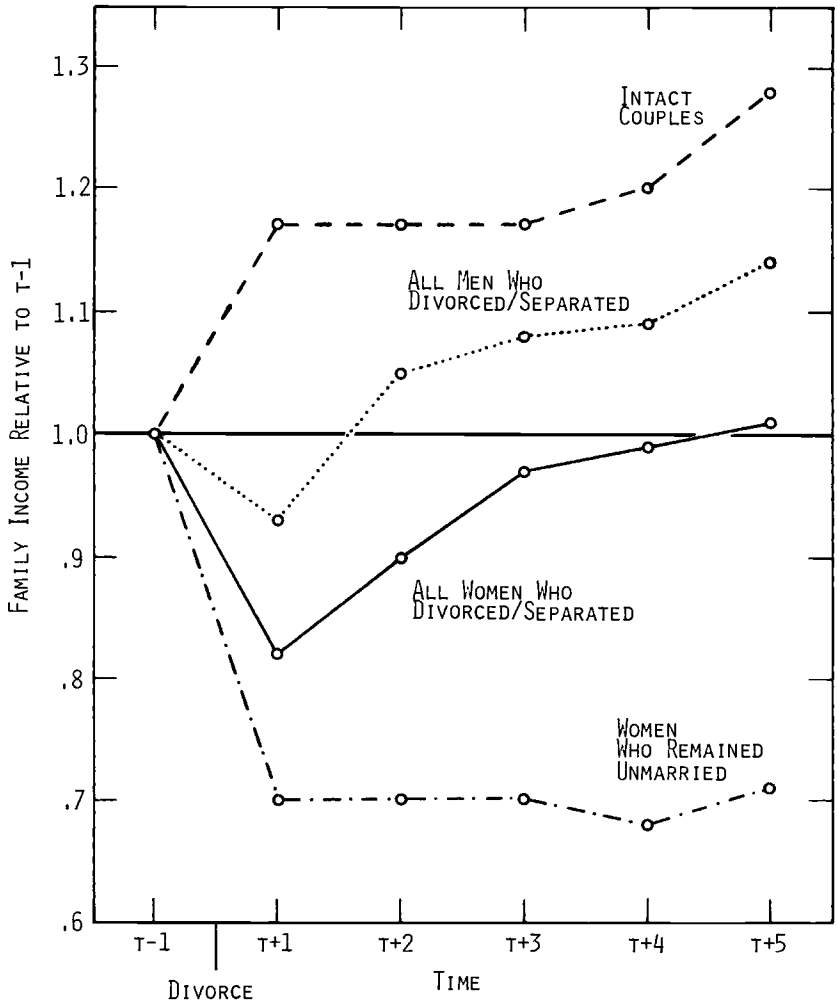

Fig. 14.2. Family income of selected groups after a divorce or separation as a fraction of family income for the year prior to the divorce or separation.

gardless of their marital status in each subsequent year. Changes in a preferred measure of family economic status—total family income relative to needs—are described in the following section.

The average income level of women who divorce or separate falls from more than $26,000 in the year prior to divorce to less than $15,000 in the first full year after the divorce (table 14.A.3, row 4, cols. 1 and 2). Expressed as a fraction of family income in year $t - 1$ (table 14.A.4, row 4,

col. 2 and figure 14.2), their income falls to 70 percent of its predivorce level in year $t + 1$ and, if they do not remarry, remains at about that level thereafter.[7] The 70 percent figure compares with 73 percent for children living with a parent who remained divorced in the first year following the divorce, 93 percent for men who divorced,[8] and 117 percent for intact couples. The relative drop for above-median white women and for black women is especially large.[9]

A closer look at the distribution of these ratios (tables 14.A.5 and 14.A.6) confirms the drastic drop in income for women (and their children) who remain divorced or separated after a year; over 40 percent of each group had family incomes cut by more than one-half (table 14.A.5, col. 1). Only about one-sixth of the divorced or separated men experienced so drastic a drop. Virtually none of the intact couples (2 percent) suffer such a fall, even during the recession years of $t + 2$ through $t + 4$.[10] While some of the women and children did actually experience an increase in real total family income between these two years (table 14.A.6, col. 1), the fractions who did so (11 and 15 percent, respectively) were smaller than comparable fractions for divorced or separated men (30 percent) and much smaller than for intact couples (65 percent). The relative decline in income was particularly severe for blacks and for women and children with family incomes above the median prior to the divorce.

The right-hand columns of the appendix tables show the income amounts and ratios for *all* individuals involved in divorce or separation, regardless of whether they had remarried. Including the possibility of remarriage dramatically improves the picture of the average postdivorce economic situation of women and children. More than one-fifth of the women and children involved in divorce remarried within one year, and their improved economic status raised the average ratio of post- to predivorce family income from .70 to .81 for women and from .73 to .85 for children.

7. The average of the individual ratios does not equal the ratio of the average income levels because the distribution of the individual ratios is skewed to the right. There is a natural truncation of these ratios from below at zero. Although a truncation from above was imposed at the value of 5.0, there is still enough skewness in this distribution to place the mean well above the median.

8. None of the calculations for the divorced or separated men distinguish between those who remarried and those who remained divorced or separated.

9. As large as the drop is for the above-median white women, it would be even larger if, as with Weiss (forthcoming), $t - 1$ had been the year used for stratification of the white women into the two income groups. Transitory increases in income in year $t - 1$ will push some of the women into the above-median group and lead to large decreases in income between $t - 1$ and $t + 1$. The ratio of $t + 1$ family income to $t - 2$ family income for the above-median white women was .51.

10. Recall that the divorced samples were drawn from a pooling procedure that roughly averages macroeconomic fluctuations across all years. Income information for the intact couples covers the years 1971–77, with years $t + 2$ through $t + 4$ corresponding to calendar years 1974 through 1976.

As shown in figure 14.2, family income of the women averages 97 percent of its predivorce level by the third year; after five years, when more than half had remarried, income rises above the predivorce level. Of course, these averages conceal great diversity in the experiences of subgroups. Few of the women and children who were *not* involved in a remarriage improved their status. And remarriage rates are substantially lower for black women and children, causing their average status to improve much more slowly than that of whites. The final columns of tables 14.A.3 through 14.A.6 show that the economic position of white women and children who were involved in a remarriage is often close to the $t + 5$ position of intact couples. The economic status of black women and children involved in a remarriage is considerably below that of intact black couples.

Taken together, the flat relative income profile of continuously unmarried women and the rising profile for all women clearly shows the relative unimportance of human capital adjustments relative to remarriage as a means to improved economic status. The important tasks of understanding why remarriage occurs in some cases but not in others and why the rates are lower for blacks is taken up in the fifth section of this paper.

14.4.2 Changes in Income/Needs and Poverty

Family income relative to needs is a preferred measure of family economic status because it adjusts for the number and composition of family members relying on family income. The need standard used here is the official government poverty standard, which takes into account family size and the ages and sex of family members. Income/needs is a simple ratio of total family cash income to this needs level.

It is expected that adjustments for family size will show a somewhat more optimistic picture of the economic status changes that accompany divorce for women and children, since the ex-husband's needs are no longer met. Figures 14.3 and 14.4 and tables 14.A.7 through 14.A.11 show that this is indeed the case. Family income/needs drops to 87 percent of its predivorce level for women who are still divorced in $t + 1$ and to 84 percent of its prior level for children in such situations (table 14.A.8, col. 2, rows 4 and 12). The comparable declines in family income from $t - 1$ to $t + 1$ for still-divorced women and children were to 70 percent and 73 percent, respectively, of their former average levels. The average adult man who became divorced or separated was actually better off one year later, although the improvements in his situation were less than that experienced by the average couple that remained intact.

