

THE RISE OF DIVORCE AND SEPARATION IN THE UNITED STATES, 1880–1990*

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I use the Integrated Public Use Microdata Series to assess the potential effects of local labor-market conditions on long-term trends and race differences in marital instability. The rise of female labor-force participation and the increase in nonfarm employment are closely associated with the growth of divorce and separation. Moreover, higher female labor-force participation among black women and lower economic opportunities for black men may account for race differences in marital instability before 1940, and for most of such differences in subsequent years. However, unmeasured intervening cultural factors are probably responsible for at least part of these effects.

Marital dissolution for reasons other than widowhood has increased dramatically over the course of the past century. Only about 5% of marriages contracted in 1867 ended in divorce, but over one-half of marriages contracted in 1967 are expected to end in divorce (Cherlin 1992; Preston and MacDonald 1979). Scholars and commentators have consistently explained this change as a product of the changing sexual division of labor. Writing in 1893, Durkheim (1960 [1893]) pointed to the sexual division of labor as a source of interdependence between men and women, producing what he called “organic solidarity.” Durkheim warned that if the sexual division of labor receded, “conjugal society would eventually subsist in sexual relations preeminently ephemeral” (p. 60). Fifty-six years later, Parsons (1949) expanded on this theme, maintaining that sex-role segregation prevents disruptive competition between husbands and wives. The argument was formalized by Becker (1981), whose economic model assumed that the chief benefit of marriage arises from the interdependence of men and women, which in turn results from the specialization of women in domestic production and men in market work. The model predicts that when women obtain another source of income (either by market labor or through welfare) the incentive to remain married declines.

Less conservative scholars use different terminology, but most stress the same agent of change. They argue that

the rise in economic opportunities for women was a necessary condition for the increase in divorce and separation (Cherlin 1992; Degler 1980; McLanahan 1991; Ross and Sawhill 1975). According to this interpretation, women in the past who lacked independent means of support were often trapped in bad marriages; as the opportunities for female wage-labor expanded, women were increasingly able to escape and live on their own. Thus, the rising economic power of women undermined patriarchal authority and destabilized marriages.

Although the language varies, scholars of all political stripes largely agree about what happened. Those on the right bemoan the decline of marital interdependence resulting from the breakdown of the sexual division of labor. On the left, scholars applaud the decline of patriarchal authority that resulted from the increasing economic power of women. But virtually everyone agrees that as married women increasingly began to work outside the home, the economic logic of traditional marriages was undermined and the frequency of divorce and separation increased. As Cherlin (1992) put it, “almost every well-known scholar who has addressed this topic in the twentieth century has cited the importance of the increase in the employment of women” (p. 51).

Oppenheimer (1994) dissents from the near-universal explanation of rising marital instability in terms of increasing female economic opportunity. She argues that theorists have neglected the effects of declining economic opportunities for men. She points out that the labor-force participation of young men has declined significantly since the 1960s, especially among blacks. Moreover, average real earnings of young men have deteriorated. These changes, according to Oppenheimer, have contributed both to declining marriage rates and increasing divorce and separation by reducing the pool of desirable husbands.

Although economic theories predominate, some scholars have also emphasized cultural explanations for rising marital instability (May 1980; Riley 1991; Thornton 1989). The social stigma associated with divorce clearly has diminished, and this has contributed to a decline in legal barriers to divorce. The rise of individualism associated with urbanization and industrialization has meant increasing emphasis on self-fulfillment and growing intolerance of unsuccessful marriages. In essence, the cultural argument suggests that marriages in the past tended to be governed more by social norms and less by rational calculation to maximize individual happiness. Since the nineteenth century, increasingly individualistic values could have simultaneously contributed

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to rising female market-labor participation and to rising marital instability.

ANALYTIC STRATEGY, DATA AND VARIABLES

I investigate the effects of long-term changes in the employment patterns of males and females on divorce and separation. Remarkably little research has been conducted on this topic, in part because of a lack of appropriate data. In all periods, divorced and separated women were far more likely to work than were married women, but that might be simply because they had no other source of income. Therefore, individual-level analysis of the effects of female employment on divorce and separation cannot be carried out with cross-sectional data. There is no way to determine if the divorce resulted from employment or the employment resulted from divorce.

