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THE EARNINGS OF MEN AND REMARRIAGE

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ABSTRACT

Focusing on the effects of men's earnings, this paper analyzes remarriage. Previous empirical research has not established what theoretical aspects of men's earnings are important. Here, data for Wisconsin high school graduates that include each male respondent's Social Security earnings history are analyzed. The results indicate that absolute earnings, earnings instability, and earnings relative to peers have minimal effects on a man's probability of remarriage, but that permanent income positively affects remarriage. However, studies of marital disruption normally find permanent income is not as important as relative earnings measures. Concluding remarks speculate about the meaning of these contrasting findings for the economics of marriage.

1. INTRODUCTION

The number of persons who remarry has increased for two reasons. First, more people are eligible due to the increase in marital disruption, and, second, a rising proportion of those eligible remarry (Sweet, 1977). Most eligible persons do remarry. Thornton (1975) found that 83% of women interviewed for the 1970 National Fertility Survey remarried by the ninth year after marital disruption, with 52% remarrying within three years. Using male respondents from the 1967 Survey of Economic Opportunity, Sweet (1973) reported that 75% of those whose first marriage terminated prior to age 40 had remarried. Clearly, who remarries, how quickly they remarry, and what factors affect the stability of second or higher order marriages are becoming more important questions.

This work studies the influences that lead to remarriage by focusing on the effects of men's earnings. Our data are from the Wisconsin Study of Social and Psychological Factors in Socioeconomic Achievement, which includes each male respondent's Social Security earnings history. We first review the literature on the economics of remarriage and evaluate the empirical evidence from previous studies. We then discuss the data source, our models, and the measurement of our variables. After presenting the results, the concluding section relates our findings to those of previous studies.

2. HYPOTHESES AND PREVIOUS FINDINGS

Because our earnings data are for males only, we emphasize here the hypotheses and evidence about the relationship of men's earnings to the

probability that they remarry. The theoretical and empirical literature on the role of earnings in affecting the likelihood that women remarry sets forth hypotheses that differ from those for men. Because women traditionally specialize in home work and/or tend to interrupt their fulltime work experiences with periods of time devoted to child-rearing, women's earnings are usually viewed as an alternative to spousal support, leading to an emphasis on the degree of independence their earnings appear to permit. There is no analogous hypothesis for men. In addition, women usually retain custody of children after a marriage ends; this renders them categorically eligible for income transfer payments that are not generally available to men and that provide a source of income that may compete with the spousal support available from marriage. Thus, for women but not men, it is believed that the availability of welfare benefits inhibits remarriage. The empirical evidence tends to confirm both of these hypotheses about women (MacDonald and Sawhill, 1978).

The primary hypothesis about male earnings and the probability of remarriage is that the higher the man's earnings are, the more likely he is to remarry. One formulation of this hypothesis stems from two closely related ideas about male earnings and the expected gains from marriage. According to Becker (1977), the economic gains from marriage are primarily due to the division of labor between spouses. In searching for a prospective spouse, a man supposedly attempts to attract a woman whose productive attributes best complement his own; the more productive attributes a man has, the more likely he is to attract a desirable spouse. Thus men with high earnings gain more from marriage and therefore have higher remarriage probabilities. Becker wrote in reference to high-income men:

In the optimal sorting they marry women with relative low earnings potential, greater physical attractiveness and superior other nonmarket characteristics. Therefore, men with relatively high earnings potential gain more from marriage than men with relatively low earnings potential, not only because of the higher level of their income but also because of greater gains from specialization within marriage, since their mates have a comparative advantage in specializing in nonmarket investments. (Becker et al., 1977, p. 1146).

An earlier statement by Sweet (1973) also notes that high-income men are more attractive, but emphasizes the relatively greater family burden a low-income man bears in exchange for home productivity gains, particularly if his earnings are unstable. In addition, Sweet seems to take a more neutral stance about the prevalence of the traditional sexual division of labor implicit in Becker's view. He suggests that low-income men might be more likely to remarry in order to share pooled incomes:

Clearly a man with a relatively large income would be in a better market position to attract a potential spouse than one who earns very little. He may also be more inclined to remarry as well. The man whose income is low and often unstable from month to month and year to year may prefer not to remarry and spread his meager income over a large number of consumers. On the other hand, he may perceive it to be to his advantage to marry and pool his income with that of a working wife (Sweet 1973, pp. 12-13).