As with family income, the relative drop in family income/needs is particularly severe for black women and children and for white women and children with predivorce income levels above the median. Also as with family income, including in the calculations women and children involved

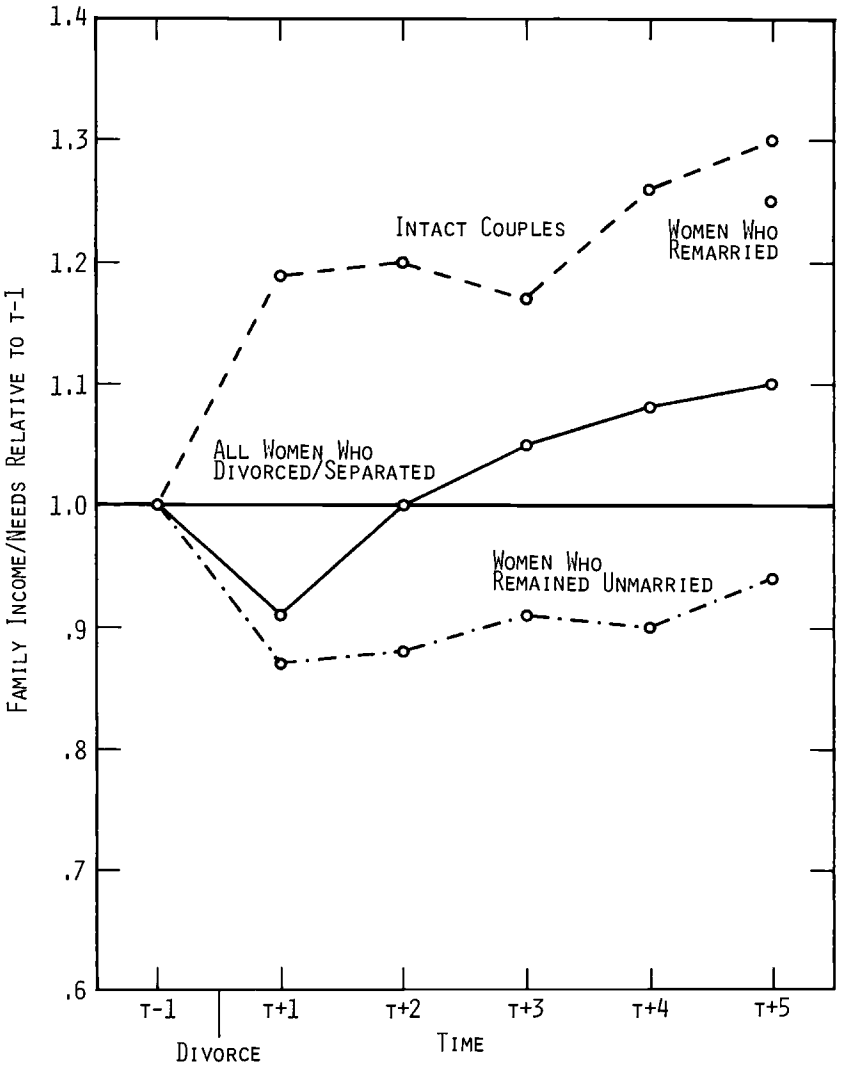

Fig. 14.3. Family income/needs of women after divorce or separation as a fraction of family income/needs for the year prior to divorce or separation.

in a marriage improves their average position so much that virtually all of the groups are better off, on average, by the fifth year following the divorce or separation than they were before it. The average, of course, includes those who did remarry (the majority of whom are better off economically) and those who did not remarry (the majority of whom are worse off) (tables 14.A.9, 14.A.10).

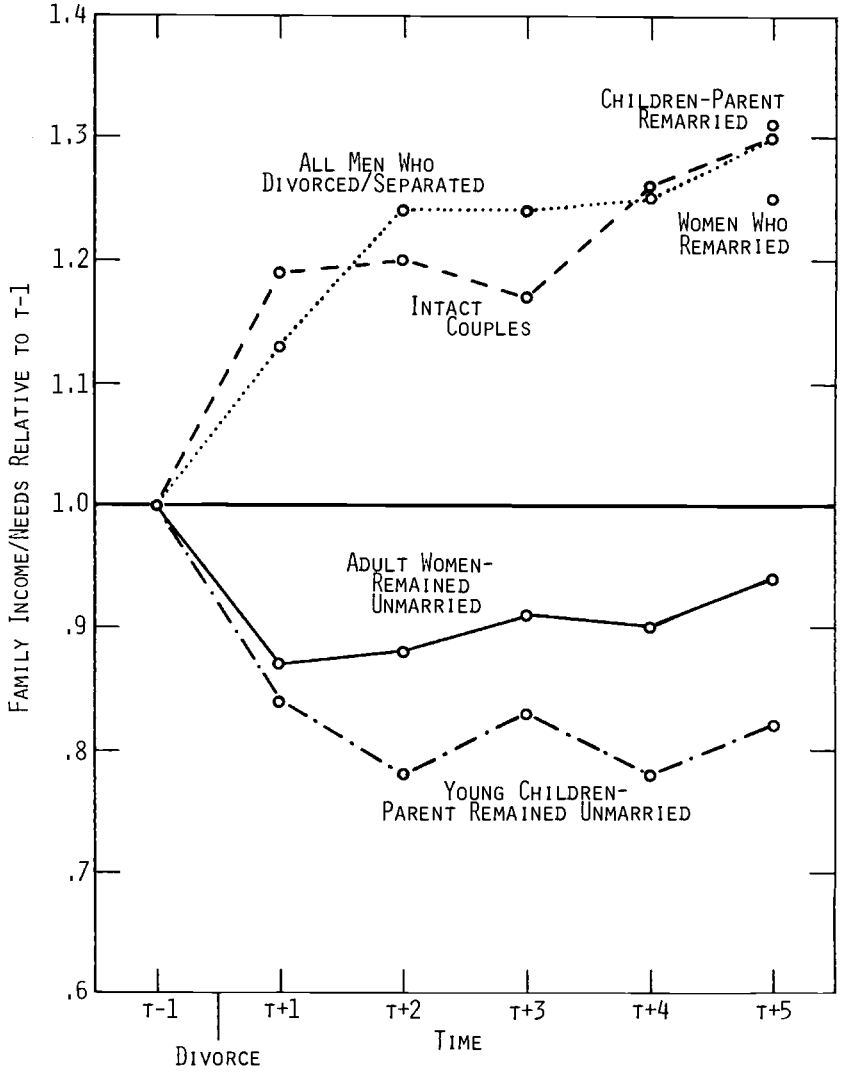

Fig. 14.4. Family income/needs of selected groups after divorce or separation as a fraction of family income/needs for the year prior to divorce or separation.

Poverty rates rise dramatically for women and children involved in divorce or separation but actually fall slightly for men who divorce (figure 14.5 and table 14.A.11). A closer look at the distribution of the poverty figures shows that the higher incidence is limited almost exclusively to black women and children and to white women and children whose pre-divorce family income levels were below the median. The increases for

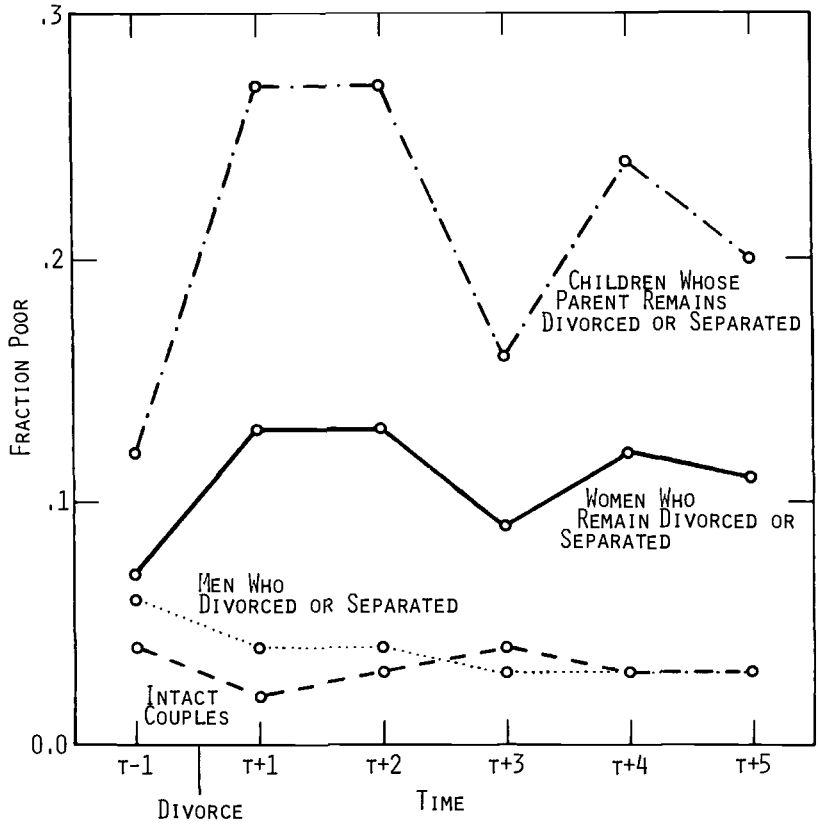

Fig. 14.5. Incidence of poverty among intact couples and men, women, and children involved in divorce or separation.

these two groups are large indeed. Poverty rates for below-median white children jump from .14 in the year prior to the divorce to .41 in the year after (table 14.A.11, row 10, cols. 1 and 2). Comparable increases for black children are from .24 to .38. The situation of the white children improves substantially with time, even if no remarriage occurs, but poverty rates at the end of the period are still higher than they were before the divorce. Poverty rate changes are similar for women involved in divorce, although the absolute fractions for poor women are uniformly lower than the comparable fractions for children.