Several studies have used longitudinal data to show that wives who work are more likely eventually to divorce than are wives who stay at home, and that stable employment of husbands is associated with stable marriages (Cherlin 1977, 1979; Greenstein 1990; Hannon, Tuma, and Groeneveld 1978; Ross and Sawhill 1975; Spitze and South 1985). Such longitudinal analyses, however, are limited in two respects. First, the necessary longitudinal data are only available for the period since the 1970s, so longitudinal studies cannot tell us about long-term change. Second, such studies do not fully capture the effect of changing female labor-market opportunities; some women may end a marriage because they know they can find a job, even if they do not actually have one.

Even if one cannot analyze the effects of employment patterns on divorce and separation at the individual level, the U.S. census provides sufficient data to assess the relationship between local labor-market characteristics and marital instability. This study is based on the Integrated Public Use Microdata Series (IPUMS), which provides compatible individual-level census data for 11 census years (Ruggles and Sobek 1995).¹ The IPUMS samples for the census years 1880, 1910, 1940, 1970, 1980, and 1990 contain sufficient cases, variables, and geographic detail to define a set of local labor markets based on metropolitan areas, county groups, and public use microdata areas.² Unlike published statistics for local areas, the microdata allow construction of a compatible set of labor-market measures for each geographic district across a broad span of time.

Despite the strength of the historical census microdata, the census has some limitations for the analysis of long-run changes in marital instability. In most years, the census provides information only about current marital status—formerly divorced or separated persons who have remar-

ried cannot be identified. Thus, the census does not allow a pure study of marital instability; instead, it allows analysis of the combined effect of divorce, separation, and remarriage. This does not pose a major theoretical problem, however. If labor-force changes made it more feasible or desirable for couples to divorce or separate, such changes should also increase the feasibility or desirability to remain divorced or separated. For example, if declining economic specialization of the sexes has contributed to a decline in the value of marriage, as Becker hypothesizes, that change should result in increased divorce and reduced remarriage. Similarly, the precarious economic circumstances of young men cited by Oppenheimer could contribute to divorce and at the same time make it harder to find a suitable spouse for remarriage.³

A second limitation of the census for the analysis of marital instability is the potential for a chronological mismatch between the available measures of the labor market and of marital instability. Divorces and separations may have occurred years before the census was taken, but the available labor-market measures refer to the day the census was taken. To minimize this problem, I limit the analysis to persons aged 20–39 at the time of the census. The 1950 PUMS includes a variable on the duration of current marital status that shows that 77% of divorces and separations among persons aged 20–39 occurred within the previous five years, and 92% occurred within the previous decade. The marital disruption in this age group occurred, on average, 3.8 years before the census. Assuming that the other census years were similar, the problem of chronological mismatch is not great. Nevertheless, any short-run shifts in local economic conditions will blur the results and contribute to underestimated coefficients.⁴