In brief, the literature's main hypothesis about earnings and remarriage refers to the expected permanent level of the man's earnings. However, Sweet also expects that the uncertainty associated with income instability could lead to increased or reduced remarriage probabilities, depending on how men react to this uncertainty.

Previous empirical research has not established what theoretical aspects of male earnings are important for remarriage. Glick and Norton (1971) found a positive zero order relationship between men's 1966 earnings and whether a remarriage had occurred by 1967 in the Survey of Economic Opportunity (SEO). Multivariate SEO analyses by Sweet (1973) and Becker

et al. (1977) confirm this finding, using different specifications of the dependent variable and different analysis techniques. Becker et al. conducted a logit analysis of the effect of 1966 earnings on the log-odds that a man had remarried within 2, 5, 10, and 15 years after a divorce (apparently separated men were excluded). Sweet used ordinary least squares to determine the effect of the same earnings variable on the probability that a man would have remarried by 1967. Time since marital disruption entered this analysis as a control variable, and separated as well as divorced men were included in the sample on the grounds that there is often no need to obtain a divorce until contemplating remarriage. Sweet also studied the effects of occupation and education. Remarriage was generally more prevalent among men in high status occupations, but there was no consistent pattern of effects among education categories. Becker et al. obtained similar results for education but did not examine occupation.

Sweet quite appropriately emphasized that income and occupation were measured only in 1967 (for 1966) and "not necessarily at the time that the person was likely to be remarrying." This suggests certain methodological problems:

1. For younger men, 1966 income may not be an accurate measure of permanent income. To illustrate, a surgical intern's annual income would not represent his potential earnings as well as a beginning plumber's represents a plumber's, because their age-earnings profiles are very different.

2. By measuring earnings at a time subsequent to the remarriage decision, it is possible that researchers are confounding the effects of earnings on remarriage with the effects of remarriage on a man's earnings.

3. With respect to the possibility of effects of earnings instability on remarriage, another difficulty is that instability must be defined in relation to some normal level, requiring more than one observation. For this reason, the SEO investigators could not analyze income instability effects.

There is some evidence that suggests the first problem may be quite serious. Duncan's multivariate analysis of the Panel Study of Income Dynamics (1976) revealed that 1967 income had no effect on whether men who were unmarried in 1968 had remarried by 1974. However, interpreting this result is complicated by the fact that Duncan's sample consisted of both never-married and previously married men. Income might affect first marriages differently than remarriage.

In summary, a review of previous studies reveals that the effects of income on remarriage are thought to be much different for women than for men. Income from earnings or government transfer payments is thought to offer women independence from the need for spousal support, as confirmed by the bulk of the empirical evidence. For males, increased permanent incomes are expected to promote remarriage by improving their marriage market positions. Becker posits that this also leads to greater gains from marital work specialization, while Sweet mentions two alternatives-- low-income men may be more reluctant to share their own income, or they may wish to pool that income with a wife's market earnings. Three studies of the 1967 Survey of Economic Opportunity revealed a positive income-remarriage relationship. However, these findings are based on an income report for a single year, raising the possibility that the use of either a permanent income measure or a measure of income instability

might yield different results. Another study, based on Panel data, revealed no effect of men's 1967 income on marriages between 1968 and 1974.

3. DATA, MODELS, VARIABLES

The Wisconsin Study data permit investigation of the relationship between the likelihood of remarriage and several aspects of men's earnings, including annual earnings for the year after the marital disruption, a measure of long-run permanent income, an earnings instability measure, and the man's earnings relative to that of other men with similar characteristics. This last variable is tested as a new measure of marriage market attractiveness.