14.4.3 Changes in the Composition of Family Income: Earnings, Welfare, Alimony and Child Support

The composition of family income changes drastically for the women and children involved in divorce, as only part of the ex-husband's lost la-

bor income is retained in the form of alimony and child support payments and the wife's own labor income, welfare, and transfers from others outside the household adjust in response to the change.

An examination of these various sources for the PSID subsamples of women and children clearly shows that the wife's own labor income is the dominant component for most of these new families. Of the $14,781 average family income level of divorced or separated women in the year following the divorce (table 14.A.2, row 4, col. 2), about three-fifths was the wife's labor income (table 14.A.12, row 12, col. 2), only about one-tenth consisted of alimony and child support (table 14.A.13, row 12, col. 2), about one-twentieth consisted of welfare income (table 14.A.14, row 12, col. 2), and only about 1 percent consisted of other private transfers from outside of the household (data not shown).[11]

The composition of the income packages is somewhat different across the racial and income subgroups and changes somewhat over time. Not surprisingly, welfare is considerably more important for low-income whites and for blacks, while alimony and child support is somewhat more important for higher-income white women and children. For all of these groups, however, the ex-wife's labor income constitutes more than 60 percent of the total, on average, and the importance of this income source increases with time.

Labor Supply and Labor Income

The labor force participation of women increases dramatically in response to divorce. The fractions of women working at least 1,000 hours in the year after a divorce is more than twenty percentage points higher than the fractions performing a comparable amount of market work in the year prior to the divorce. The size of this increase is almost identical for all three subgroups of women (figure 14.6 and table 14.A.12, rows 5 to 8). Virtually all of the divorced white women coming from above-median income families were working at least 250 hours in the year following the divorce and 85 percent worked at least 1,000 hours. The comparable fractions of black women and below-median white women working at least 250 hours are 65 and 72 percent, respectively. There is some tendency for the participation rates to increase with time for the women who remain divorced or separated. In contrast, women who remarry end up with participation rates that are not only lower than when they were divorced, but also lower than in the year prior to the divorce.[12] Labor income amounts associated with these work hours show a similar pattern (table 14.A.12, rows 9 to 12).

11. Private transfers from others outside the household never averaged more than $400 for any of the subgroups and do not appear in any of the appendix tables.

12. This latter fact raises the possibility that many women may increase their participation rates in anticipation of an upcoming divorce. Annual average work hours did increase between $t - 2$ and $t - 1$, but only by a modest amount—32 hours.

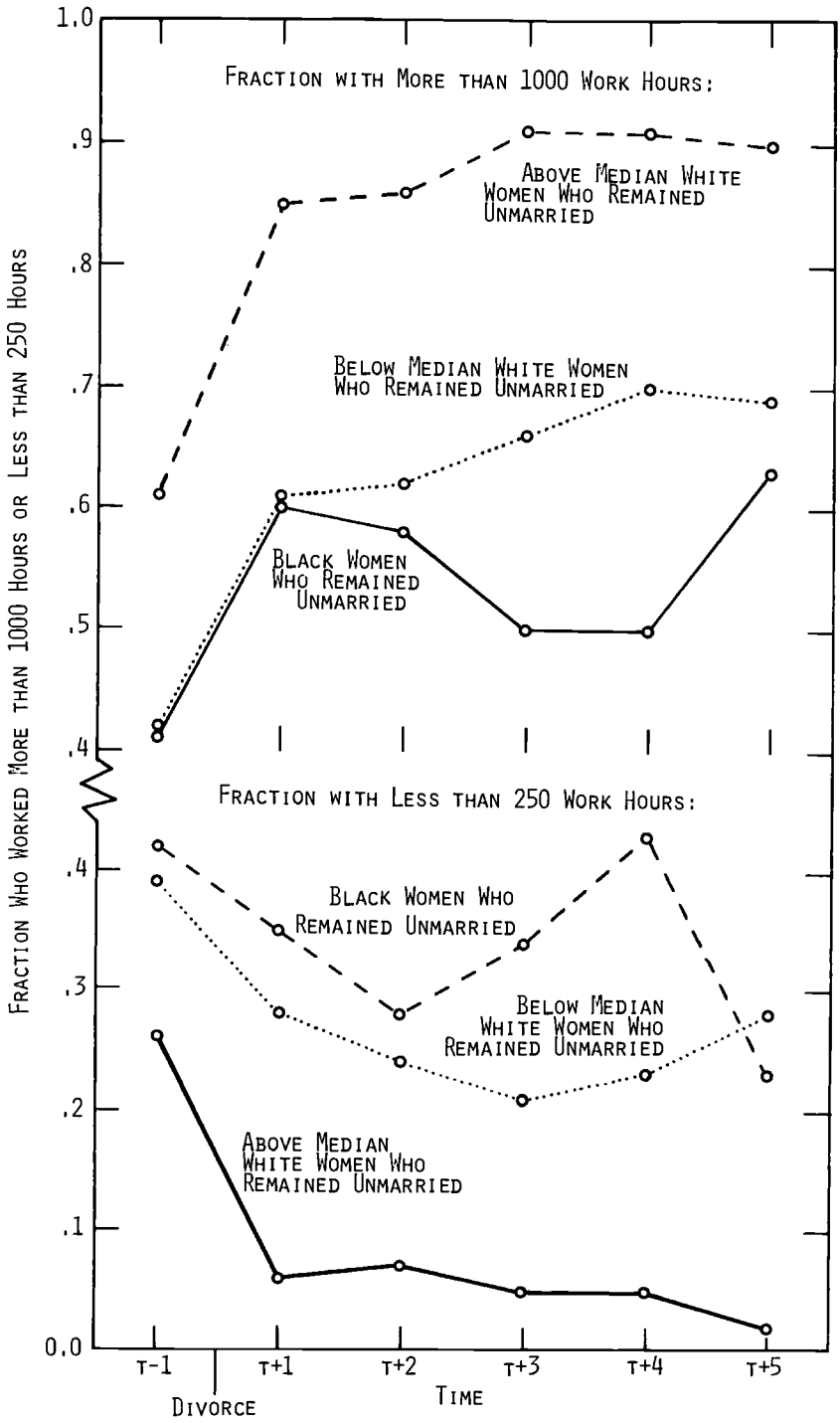

Fig. 14.6. Labor supply adjustments of women after a divorce or separation.

Alimony and Child Support

Even though more than half of the white children involved in divorce lived in families in which alimony or child support was received (table 14.A.13, rows 5 and 6, col. 2), the average amount of income from this source never amounted to more than one-fifth of total family income for either high- or low-income white women and children. It is even less important for black women and children. Although the average amounts of this income do differ, there are surprisingly minor differences in the fractions of high- and low-income women and children who receive it, especially several years following the divorce. The fractions of high-income women and children receiving alimony or child support declines sharply over time, even among those not involved in a remarriage. Comparable fractions for low-income white women and children show little trend over time; by the fifth year following the divorce or separation, similar fractions of still unmarried women and their children from the two income groups report receiving income from that source.

Welfare

The receipt of welfare income following a divorce or separation is limited almost exclusively to low-income white and to black families (table 14.A.14, rows 1–8, col. 2). Close to half of black women and children and between one-third and one-half of the low-income white women and children report receiving at least $250 in income from AFDC, general assistance, or any other noncontributory cash welfare income program in the year following the divorce. Remarriage often ends the spell of welfare receipt for the women and children who are involved in a remarriage. And there is a discernable drop in the incidence of welfare income receipt among the low-income white families but not among the black women and children.

14.5 Modeling the Gains to Remarriage

The previous sections have documented the pervasive economic impact of both divorce and remarriage. One potential shortcoming of this analysis, however, is that it treats marital status itself as exogenous. Implicitly, it suggests that the economic consequences actually experienced by persons who become divorced or who remarried would also apply to those persons who did not undergo those changes. That is an important presumption, since, in evaluating policy measures that might reduce divorce or encourage remarriage, the results of descriptive exercises like those above are often utilized.

There are, in fact, several reasons to suggest that that presumption may not hold. Suppose that, following Wolf (1977) and Danziger et al. (1982),

we view choices about marital status as a function of the expected utility levels associated with being married or single. In neither case, of course, is utility solely a function of income, but ceteris paribus, it seems reasonable that a sample of divorced persons would consist largely of those who experienced relatively smaller income losses. Similarly, those who remarry may also be a nonrandom set of all divorced persons, in this case including those who had the most to gain economically from remarriage. In either case, inferences drawn from descriptions that treat the samples as if they were random would be in error. If the selection processes were as described above, the economic consequences of divorce would be understated and those of remarriage would be overstated—at least as far as drawing inferences to the rest of the population was concerned.