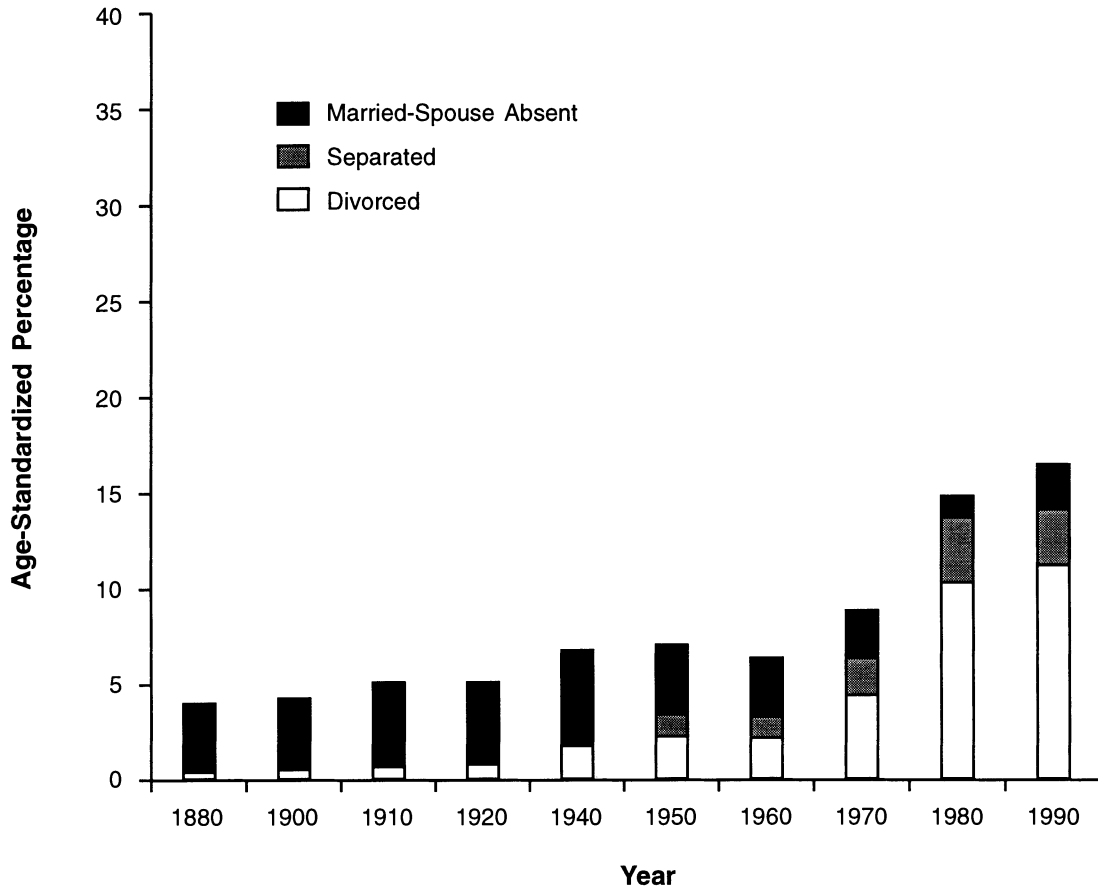
3. The observed frequency of marital instability in the census is also affected by differences in mortality among the divorced, separated, and married populations, but this problem is comparatively modest. Another potential problem with the census as a source for the study of marital instability concerns the reliability of the marital status variable. Jacobson (1959) carried out a components-of-change analysis that concluded that the early twentieth century censuses understated divorce by as much as 60%. This figure is almost certainly exaggerated: There are no reliable data on the remarriage rates of divorced persons in this period and Jacobson's guesses appear to be unrealistically low. Nevertheless, the social stigma of divorce probably led to some misclassification of divorced persons as single, widowed, or married-spouse absent in all periods, and such understatement is probably most severe in earlier census years.

4. Migration between the dissolution of a marriage and the date of the census could also blur results. Women who divorce or separate might be expected to migrate to places where they can find work, which could lead to a spurious association between female labor-force participation and marital instability. This appears, however, not to be a significant factor for two reasons. First, the effects of female market-labor participation are just as strong for men as for women in every census year. Second, I carried out a state-level analysis using state of birth as an indicator of migration and found that the relationship between female labor-force participation and marital instability was actually *stronger* for nonmigrant women than for migrant women. Although intrastate migration could operate differently than interstate migration, it is unlikely that the effect of migration would reverse. Thus, divorced and separated women do not appear to have systematically migrated to places with better job opportunities.

1. The IPUMS database and documentation are available on the World Wide Web at <http://www.ipums.umn.edu> or by anonymous ftp at <ftp.hist.umn.edu>. For a detailed description of the data, see Ruggles and Menard (1995).

2. The other IPUMS census years cannot be used because they lack key variables (1850), incorporate too few cases in their present form (1850, 1900, 1920), include a key variable only for a small subset of cases (1950), or lack sufficient geographic detail (1960).

FIGURE 1. AGE-STANDARDIZED PERCENTAGE DIVORCED, SEPARATED, AND MARRIED-SPOUSE ABSENT: U.S. EVER-MARRIED WHITES AGED 20-39