The Wisconsin Study of Social and Psychological Factors in Socio-economic Achievement is a longitudinal, random sample of 10,317 persons who were Wisconsin high school seniors in 1957 (Sewell and Hauser, 1975). A follow-up study was executed in 1975, obtaining completed interviews from 9,138 respondents, or 88.5% of the original sample. Among other things, these interviews obtained detailed marital and fertility histories. Furthermore, for all male members of the 1957 Wisconsin cohort, we have annual Social Security earnings records from 1957 through 1971. We use elaborate procedures to safeguard the identity of individuals. A disadvantage of this data set is that one cannot generalize the results for application to men who are not high school graduates.

Our sample for this analysis is restricted to 413 males whose first marriages ended in divorce or separation. We included those men whose marriages ended in separation because, for some subgroups of the population,

official termination of a marriage is not likely nor necessary unless a remarriage is imminent (Sweet, 1973). We predict whether a man will remarry, using multiple regression with a dichotomous dependent variable which is scored one if the man remarries, zero otherwise. There are well-known econometric problems associated with estimation based on a dichotomous dependent variable (see Goldberger, 1964). However, these problems are of less concern when the mean probability ranges between 0.25 and 0.75 (Goodman, 1976). Because our sample's mean probability of remarriage is 0.60, we employ ordinary least squares.

To measure differences in the period of "eligibility" or exposure to the risk of marriage that begins at separation, the variable EXPOS is the number of months from the time the respondent stopped living with his first spouse until the time of the 1975 survey interview. We also include in our models the duration of the first marriage in years (NDURFM), calculated as the number of years from the beginning of the first marriage to the time when the respondent stopped living with his first spouse. It could be argued that the longer the duration of marriage, the higher the likelihood of remarriage, since the man would be more accustomed to being in the married state. Becker's (1977) analysis suggests that for men, duration of first marriage has a small, positive, yet statistically significant effect on remarriage during the first five years after the termination of the first marriage.

Our first measure of a man's financial attractiveness is his annual earnings (in constant 1972 hundreds of dollars) in the year subsequent to the disruption of his first marriage (YSPLAT).

To tap the effects of earnings instability on the remarriage probabilities of men, we calculated the ratio of earnings in the year after the split to his "normal earnings," defined as the average earnings received during the three years previous to the analysis period. The use of this ratio presumes the impact of earnings instability depends on its magnitude with respect to normal earnings. Two dummy variables were created for use as explanatory variables, one indicating whether the ratio exceeded 1.40 (AN, or above normal) and another (BN, below normal) for respondents whose ratio was less than .90. (The cut-off points are not equidistant from 1 since the data are for a period of men's lives when their earnings increase quite rapidly).

When a potential mate considers the financial attractiveness of marrying a given man, it is possible that she not only considers the level of his current earnings but also how well he is doing relative to other men she knows (e.g., her friends' husbands). As a measure of this type of attractiveness, we calculated the ratio of the man's earnings in the year after he stopped living with his first spouse to his "expected" earnings--that is, the earnings he would have received if he had the same rate of return to productive attributes as his peers. To obtain the denominator of this ratio, we estimated the parameters of a regression of absolute earnings in that period on whether or not the respondent was raised in a town of fewer than 2,500 persons, his IQ score, normalized rank in high school class, whether he was enrolled in a college preparatory program, and his education attainment level in the year previous to his marital disruption. The sample for these regressions was all men in the original cohort who had no missing data for earnings during that year. We then used these parameters to obtain a predicted

earnings value for each individual. Implicitly, then, the peers we had in mind are those of similar intelligence, school preparation, high school rank, and educational attainment. For analysis, our two dummy variables were BETTER (expect less) when earnings relative to peers exceeded 1.25, and WORSE (expect more) when relative earnings were less than 0.75.

In addition, because marriage is usually viewed as a long-term commitment, we would expect that permanent income (PER45) may be a more important determinant than annual earnings in the year after disruption (YSPLAT). PER45 (expressed in hundreds of dollars) estimates the husband's earnings at age 45 by multiplying his report of total income in 1974, when he was about age 35, by a ratio of average incomes earned at age 45 to average income at 35 for men in his three-digit 1974 occupation. This ratio was derived from an extract of the 1970 Census public use sample for a population of men with characteristics similar to those of our sample.