In this section we focus more carefully on issues of this kind. Specifically, we examine two related issues. First, we now treat the choice of marital status as endogenous. We restrict this analysis to the transition in marital status for women from divorced to married. Second, we reexamine the expected income consequences of remarriage, explicitly accounting for the potential nonrepresentativeness of that sample. To do that, we utilize the sample selection techniques developed by Heckman (1979).

4.5.1 A Simple Model of the Gains from Remarriage

Our basic ideas can be sketched as follows. Let Q stand for "husband quality," a concept analogous to Becker's child quality. We think of Q as having two components: potential labor market earnings (Y) and all else (A).[13] Q is an increasing function of both Y and A, but some components of A can be negative. We assume that a divorced woman seeks a new spouse of highest Q, but that this maximum Q value is conditional on her own personal characteristics. There may, for example, be certain personal characteristics of a divorced woman that enable her to acquire a spouse of higher quality. Letting Q_i^* be the maximum husband quality available to woman i and X_i be the set of her relevant personal characteristics, we can express this as:

$$Q_i^* = f(Y_i^*, A_i^*) = g(X_i). \tag{1}$$

Presumably, remarriage occurs only if it is expected to increase utility. A minimum condition for this is $U(Q) > 0$; a stronger one, which accounts

13. In the model developed by Danziger et al. 1982, Y is one of the components of the expected earned income of the female household if the woman were to marry. The authors do not distinguish between her own labor income in the married state and the earned income of the husband, and they note, but do not incorporate, the possibility of selection bias in the estimation of this earned income component in their statistical analysis. Our analysis can be thought of as an elaboration upon one aspect of their model. The size of the future husband's labor income in the income package of married women is so large, however, that it is certainly the most important component and deserves a careful and separate analysis.

for the fact that some income sources (I_s) are withdrawn at remarriage, would be that:

$$U(Q) > U(I_s). \tag{2}$$

AFDC and alimony payments would be examples of I_s. Since from equation (1), Q_i^* is a function of X_i, equations (1) and (2) together suggest that a woman's characteristics determine not only the maximum husband quality available to her, but also the probability of remarriage.

If all of the elements of X_i could be measured, equation (1) could be estimated by an OLS regression of Q* on X_i for a sample of women who remarried. The results would be unbiased estimates of population parameters and would be appropriate for the sample of unmarried women as well. If, however, some relevant portions of X are not observable, estimation problems arise, since the unobserved components would affect not only the value of Q* but also the probability that an individual would fall into the sample of remarried women. That is precisely the problem of selection bias; coefficient estimates derived from such a sample could no longer be meaningfully applied to the population as a whole or, more importantly, to the sample of unmarried women.

The well-known statistical solution to this problem, developed by Heckman (1979), involves estimating the sample selection process—in this case, remarriage—with a probit function.[14] Those results are then used to form the inverse Mill's ratio denoted as λ for each individual in the sample of unmarried women. Finally, the equation of interest—our equation (1)—can be estimated by OLS with $\hat{\lambda}$ included as an additional regressor. The sign of the coefficient on λ depends on the correlation of the error terms across equations. In this example, a positive (negative) coefficient would indicate that a woman who did not remarry would have a lower (higher) quality husband (if she were to remarry) than an otherwise identical woman (in terms of measured characteristics) who did remarry. A conventional t-test on the estimated coefficient on $\hat{\lambda}$ can be used to assess its statistical significance.

4.5.2 Model Specification

Although the model outlined above was cast in terms of husband quality, broadly defined, we focus in our empirical work only on the new husband's labor market earnings. There are two reasons for this. An obvious one is the lack of data on the components of A. While nonmonetary characteristics may well be important, we have no measures of them. The second justification is that the spouse's income is important as a means of escaping from poverty and increasing the family's standard of living.

14. A full treatment of these issues is in Heckman 1979.

Our full empirical model examines both the probability of remarriage and the labor income of the new spouse over a five-year period beginning with the onset of a divorce. The sample of women who divorce or separate is drawn from the PSID data and is identical to the one used in the descriptive analyses. The regression results we report are unweighted, although we use weighted means to make population projections.[15]

Remarriage Equation

The dependent variable in our remarriage equation is whether the initially divorced or separated woman remarried within five years after the divorce or separation.[16] The specification of the independent variables follows Hutchens (1979). All explanatory variables included in X apply to the woman: her educational attainment, health status (whether disabled), age, number of children, whether a child is less than age six, and dummy variables for whether she resided in large and small SMSAs. As measures of I_s, we use annual alimony income and monthly AFDC payments for a family of four in the state of residence.[17] We expect both of these to reduce the probability of remarriage. We also include a time trend to examine whether remarriage probability is different for more recent instances of divorce. Finally, we conclude after some preliminary experimentation that it is appropriate to pool black and white women using only an additive race variable (black = 1), but no interactions between race and any of the independent variables.

We think that our use of the data set is an improvement over previous work in several respects. First, the five-year time period for remarriage is more precise than the variable-length periods used in other studies. This time period is long enough for ample search to have occurred and thus allows us to assume that an equilibrium situation with respect to remarriage is being observed. Second, our analysis includes women in all fifty states; previous studies (Hutchens 1979) included only women in selected states or were unable to identify the exact state of residence (Danziger et al.

15. We used the method outlined in DuMouchel and Duncan 1983 to determine whether weighting was necessary. Sample weights, which are the inverse of the probability of sample selection, are always required for estimates of population means.

16. This specification of the dependent variable does lead to the loss of information concerning the time of remarriage within the five-year period. A potentially richer estimation technique that would require the imposition of assumptions about the distribution of completed spells longer than five years is event history analysis, developed by Tuma, Hannan, and Groeneveld 1979.

17. The data were taken from information published by the Department of Health, Education, and Welfare on the "largest amount paid for basic needs." Since women without children are ineligible for AFDC, we reassigned their potential AFDC payments to zero.

Region variables are excluded from the model because of the strong correlation with AFDC payment levels. Over half of the variation in AFDC levels was accounted for by three region dummy variables in an OLS regression. Although urban/rural measures may reflect remarriage opportunities, we see no similar argument for the inclusion of region variables.

1982). Finally, unlike all previous studies, all of the women in our sample are observed as of the beginning of a spell of divorce or separation. Previous studies have not been able to control for the length of a divorce spell and this may have affected their findings.

New Husband's Labor Income Equation

Ideally, the dependent measure of new husband's earnings capacity in our regression analysis should be his expected permanent labor market earnings. Lacking that, we use the natural logarithm of the new husband's labor income in the fifth year after her divorce or separation; for women who were remarried and divorced within the five-year period, we use the new husband's labor income in the last observed year of remarriage.[18] The independent variables include all of the variables from the remarriage equation except the time trend. A set of three dichotomous variables for region of residence is added, as is a measure of the labor income of each woman's previous husband. We interpret this variable as a proxy for her own unobservable characteristic that might affect the income of her new spouse. We continue to use only a dummy variable for race.

Table 14.1 presents the results of our analyses. Estimated coefficients from the probit model are in column (1), those from an OLS regression of husband's labor income are in column (2), and the adjusted OLS results, correcting for selection bias, are in column (3).

The remarriage equation is of interest both in its own right and as a prelude to the regression analysis. Considering the relatively small sample size and the inherent problems in modeling such a complex event, the equation performs well. Two sets of results are of special interest. First, the two financial variables—AFDC payments and alimony—reduce the probability of remarriage, although neither is significant at conventional levels. A more important finding is the very large, negative, and statistically significant effect of race. Substantial racial differences in remarriage persist even when the effects of a host of other factors that influence remarriage are taken into account. Evaluated at the means of the independent variables, the predicted five-year remarriage rates are 56 percent for whites and 25 percent for blacks.

Implicit in the labor income regression equation is both an assortative mating marriage process and a human capital earnings function. That is, we are attempting to predict the labor income of an unmarried woman's *prospective* spouse. We do so by using information on the women in our sample who did remarry and on their new husbands, adjusting the estimates with Heckman's technique for the possible nonrepresentativeness of that group. Thus, the independent variables in the earnings regression

18. To correct for extremely low income that may have been the result of an unusual circumstance (extended unemployment or illness, etc.), and thus not representative of long-run income, we imposed a minimum income level of $2,000.