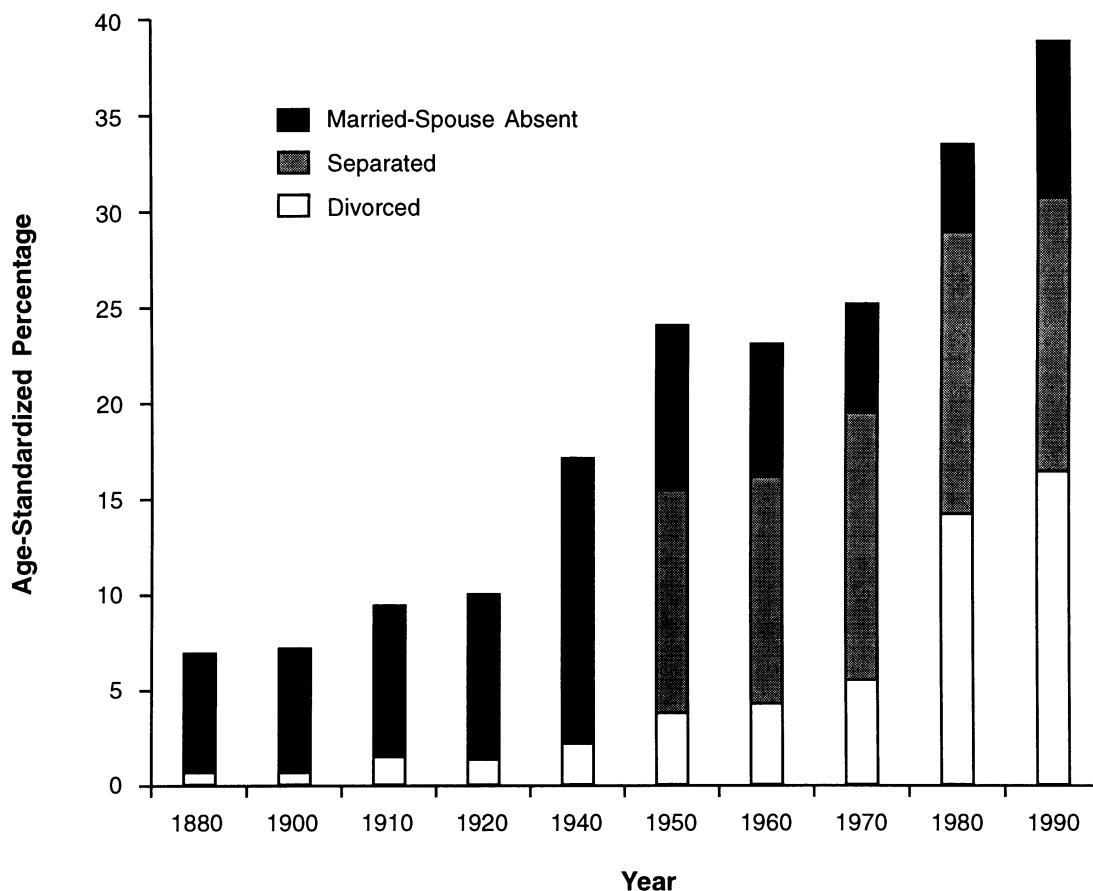
Notes: Data exclude the widowed population. The standard population is the U.S. population in 1940.

A third limitation of the census as a source for the study of long-run change in marital instability is that the census changed the classification scheme for marital status between 1940 and 1950, adding a category for “separated” persons. Figures 1 and 2 show the percentage, by race, of persons listed as divorced, separated, or married with no spouse present from 1880 to 1990, as tabulated from the IPUMS. The sharp drop in the percentage classified as married-spouse absent between 1940 and 1950 suggests that most people listed as separated in 1950 would have been classified as married-spouse absent in 1940. The U.S. census has always been conducted on a *de jure* basis. Persons are enumerated at their usual place of residence, even if they are temporarily absent. Therefore, persons listed as married who have no spouse listed within the household should, at least in theory, ordinarily reside separately from their spouse. Thus, it makes sense to classify married-spouse absent persons together with persons actually listed as separated.

The relative frequency of separated persons compared with divorced persons depends in part on divorce laws that vary across states and across time. To maximize geographic and chronological comparability, my analysis focuses on the combination of all three varieties of disrupted marriages. My dependent variable is the probability of eligible persons being divorced, listed as separated, or listed as married but with no spouse present. Eligible persons are defined as those who were ever married but not widowed aged 20-39. As Figure 1 shows, the overall percentage of divorce and separation among whites under this definition increased some 500% between 1880 and 1990. The percentage of divorce and separation among blacks, shown in Figure 2, was a little more than twice as great as among whites in every census year.⁵

5. Note that although the crude divorce rate declined after 1980 and the remarriage rate remained about the same, the relative frequency of divorced persons actually rose slightly, and the lifetime probability of divorce

FIGURE 2. AGE-STANDARDIZED PERCENTAGE DIVORCED, SEPARATED AND MARRIED-SPOUSE ABSENT: U.S. EVER-MARRIED BLACKS AGED 20-39



Notes: Data excluded the widowed population. The standard population is the U.S. population in 1940.