Other measurement strategies are not feasible. What seems to be the best alternative strategy is to (1) pool across time periods, (2) estimate an earnings model which provides parameters for each individual and (3) obtain an income predicted at age 45 by using the parameters in the earnings model, the parameter for the individual, and substituting in the individual's values using 45 as his age. However, we would have only one or two years with which to obtain the individual parameters for a proportion of our sample, because some men remarried during the early part of the span of earnings histories. Hence, although PER45 is problematic, it is clearly superior to other available strategies.

Furthermore, a man in the remarriage market with children from his previous marriage usually has additional demands on his earnings because of child support payments. To assess the remarriage impact of these alternative demands on men's earnings, we constructed two variables. KIDS is scored 1 if the man had reported that any of his children were born prior to the time he separated from his first wife. We then multiplied this dummy variable by YSPLAT (actual earnings in the first year after he stopped living with his spouse) to produce a variable YSPKIDS. We hypothesize that the effect of this variable should be negative--that is, high earnings make a man an attractive marriage partner, but this attractiveness decreases if the man has children to support.

The remaining variables are more sociological in nature. We include REL, a dummy variable for religion which is coded 1 if the respondent's family of origin was Catholic and 0 otherwise. Religion in the family of origin was used instead of religion at time of interview, since marital events could affect one's religious affiliations. Divorce and remarriage are grounds for excommunication in the Catholic Church. One would expect that not only are Catholics less likely to experience a marital disruption (for evidence, see Wolf and MacDonald, 1978; Sweet, 1973) but are also less likely to remarry. Finally, we include EDSPLIT, the number of years of schooling completed by the man by the time he separated from his first wife. This serves as another indicator of attractiveness of the marriage market. Other standard variables reflecting differing social norms were not included, because the sample is quite homogenous with respect to such variables as race and region of the country.

Results

Table 1 presents the means, standard deviations, and correlation matrix of the variables in our models:

- (1) $\text{Remar} = f(\text{YSPLAT}, \text{PER45}, \text{AN}, \text{BN}, \text{KIDS}, \text{YSPKIDS}, \text{EXPOS}, \text{NDURFM}, \text{REL}, \text{EDSPLIT})$
 (2) $\text{Remar} = f(\text{YSPLAT}, \text{PER45}, \text{BETTER}, \text{WORSE}, \text{KIDS}, \text{YSPKIDS}, \text{EXPOS}, \text{NDURFM}, \text{REL}, \text{EDSPLIT})$

We present the matrix of intercorrelations to suggest that our inclusion of so many earnings variables need not produce serious multicollinearity problems. It should be noted that the intercorrelations between YSPLAT, PER45, AN, BN, BETTER and WORSE are not extraordinarily high (never exceeding .294). Of course, the correlation of YSPLAT with YSPKIDS is quite a bit higher, but this is a result of the method of constructing this interaction term. Nevertheless, we estimate two separate equations (one with earnings instability included and one with earnings relative to peers) to avoid the criticism of those who might believe that both of these sets of variables are tapping the same concept.

The results of the models are in Table 2. Model 1 appears in Column (1); Model 2 in Column (3). Variations on Models 1 and 2 appear respectively in Columns (2) and (4). By excluding PER45, these variations help to evaluate the extent of any multicollinearity problems.