Table 14.1 **Remarriage and the Gains from Remarriage (standard errors in parentheses)**

	Dependent Variable		
	Whether Remarried	*Ln* (New Husband's Labor Income)	
Independent Variable[a]	Probit	OLS	Adjusted OLS
Race	−.846[b]	−.302[c]	−.604
	(.162)	(.157)	(.488)
AFDC $(00s)	−.039	.026	.013
	(.037)	(.033)	(.039)
Alimony $(000s)	−.051	.006	−.008
	(.037)	(.030)	(.038)
Years of education	−.038	.092[b]	.081[b]
	(.034)	(.028)	(.033)
Disabled	−.272	−.288	−.359
	(.212)	(.209)	(.235)
Wife's age	−.032[b]	−.016[c]	−.026
	(.009)	(.009)	(.018)
No. of children	.015	−.064[b]	−.055[c]
	(.035)	(.030)	(.033)
Whether child younger than age 6	−.154	.036	−.005
	(.186)	(.156)	(.170)
Large SMSA	−.380[b]	−.093	−.213
	(.192)	(.153)	(.242)
Small SMSA	−.300	−.102	−.191
	(.190)	(.142)	(.201)
South	—	−.181	−.188
		(.173)	(.165)
West	—	−.117	−.126
		(.183)	(.175)
Northeast	—	−.270	−.279
		(.209)	(.198)
Ex-husband's income (000s)	—	.025[b]	.024[b]
		(.010)	(.005)
Time trend	−.054	—	—
	(.036)		
Constant	2.40[b]	8.79[b]	9.07[b]
	(.684)	(.98)	(.714)
λ	—	—	.507
			(.781)
Mean of dependent variable	.43	9.40	9.40
Sample size	345	150	150
$\bar{R}^2$		.386	
Log likelihood	−208.3		
Residual mean square error (adjusted)			.589

[a]Independent variables refer to the sample of divorced women.

[b]Significant at 5 percent confidence level.

[c]Significant at 10 percent confidence level.

are for the women who remarried, while the dependent variable is the labor income of their new husbands. It is important to note that this sample of men whose incomes are being predicted are not a random sample of all men because they are drawn from the pool of men who were eligible to marry these women.

The unadjusted OLS coefficients in table 14.1 reflect the labor income behavioral equation as it applies only to the sample of remarried women, while those coefficients in the final column, which have been adjusted for sample selection bias, can be interpreted as estimates of population parameters applicable to the entire set of divorced or separated women. In both equations it appears that the prospective husband's labor income is most strongly related to the wife's education and to the income of her ex-husband. The estimated coefficient on $\hat{\lambda}$ is positive, but it is less than its own standard error. The positive coefficient is, however, plausible; it indicates that those women who do remarry find higher-income spouses than would otherwise similar women who did not remarry. With the exception of the race and age variables, the other estimated coefficients in the two regressions are similar to each other. The race variable coefficient falls sharply from $-.302$ to $-.604$ when the selection bias adjustment is made. That change follows from the positive coefficient on λ and the very negative effect of race on remarriage. λ is itself inversely related to the probability of inclusion in the sample, so black women who remarried must have larger values for λ than otherwise identical white women in the sample. Since the unobservable traits measured by λ tend to increase the labor income of the spouse, failure to account explicitly for this selection effect mistakenly attributes that effect to the race variable. When the correction is made, the race coefficient becomes more negative, now reflecting the opportunities facing an average black woman in the population. This may reflect the characteristics of the group of unmarried black men who are potential remarriage partners. Similar reasoning explains the fall in the coefficient on age.

We can use the two sets of regression results as predictive equations to indicate the average husband's income that could be obtained by different groups of women.[19] These results are shown in table 14.2. The first column shows the actual new husband's income for women who remarried—$8,813 for black women and $15,125 for white. The next two columns give the predicted mean values for women who did not remarry, using both the unadjusted and adjusted coefficients. The difference between the figures in the second and third columns represents the effect of differences in measured characteristics, assuming that those characteristics would affect unmarried women exactly as they affected the sample of married women.

19. To obtain these values, we multiply each coefficient by the mean value of each variable for each group of interest.

Table 14.2 Actual and Predicted Mean of Husband's Income by Race

	New Husband's Income	Predicted Husband's Income	
		OLS[a]	Adjusted OLS[b]
Black women	$ 8,813	$ 8,292	$4,200
White women	15,125	13,494	8,408

[a]Based on OLS results from table 14.1.

[b]Based on OLS estimates, corrected for selectivity bias.

The numbers in the second column are lower, but the differential is not substantial. The predicted difference for blacks is only 6 percent, reflecting the fact that in terms of measured traits, remarried and still-divorced blacks are not very different. The much lower numbers in the third column include the additional effect of differences in the unmeasured traits summarized in the λ term, now valuing those traits using the parameters appropriate for a random person in the population. They also reflect the selection bias adjustments in some of the other coefficients, most notably race, age, and education. As shown, there is a sharp fall in the predicted mean value of husbands' earnings, especially for black women whose predicted value is only 48 percent of the figure for the remarried women. The implication is that the opportunities for a woman to increase her standard of living through marriage appear to be much worse for currently unmarried women than for similar women who did remarry.

A complete assessment of the impact of these low expected amounts of husbands' labor income on remarriage decisions would require building them into a model like that of Danziger et al. (1982). We hope to extend our work in that direction, but it appears likely that the low expected gains from remarriage will go a long way in explaining the low remarriage rates of black women.

14.5 Summary

A close look at the income and labor supply flows in the years following a divorce or separation reveals marked differences in the distribution of effects. Most men who divorce or separate are immediately better off because they retain most of their labor incomes, typically do not pay large amounts of alimony and child support to their ex-wives, and no longer have to provide for the level of needs associated with their former families. On the other hand, women and children involved in divorce are often much worse off. The fall is largest in relative terms for women and children whose predivorce incomes were above the median and for black women and children. In absolute terms, however, low-income whites and especially black children suffer the most.

Many of the women and children involved in divorce do improve their economic status with time. Half of the low-income whites and blacks rely on welfare to a certain extent after the divorce, and considerable numbers of whites from both income strata report receiving alimony and child support. The average size of these income sources is small, however, relative to the amount of labor income earned by the ex-wives. Labor force participation rates jump substantially for all groups of women. They approach unity for the high-income white women and are well above 50 percent for low-income white and black women. The importance of this earned income grows with time following divorce.

Much more important than growth in an ex-wife's income is the role of a new husband's labor income if she remarries. More than half of white women remarry within five years following a divorce or separation; the comparable fraction for black women is less than half. A crucial question is whether policies that might encourage the currently unmarried to marry would provide the same kind of economic benefits that are enjoyed by the women and children who were involved in a remarriage. Estimates from a model of the new husband's labor income, adjusted for selection bias inherent in the process of remarriage, indicate that there is not likely to be as much of a benefit for the currently unmarried if they were to remarry. The expected labor income of potential husbands of black women averages only about $5,000—a modest amount when compared to the alternatives that might be available to her.

Appendix Tables

(tables follow on pp. 451–466)

Table 14.A.1 Number of Observations

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median	105	87	77	61	55	48	105	105	105	105	105	105	57
Below median	104	73	57	47	46	42	104	104	104	104	104	104	62
All black	140	122	115	112	108	103	140	140	140	140	140	140	37
All women	349	282	249	220	209	193	349	349	349	349	349	349	156
Men													
All white													
Above median							77	77	77	77	77	77	56
Below median							89	89	89	89	89	89	70
All black							84	84	84	84	84	84	36
All men							250	250	250	250	250	250	162
Children													
All white													
Above median	64	56	47	34	30	27	64	64	64	64	64	64	27
Below median	117	76	57	42	41	37	117	117	117	117	117	117	80
All black	182	161	158	155	146	141	182	182	182	182	182	182	41
All children	363	293	262	231	217	205	363	363	363	363	363	363	158
Intact couples													
All white													
Above median							668	668	668	668	668	668	668
Below median							460	460	460	460	460	460	460
All black							365	365	365	365	365	365	365
All intact couples							1,481	1,481	1,481	1,481	1,481	1,481	1,481

Table 14.A.2 **Weighted Fraction of Divorced or Separated Women, Men, and Children Who Were Involved in a Remarriage**

	Remarriage Occurred				
	1–2 Years	2–3 Years	3–4 Years	4–5 Years	5–6 Years
Women					
White	.213	.328	.460	.489	.544
Black	.182	.281	.309	.316	.416
All	.209	.322	.441	.468	.528
Men					
White	.394	.551	.641	.696	.761
Black	.350	.408	.565	.571	.572
All	.389	.536	.633	.682	.741
Children					
White	.242	.363	.542	.566	.607
Black	.117	.210	.307	.321	.441
All	.221	.337	.502	.524	.580

Note: Remarriage is defined as the acquisition of a permanent partner, regardless of official marital status.

Table 14.A.3 Family Income Level (in 1981 dollars)

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median	34,756	17,719	17,975	18,762	18,411	17,934	34,576	20,369	22,856	27,457	26,584	28,579	37,994
Below median	18,282	12,501	12,723	12,807	13,311	13,094	18,282	15,280	15,912	16,376	18,576	18,235	22,264
All black	18,021	9,165	10,308	9,891	9,526	11,385	18,021	10,463	13,204	12,722	12,797	14,283	18,356
All women	26,168	14,781	15,229	15,417	15,240	15,178	26,168	17,168	18,958	21,317	21,765	22,781	29,566
Men													
All white													
Above median							33,508	26,533	28,431	30,728	30,661	31,937	33,762
Below median							18,539	16,843	19,270	19,947	19,925	21,546	22,883
All black							20,241	19,798	19,643	17,304	22,102	18,720	24,111
All men							25,403	21,488	23,398	24,470	24,952	25,874	27,728
Children													
All white													
Above median	33,960	19,025	17,786	18,929	18,366	18,466	33,960	21,663	23,671	26,187	26,581	29,337	37,566
Below median	16,837	10,376	12,703	13,348	13,507	12,302	16,837	13,370	13,956	15,441	18,402	18,850	22,600
All black	18,415	10,207	11,165	12,318	11,336	12,110	18,415	10,616	14,345	15,682	18,006	17,588	24,536
All children	23,213	13,822	14,486	15,243	14,761	14,511	23,213	15,866	17,488	19,317	21,254	22,380	28,096
Intact Couples													
All white													
Above median							38,828	41,265	41,451	39,293	41,710	41,735	
Below median							18,570	22,412	21,412	21,230	22,655	23,613	
All black							22,779	24,492	24,441	24,165	24,669	25,513	
All intact couples							30,604	33,483	33,237	31,903	33,838	34,248	

Note: Payments made to support outside dependents have been subtracted from income for men. For intact couples, $t-1$ is calender year 1969, t is 1970, etc.

Table 14.A.4 **Family Income Relative to $t - 1$**

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median	1.0	.61	.64	.69	.68	.69	1.0	.68	.78	.94	.89	.94	1.16
Below median	1.0	.88	.85	.76	.75	.74	1.0	1.03	1.08	1.06	1.15	1.13	1.44
All black	1.0	.54	.59	.59	.55	.74	1.0	.67	.83	.82	.82	.88	1.08
All women	1.0	.70	.70	.70	.68	.71	1.0	.81	.90	.97	.99	1.01	1.27
Men													
All white													
Above median							1.0	.82	.91	.95	.97	1.02	1.05
Below median							1.0	1.00	1.22	1.27	1.21	1.31	1.42
All black							1.0	1.02	.98	.87	1.09	.97	1.04
All men							1.0	.93	1.05	1.08	1.09	1.14	1.23
Children													
All white													
Above median	1.0	.62	.60	.67	.63	.68	1.0	.69	.76	.85	.85	.92	1.11
Below median	1.0	.87	.76	.74	.74	.67	1.0	1.01	1.06	1.17	1.30	1.29	1.65
All black	1.0	.65	.70	.78	.67	.90	1.0	.73	.89	.99	1.10	1.09	1.34
All children	1.0	.73	.68	.72	.68	.72	1.0	.85	.93	1.02	1.11	1.13	1.42
Intact couples													
All white													
Above median							1.0	1.11	1.11	1.04	1.14	1.12	
Below median							1.0	1.29	1.26	1.38	1.32	1.53	
All black							1.0	1.14	1.15	1.22	1.16	1.32	
All intact couples							1.0	1.17	1.17	1.17	1.20	1.28	

Table 14.A.5 Fraction with Family Income Less Than Half of $t - 1$ Level

	Remained Unmarried						All (includes those who remarried)						
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	Married in $t+5$
Women													
All white													
Above median		.54	.55	.55	.49	.57		.42	.44	.36	.33	.34	.14
Below median		.40	.36	.23	.31	.18		.40	.22	.16	.21	.12	.06
All black		.41	.39	.48	.49	.33		.34	.28	.34	.34	.26	.15
All women		.47	.47	.43	.43	.39		.38	.33	.28	.28	.24	.11
Men													
All white													
Above median								.13	.10	.09	.11	.06	.08
Below median								.18	.10	.13	.10	.11	.10
All black								.17	.17	.28	.16	.18	.11
All men								.16	.11	.13	.11	.10	.09
Children													
All white													
Above median		.43	.50	.47	.48	.53		.38	.38	.34	.32	.35	.23
Below median		.43	.37	.08	.26	.21		.30	.25	.12	.20	.13	.08
All black		.43	.41	.33	.38	.22		.38	.33	.25	.28	.14	.05
All children		.43	.43	.29	.37	.33		.34	.31	.22	.26	.21	.13
Intact Couples													
All white													
Above median								.02	.02	.05	.05	.05	
Below median								.02	.04	.04	.05	.05	
All black								.01	.05	.04	.05	.06	
All intact couples								.02	.03	.05	.05	.05	

Table 14.A.6 Fraction with Family Income Higher Than $t - 1$ Level

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median		.08	.12	.14	.13	.14		.12	.22	.35	.34	.34	.52
Below median		.16	.13	.14	.14	.17		.32	.36	.38	.43	.40	.61
All black		.04	.15	.12	.10	.16		.12	.34	.28	.30	.26	.39
All women		.11	.13	.14	.13	.14		.20	.29	.35	.37	.35	.55
Men													
All white													
Above median								.19	.29	.36	.39	.45	.48
Below median								.35	.43	.46	.50	.57	.63
All black								.52	.45	.37	.51	.47	.57
All men								.30	.37	.41	.45	.50	.56
Children													
All white													
Above median		.12	.10	.15	.16	.24		.15	.24	.32	.38	.37	.47
Below median		.17	.14	.09	.17	.03		.35	.35	.37	.49	.44	.67
All black		.14	.27	.22	.18	.27		.16	.39	.44	.41	.40	.56
All children		.15	.15	.14	.17	.16		.25	.32	.36	.44	.41	.58
Intact Couples													
All white													
Above median								.62	.57	.50	.56	.59	
Below median								.70	.64	.60	.67	.69	
All black								.69	.57	.56	.64	.62	
All intact couples								.65	.60	.54	.60	.63	

Table 14.A.7 Family Income/Needs Level

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median	4.7	3.2	3.1	3.3	3.3	3.3	4.7	3.3	3.6	4.1	4.1	4.3	5.3
Below median	2.7	2.3	2.3	2.4	2.6	2.5	2.7	2.4	2.6	2.5	2.8	2.7	2.8
All black	2.3	1.5	1.6	1.5	1.5	1.8	2.3	1.6	1.9	1.9	1.9	2.0	2.3
All women	3.6	2.6	2.7	2.7	2.7	2.8	3.6	2.7	3.0	3.2	3.3	3.4	4.0
Men													
All white													
Above median							4.6	4.6	5.0	5.1	5.1	5.3	5.1
Below median							2.8	2.9	3.2	3.2	3.1	3.4	3.4
All black							2.9	3.5	3.3	2.6	3.4	2.9	3.5
All men							3.6	3.7	4.0	4.0	4.0	4.2	4.1
Children													
All white													
Above median	4.0	2.5	2.5	2.7	2.6	2.7	4.0	2.8	3.1	3.1	3.2	3.7	4.4
Below median	2.0	1.4	1.6	1.8	1.8	1.6	2.0	1.6	1.7	1.8	2.1	2.0	2.3
All black	1.9	1.3	1.3	1.3	1.2	1.3	1.9	1.3	1.5	1.6	1.8	1.8	2.3
All children	2.7	1.8	1.9	2.1	2.0	1.9	2.7	2.1	2.2	2.2	2.4	2.6	3.0
Intact Couples													
All white													
Above median							5.0	5.4	5.5	5.3	5.7	5.8	
Below median							2.5	3.0	2.9	2.8	3.0	3.1	
All black							2.7	2.9	3.0	3.0	3.1	3.1	
All intact couples							4.0	4.4	4.4	4.3	4.5	4.7	

Table 14.A.8 **Family Income/Needs Relative to $t - 1$**

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median	1.0	.77	.81	.89	.88	.88	1.0	.80	.89	1.02	.98	1.04	1.17
Below median	1.0	1.07	1.04	1.00	.99	1.02	1.0	1.08	1.16	1.12	1.22	1.21	1.36
All black	1.0	.71	.77	.78	.74	.95	1.0	.80	.94	.97	1.00	1.03	1.13
All women	1.0	.87	.88	.91	.90	.94	1.0	.91	1.00	1.05	1.08	1.10	1.25
Men													
All white													
Above median							1.0	1.07	1.15	1.16	1.20	1.27	1.20
Below median							1.0	1.12	1.32	1.34	1.28	1.36	1.41
All black							1.0	1.40	1.30	1.08	1.36	1.19	1.08
All men							1.0	1.13	1.24	1.24	1.25	1.30	1.29
Children													
All white													
Above median	1.0	.73	.71	.78	.75	.81	1.0	.76	.84	.85	.87	.96	1.07
Below median	1.0	.99	.83	.86	.84	.76	1.0	1.02	1.06	1.12	1.22	1.23	1.50
All black	1.0	.75	.80	.86	.73	.94	1.0	.82	.94	.99	1.04	1.05	1.20
All children	1.0	.84	.78	.83	.78	.82	1.0	.89	.96	1.00	1.06	1.10	1.31
Intact couples													
All white													
Above median							1.0	1.14	1.16	1.13	1.23	1.27	
Below median							1.0	1.28	1.25	1.24	1.29	1.34	
All black							1.0	1.15	1.18	1.18	1.25	1.30	
All intact couples							1.0	1.19	1.20	1.17	1.26	1.30	