For Model 1 a perusal of the coefficients for the earnings variables indicates that only permanent income has a statistically significant effect on remarriage. This effect is positive, such that a \$10,000 increase in permanent income increases the probability of remarriage by 0.08. Although the effect is not particularly large, the direction is as expected. We had hypothesized that because marriage is traditionally

Table I

Means, Standard Deviations, and Correlation Matrix for Remarriage Model Variables

	REMAR	YSPLAT	PER45	AN	BN	YSPKIDS	KIDS	REL	NDURFM	EXPOS	EDSPLIT	BETTER	WORSE	\bar{X}	S.D.
REMAR	1.00	-.018	.091	.222	-.039	-.154	-.150	-.119	-.420	.563	-.099	.091	.051	0.60	.489
YSPLAT		1.00	.182	.142	-.208	.580	.022	.043	.061	.041	.077	.264	-.165	99.2	82.0
PER45			1.00	-.040	.037	.176	.042	.054	.089	-.92	.280	.276	-.173	166.	90.1
AN				1.00	-.181	-.130	-.133	-.029	.384	.495	-.009	-.063	.166	.179	.384
BN					1.00	-.150	-.043	-.044	.076	-.157	.050	-.137	.294	.131	.337
YSPKIDS						1.00	-.605	.051	.421	-.277	.177	.410	-.369	73.6	73.3
KIDS							1.00	.016	.480	-.252	.026	.193	-.269	.734	.443
REL								1.00	.037	-.034	-.018	-.063	-.015	.312	.464
NDURFM									1.00	-.747	.109	.138	-.195	6.23	3.99
EXPOS										1.00	-.284	-.033	.154	79.9	52.2
EDSPLIT											1.00	.059	-.025	13.2	2.01
BETTER												1.00	-.393	.291	.455
WORSE													1.00	.274	.446

Table 2

Coefficients, Standard Errors, and Standardized Coefficients from Regression Models of Remarriage

	(1)			(2)			(3)			(4)		
	b	S.E.	β	b	S.E.	β	b	S.E.	β	b	S.E.	β
YSPLAT	-.0009	.0036	-.099	-.0005	.001	-.077	-.0007	.001	-.112	-.0066	.005	.099
PER45	.0008*	.0002	.148*	--	--	--	.0007*	.0002	.133*	--	--	--
AN	-.0820	.060	-.064	-.0932	.062	-.073	--	--	--	--	--	--
BN	.0361	.061	.025	.0491	.061	.034	--	--	--	--	--	--
YSPKIDS	.0005	.001	.074	.0005	.0005	.080	.0003	.0005	.044	.0002	.001	.031
KIDS	-.0611	.0693	-.055	-.0643	.070	-.058	-.059	.069	-.054	-.059	.069	-.003
REL	-.1100*	.042	-.104*	-.1023*	.043	-.097*	-.102*	.043	-.097*	-.092*	.043	-.007*
EXPOS	.0064*	.006	.649*	.0062*	.001	.660*	.0056*	.001	.600*	.0056	.001	.063
EDSPLIT	.0081	.011	.033	.018	.011	.074	.0068	.011	.028	.016	.011	.064
BETTER	--	--	--	--	--	--	.093	.051	.086	.126*	.050	.117*
WORSE	--	--	--	--	--	--	.0019	.049	.002	-.009	.050	-.001
NDURFM	.0033	.008	.026	.0045	.0086	.037	.0024	.009	.020	.0033	.001	.027
N		413			413			413			413	
Constant		-0.032			-0.063			-0.022			-0.005	
R ²		0.360			0.340			0.362			0.347	

*Significantly different from zero at the 0.05 level.

viewed as a permanent arrangement, permanent income would be a positive influence.

Even when PER45 is excluded from the models, YSPLAT remains insignificant, indicating that multicollinearity with permanent income is not responsible for the small effects of absolute earnings. In addition, the earnings instability variables lack important effects. Perhaps men with high earnings instability are viewed as especially poor mates, offsetting the possible desires of these men to marry someone with a more stable earnings stream.

KIDS likewise lacks an important effect, suggesting that, for a man, children from the first marriage do not restrict his ability to remarry. Of course, this is quite different from the usual empirical results for females, where children negatively affect the probability of remarriage. On one hand, this seems reasonable because mothers have traditionally been awarded custody of the children. On the other hand, fathers have traditionally been at least legally responsible for some amount of child support. Our results for KIDS suggest that these varying amounts of additional financial responsibility do not affect the father's marriage-ability. The interaction term YSPKIDS also lacks substantive importance, suggesting that the effect of absolute earnings on a man's remarriage probabilities does not vary depending on whether there were children in the first marriage. Here again we were trying to determine the effects of a father's financial responsibilities for child support on remarriage. Either these additional responsibilities have no effects on the likelihood of remarriage, or our indicator is poor. Both explanations seem plausible.