Table 14.A.9 Fraction with Family Income/Needs Less Than Half of $t-1$ Level

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median		.31	.29	.22	.18	.26		.29	.25	.17	.16	.23	.20
Below median		.18	.14	.03	.14	.16		.13	.11	.10	.12	.15	.15
All black		.32	.31	.29	.44	.28		.27	.23	.20	.31	.27	.25
All women		.26	.24	.17	.21	.23		.23	.22	.15	.16	.20	.18
Men													
All white													
Above median								.06	.06	.02	.03	.04	.04
Below median								.13	.10	.11	.09	.08	.08
All black								.03	.08	.07	.08	.13	.11
All men								.09	.08	.07	.06	.07	.07
Children													
All white													
Above median		.26	.24	.21	.12	.34		.26	.18	.16	.10	.23	.15
Below median		.14	.19	.00	.20	.20		.11	.17	.14	.18	.19	.19
All black		.36	.35	.24	.34	.18		.33	.30	.18	.24	.17	.15
All children		.23	.24	.14	.21	.25		.20	.20	.16	.16	.20	.17
Intact couples													
All white													
Above median								.01	.02	.03	.03	.04	
Below median								.02	.04	.05	.07	.04	
All black								.01	.03	.05	.06	.05	
All intact couples								.02	.03	.04	.05	.04	

Table 14.A.10 Fraction with Family Income/Needs Higher Than $t-1$ Level

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median		.14	.17	.15	.24	.22		.19	.25	.32	.39	.35	.46
Below median		.34	.30	.32	.45	.44		.38	.41	.43	.54	.52	.58
All black		.20	.24	.21	.20	.26		.28	.36	.38	.36	.33	.42
All women		.22	.19	.22	.31	.30		.27	.33	.37	.45	.41	.51
Men													
All white													
Above median								.53	.55	.56	.57	.57	.50
Below median								.52	.60	.61	.55	.67	.64
All black								.65	.55	.47	.66	.54	.53
All men								.54	.57	.57	.57	.61	.57
Children													
All white													
Above median		.17	.10	.15	.19	.27		.19	.25	.22	.32	.34	.39
Below median		.26	.30	.36	.34	.19		.34	.37	.41	.49	.45	.61
All black		.24	.29	.28	.20	.29		.28	.40	.39	.43	.31	.35
All children		.22	.22	.26	.25	.24		.28	.33	.34	.42	.39	.50
Intact Couples													
All white													
Above median								.66	.63	.55	.62	.67	
Below median								.66	.61	.55	.63	.64	
All black								.58	.56	.61	.68	.67	
All intact couples								.66	.62	.56	.63	.66	

Table 14.A.11 Fraction Poor

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Women													
All white													
Above median	.02	.04	.04	.02	.02	.07	.02	.04	.03	.01	.03	.06	.06
Below median	.10	.19	.21	.10	.10	.10	.10	.14	.16	.12	.10	.09	.09
All black	.13	.33	.32	.28	.47	.28	.13	.30	.30	.26	.33	.26	.22
All women	.07	.13	.13	.09	.12	.11	.07	.11	.11	.09	.09	.10	.09
Men													
All white													
Above median							.01	.01	.00	.00	.00	.01	.00
Below median							.08	.06	.05	.02	.04	.02	.03
All black							.18	.05	.15	.16	.17	.15	.06
All men							.06	.04	.04	.03	.03	.03	.02
Children													
All white													
Above median	.02	.07	.06	.03	.04	.10	.02	.06	.05	.03	.02	.08	.07
Below median	.14	.41	.36	.11	.19	.17	.14	.30	.29	.22	.23	.18	.19
All black	.24	.38	.50	.43	.63	.42	.24	.37	.42	.36	.45	.32	.19
All children	.12	.27	.27	.16	.24	.20	.12	.23	.22	.18	.19	.17	.15
Intact couples													
All white													
Above median							.00	.00	.00	.00	.01	.00	
Below median							.08	.04	.06	.07	.06	.05	
All black							.15	.12	.14	.13	.10	.11	
All intact couples							.04	.02	.03	.04	.03	.03	

Table 14.A.12 Labor Supply of Divorced or Separated Women

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
Fraction with Less Than 250 Work Hours													
All white													
Above median	.26	.06	.07	.05	.05	.02	.26	.07	.12	.15	.15	.19	.35
Below median	.39	.28	.24	.21	.23	.28	.39	.29	.29	.32	.32	.36	.43
All black	.42	.35	.28	.34	.43	.23	.42	.33	.27	.32	.34	.34	.50
All women	.33	.18	.15	.15	.17	.15	.33	.19	.21	.23	.24	.28	.39
Fraction with More Than 1,000 Work Hours													
All white													
Above median	.61	.85	.86	.91	.91	.90	.61	.83	.78	.79	.77	.71	.54
Below median	.42	.61	.62	.66	.70	.69	.42	.62	.59	.55	.53	.52	.38
All black	.41	.60	.58	.50	.50	.63	.41	.58	.57	.56	.56	.57	.48
All women	.51	.73	.74	.77	.77	.78	.51	.72	.68	.66	.65	.62	.47
Annual Labor Income (includes zeroes)													
All white													
Above median	7,562	11,327	11,880	12,693	13,422	12,957	7,562	10,709	11,180	11,258	11,019	10,236	7,830
Below median	4,444	6,639	7,671	8,454	9,174	8,668	4,444	6,353	6,680	6,471	6,814	6,342	4,520
All black	3,370	5,635	6,344	5,057	4,878	7,332	3,370	5,365	6,524	5,363	5,708	6,308	4,868
All women	5,829	8,937	9,757	10,113	10,603	10,541	5,829	8,350	8,848	8,663	8,723	8,230	6,169

Table 14.A.13 Alimony and Child Support Payments Received by Women and Children

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
	Fraction Receiving More Than $250												
Women													
All white													
Above median	.01	.48	.46	.41	.36	.33	.01	.42	.39	.31	.26	.26	.20
Below median	.01	.36	.40	.36	.34	.35	.01	.30	.27	.22	.23	.23	.13
All black	.01	.17	.14	.14	.14	.20	.01	.14	.10	.12	.10	.14	.06
All women	.01	.39	.40	.36	.32	.32	.01	.34	.31	.25	.23	.23	.16
Children													
All white													
Above median	.02	.60	.69	.55	.52	.46	.02	.54	.61	.44	.39	.41	.37
Below median	.00	.54	.56	.57	.50	.56	.00	.38	.32	.29	.32	.35	.23
All black	.01	.15	.23	.26	.25	.31	.01	.13	.19	.23	.17	.31	.31
All children	.01	.49	.55	.49	.45	.47	.01	.39	.40	.34	.32	.37	.29

Table 14.A.13 (continued)

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
	Total Amount of Alimony and Child Support Received (includes zeroes)												
Women													
All white													
Above median	10	2,425	1,889	1,312	900	746	10	2,143	1,536	1,032	700	583	
Below median	19	940	1,119	1,090	888	764	19	770	762	700	565	509	
All black	9	449	276	486	589	232	9	367	199	375	403	177	
All women	13	1,646	1,423	1,113	847	675	13	1,388	1,070	821	611	505	
Children													
All white													
Above median	18	3,712	3,403	2,003	1,439	1,085	18	3,349	2,780	1,648	1,223	1,023	
Below median	0	1,685	2,238	2,352	1,487	1,632	0	1,159	1,232	1,233	967	939	
All black	16	389	463	957	1,090	381	116	300	366	737	740	481	
All children	26	2,243	2,361	1,891	1,374	1,152	26	1,796	1,639	1,298	1,020	892	

Table 14.A.14 Welfare Receipt

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
	Fraction Receiving at Least $250 in Welfare												
Women													
All white													
Above median	.00	.03	.04	.06	.04	.04	.00	.03	.03	.03	.02	.03	.02
Below median	.08	.35	.27	.31	.26	.23	.08	.29	.22	.24	.22	.17	.12
All black	.12	.53	.55	.61	.59	.53	.12	.50	.44	.48	.44	.39	.18
All women	.05	.21	.18	.22	.20	.18	.05	.19	.15	.17	.15	.13	.08
Children													
All white													
Above median	.03	.05	.04	.03	.04	.04	.03	.05	.03	.05	.05	.05	.05
Below median	.10	.50	.45	.33	.34	.34	.10	.41	.37	.31	.34	.25	.19
All black	.24	.48	.67	.63	.64	.64	.24	.50	.56	.48	.49	.38	.05
All children	.10	.32	.33	.29	.30	.30	.10	.29	.28	.25	.26	.13	.20