A measure of actual child support payments certainly could have improved our estimates.

Turning to the control variables, EXPOS has a powerful positive effect, as was expected for a measure of exposure to the risk of remarriage. However, the duration of the first marriage has no statistically significant or substantively important effect. This is not necessarily in conflict with the results of Becker et al. (1977), who found that the duration of the first marriage positively affects remarriage only during the first five years after the termination of marriage and has no effect thereafter. Since we are averaging this effect over many years of risk, we may average a strong and a weak effect, and obtain an insignificant one.

EDSPLIT is not important, which is not surprising when other measures of "status in the community" are held constant.

Finally, if the respondent's family was Catholic, he is 11% less likely to remarry. This suggests that the norm against divorce and remarriage prevalent in Catholic families not only increases the likelihood of marital disruption but also decreases the likelihood of remarriage.

The results for Model 2 are quite similar to those of Model 1, with EXPOS, PER45 and REL all having statistically significant effects on remarriage. The substitution of earnings relative to peers for earnings instability has little impact on the other parameters of our estimated model. Although statistically significant only when PER45 is excluded, BETTER has a sizable effect in the expected direction. An income greater than one's peers apparently increases the probability of marriage by about 10%, though this result may be due to chance. Overall, it again appears that a man's permanent income has the greatest effect on his attractiveness as a marriage partner in terms of income.

The fact that permanent income is a more important determinant of remarriage than are our other measures of economic status is not surprising. It seems reasonable that a woman would evaluate a man's attractiveness as a husband by his long-run earnings potential rather than by his earnings in any particular year. We find it intriguing that permanent income is a more important determinant of remarriage than either of the two measures of relative economic success (i.e., relative to the man's normal earnings or relative to his peers'). This is in contrast to the results from research on marital disruption by Wolf and MacDonald (1978) and Ross and Sawhill (1975), which suggest that permanent income is less important than relative earnings measures. Yet the differences between the results for remarriage and divorce may not be as perplexing as they first appear. In the marriage market, women are free to use long-run permanent income as a criterion for evaluating their potential spouse's financial attractiveness. On the other hand, it would not be reasonable for a woman, already married and contemplating divorce, to evaluate her husband's performance on the basis of absolute criteria such as permanent income. Rather, she may judge whether he is performing up to her expectations relative to his earnings history or his productive attributes.

4. CONCLUSION

Previous research on the economics of remarriage left ambiguous the nature of the relationship between a man's financial attractiveness and his probability of remarriage. These studies relied on a single income variable, absolute earnings, whereas the hypotheses concerning the

economics of remarriage consider the influence of different aspects of remarriage, such as long-run permanent income and earnings instability. The availability of earnings histories in our data allow us to study several aspects of a man's earnings. In addition, these histories help to solve some of the methodological problems of earlier studies. Nevertheless, it should be kept in mind that our results are for a sample of Wisconsin high school graduates only.

Our results indicate that absolute earnings, earnings instability, and earnings relative to peers have minimal effects (if any) on a man's probability of remarriage, but that long-run permanent income positively affects remarriage. With respect to previous research, these findings are consistent with the results of studies based on the Survey of Economic Opportunity but tend to refute the Panel Study of Income Dynamics finding that income has no effect on marriage probabilities.

We find it interesting that our research has shown permanent income is more important for remarriage than other studies have shown it to be for marital disruption. Therefore we speculate that women in the marriage market are free to use absolute criteria when evaluating the financial attractiveness of a potential mate, whereas women contemplating divorce may mainly evaluate their spouse's performance relative to his history or his peers' performance.

Although this analysis clearly contributes to the literature, the increasing prevalence of remarriage necessitates further work to resolve remaining methodological problems in a nationally representative data set.

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