Table 14.A.14 (continued)

	Remained Unmarried						All (includes those who remarried)						Married in
	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t-1$	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+5$
	Total Annual Amount Received (includes zeroes)												
Women													
All white													
Above median	0	73	81	136	108	64	0	61	61	80	60	35	9
Below median	350	1,586	1,413	1,245	1,169	1,194	350	1,402	1,115	991	875	818	523
All black	621	2,250	2,567	3,066	2,275	1,763	621	2,005	1,948	2,260	2,056	1,206	423
All women	213	887	847	951	896	733	213	824	704	702	623	484	262
Children													
All white													
Above median	244	306	280	120	85	94	244	269	214	236	211	270	403
Below median	524	2,368	2,291	1,735	1,713	2,046	524	2,103	1,794	1,434	1,267	1,193	705
All black	1,462	2,457	3,452	3,866	3,344	2,253	1,462	2,494	2,827	2,868	2,542	1,307	107
All children	582	1,556	1,696	1,617	1,509	1,379	582	1,514	1,404	1,248	1,105	823	523

References

Bane, M. J., and Robert S. Weiss. 1980. Alone together: The world of single-parent families. *American Demographics* 2:11–14, 48.

Danziger, Sheldon, George Jakubson, Saul Schwartz, and Eugene Smolensky. 1982. Work and welfare as determinants of female poverty and household headship. *Quarterly Journal of Economics* 98:519–34.

DuMouchel, William, and Greg J. Duncan. 1983. Using sample survey weights in multiple regression analyses of stratified samples. *Journal of the American Statistical Association* 78:535–43.

Heckman, James. 1979. Sample selection bias as a specification error. *Econometrica* 47:153–61.

Hoffman, Saul D. 1977. Marital instability and the economic status of women. *Demography* 14:67–76.

Hoffman, Saul D., and John W. Holmes. 1976. Husbands, wives, and divorce. In *Five thousand American families: Patterns of economic progress*, ed. Greg J. Duncan and James N. Morgan, vol. 4. Ann Arbor, Mich.: Institute for Social Research.

Hutchens, Robert. 1979. Welfare, remarriage, and marital search. *American Economic Review* 69:369–79.

Nestel, G., J. Mercier, and L. Shaw. 1982. Economic consequences of mid-life change in marital status. In *Unplanned careers: The working lives of middle-aged women*, ed. L. Shaw. Lexington, Mass.: Lexington Books.

Thornton, Arland, and Willard Rodgers. 1983. Changing patterns of marriage and divorce in the United States. Appendix 3. NICHD contract no. NO1-HD-02850.

Tuma, Nancy B., Michael T. Hannan, and Lyle P. Groeneveld. 1979. Dynamic analysis of event histories. *American Journal of Sociology* 84:820–54.

U.S. Bureau of the Census. 1983. *Child support and alimony, 1981*. Advance report. Special Studies series P-23, no. 124.

Weiss, Robert S. Forthcoming. The impact of marital dissolution on income and consumption of single-parent households. *Journal of Marriage and the Family*.

Wolf, D. A. 1977. Income maintenance, labor supply, and family stability. Ph.d. diss., University of Pennsylvania.

Comment

Isabel V. Sawhill

Due to the work of a number of analysts, it has now been established that changes in family composition are an important reason for flows into and

Isabel V. Sawhill is a senior fellow at the Urban Institute.

out of poverty and for changes in economic status more generally. Greg Duncan and Saul Hoffman have made significant contributions to this literature in the past, and their current chapter, "Economic Consequences of Marital Instability," is a useful addition to the evolving story.

The chapter contains a number of important findings. First, women and children involved in a divorce or separation experience a substantial drop in real economic welfare relative to their economic status before divorce—a drop that is particularly sharp for black women and women from higher-income families. This contrasts with men whose economic status improves after a divorce. Adjusted for family size, the gains experienced by divorced males are similar to those experienced by intact families. Second, after an initial drop in economic status, divorced women and their children gradually recoup some of the losses, so that at the end of five years they are actually better off than they were the year before divorce, although not as well off as women who remained in intact families throughout the period. Third, the major reason for these gains is remarriage. Although there is a sharp increase in labor force participation and earned income among women after they divorce, those who do not remarry experience little or no gain in income during the five-year period following divorce and thus end up considerably worse off than they were prior to divorce. Fourth, about half of all women and about three-quarters of all men remarry within five years. The probability of remarrying is much lower for blacks than for whites and for older than for younger women. Fifth, there is some evidence that women who remarry have more to gain from doing so than women who remain unmarried. Thus, one should be cautious about assuming that a higher remarriage rate would produce equivalent gains for currently unmarried women. In particular, black women's low remarriage rates appear to be related to the fact that the earnings of their prospective husbands are low relative to the alternative sources of income available to them.

These are the substantive findings in a nutshell. A wealth of more detailed information can be found in the tables. A number of methodological or conceptual wrinkles in the paper also distinguish it from previous work. These include the use of a Heckman technique to correct for selection bias in the sample of people who remarry, the pooling of observations according to their timing in relation to the event of divorce, and the adoption of a functional as opposed to a legal definition of marriage and divorce.

In my comments on the paper, I will focus on five issues: selection bias, child care expenses, investment in human capital, remarriage patterns, and policy implications.

With respect to selection bias, the authors give most of their attention to analyzing whether women who remarry are different (in ways that cannot be measured) from those who do. They found what appeared to me to be no evidence in favor of such selection bias. The estimated coefficient

on the selection bias variable was positive but less than its own standard error. In spite of this they give a lot of attention to the results from the equation that includes this coefficient, attributing the shift in the race coefficient, for example, to a selection bias effect. I think they are misinterpreting what is probably just a case of unstable coefficients. In addition, if one is worried about selection bias, this may not be where one should look for it first. The counterfactual case for most of the analysis of changes in the economic well-being of men and women after divorce is, or should be, concurrent changes in the economic status of intact families. But suppose that people who divorce are different (either in measurable or nonmeasurable ways) from those who do not. Then all of the findings reported in the tables and summarized above would need to be modified to adjust for this fact.

Another kind of bias present in the authors' results stems from the failure to adjust gross income for child care expenses. If most divorced women with children have significant work-related expenses that their exhusbands do not have, and we compare the relative economic status of the two groups after divorce without adjusting for this fact, we will underestimate the differences in net income. The authors are careful to adjust for differences in family size and in child support or alimony obligations. Although not a major omission, child care expenses should ideally be added to this list.

Turning to the human capital issue, as a member of the "second sex," I find it somewhat depressing that the only way to improve one's economic status after divorce is to find another man. But before I get too gloomy about this finding, I would want to see more analysis of how women who actually make investments in additional education or new careers after a divorce fare relative to those who do not, and what happens beyond the first five years. Earnings in the first few years after divorce might actually be depressed by a decision to go to school but be higher at a later point in time. I doubt that such an analysis would change the basic conclusions of this paper but it would be an interesting addition to someone's future research agenda.

Turning to the determinants of remarriage among women, we have not advanced far from where we were eight years ago when I first used the PSID to examine this question. Other than age and race, there are no robust predictors, and the reasons for the large race differential remain elusive. It might be instructive in this regard to analyze the remarriage rates of men to see if similar patterns hold and to develop better conceptual models for both sexes that involve examining transition probabilities between different marital states using a more creative set of independent variables. Although I doubt that we will ever be able to explain much of the observed variation among individuals, we should be able to do better than we have to date.

Finally, let me say something about the policy issue that appears to have motivated this research. Duncan and Hoffman note that "a crucial question is whether policies that might encourage the currently unmarried to marry would provide the same kind of economic benefits that are enjoyed by the women and children who were involved in a remarriage" (p. 450). I do not think this is the crucial question, or even the right question. It is only the Moral Majority, after all, that is advocating using government policies to encourage marriage. The right question is whether government policies are neutral or whether they are inadvertently destabilizing family life. And if the latter, is this a cost we are willing to pay to achieve some other benefit such as providing an income floor for dependent children? Duncan and Hoffman find weak evidence, at best, that the current AFDC program discourages remarriage. In my opinion, this is the issue to which more research should be devoted.

Let me conclude by saying that the authors have provided us with a lot of useful new information, most of it descriptive, about the economic consequences of divorce and separation. I hope they will continue to till this particular field because they do it quite well.