Table 1 gives the definitions of the labor-market variables used in the analysis, and Table 2 shows their mean values for each census year. For the period 1880-1940, the districts are State Economic Areas as defined in the 1950 census; for 1970 and 1980 they are county groups as delineated in the microdata samples for those years; and in 1990 they are Public Use Microdata Areas. In each census year, I used the largest sample available to construct labor-market measures for each district. Districts with fewer than 1,000 usable cases in the microdata samples were aggregated into larger units or excluded from the analysis.⁶ The geographic boundaries of

remained fairly stable. The difference between the trends in crude divorce rates and percentages divorced occurred partly because the crude rates do not control for changes in marriage durations, and partly because the vital statistics ignore changes in the timing of divorce and remarriage (see Martin and Bumpass 1989; Norton and Miller 1992).

6. In 1880, 1910, and 1940 I combined districts with under 1,000 usable cases into metropolitan and nonmetropolitan residual areas for each

the districts therefore vary over time and they tend to be somewhat larger in the earlier period when the nation was more sparsely settled. This does not bias the coefficients, but the finer geographic precision possible in the most recent census years probably contributes to smaller standard errors.

To obtain adequate samples from each district in each census year, I base the labor-market variables on the entire working-age population, here defined as persons aged 20-59. Market-labor participation is defined as the age-standardized percentage of married-spouse present persons not in school and aged 20-59 who were employed in market labor. This measure is a combination of the U.S. Census Bureau's

state. This was most often necessary in sparsely settled Western states and territories. In some instances, these residual districts still contained fewer than 1,000 usable cases, and these areas were dropped from the analysis. After 1940, all districts had over 1,000 usable cases. For 1880, 1910, and 1940 I used the full IPUMS samples; for 1970 I used the 5% and 15% County Group samples; and in 1980 and 1990 I used the 5% "A" samples.

TABLE 1. DEFINITION OF VARIABLES DESCRIBING LOCAL LABOR MARKETS

Variable	Definition
Female Participation	Age-standardized percentage in district employed in market labor or seeking work, among married-spouse present women aged 20–59 not attending school
Male Participation	Age-standardized percentage in district employed in market labor or seeking work, among married-spouse present men aged 20–59 not attending school
Low Female Opportunity	Age-standardized percentage in district with occupations that had median earnings of under \$2,200 in 1950, among women aged 20–59 employed in market labor
Low Male Opportunity	Age-standardized percentage in district with occupations that had median earnings of under \$2,200 in 1950, among men aged 20–59 employed in market labor
Nonfarm Employment	Percentage of all employed persons in district with nonfarm occupations

Note: The standard population is all persons aged 20–59 in 1940.

pre-1940 gainful employment concept and the modern labor-force concept, modified to exclude some unpaid family labor.⁷ The measure is restricted to the married-spouse present population to avoid any spurious associations between labor markets and marriage markets.⁸ As shown in Table 2, average market-labor participation for such women has increased almost fortyfold for whites and sixfold for blacks since 1880. Male participation has declined about 5% among whites and 17% among blacks, partly because of early retirement but mainly because of declining employment at younger ages.

7. There has been considerable debate about the long-run comparability of labor-force measures in the census, especially for women. Women have always been active in economic production, and the census misses much of that economic contribution. The greatest concern is the treatment of unpaid family workers. Such workers have probably been undercounted in all periods, but the problem appears to be greatest before 1940. Since 1940, the Bureau of the Census has used a “labor force” concept based on activity in a particular reference week. Before that time, the market-labor measure is based on “gainful labor” in which a person “is engaged ordinarily during the larger part of the time.” The less precise language of the earlier period is probably responsible for a greater undercount of unpaid family labor (Wright and Hunt, 1900). The exception is the 1910 census, when the enumerator’s instructions stressed the importance of recording unpaid family labor of women, which resulted in a substantial one-year surge in labor-force participation of married females (U.S. Bureau of the Census, 1910). The great majority of the additional workers were listed as farm laborers.

For the present analysis, unpaid family work is of limited theoretical relevance: In Becker’s terms, an integrated family economy based on home production would *increase* the value of marriage. Moreover, if the farm remains in the hands of the husband, unpaid farm labor does not offer women the economic power they might need to terminate the marriage. What I am really interested in, then, is work outside the family business. To capture this and at the same time maximize comparability of the labor-force measures over time, I excluded the married female farm laborers. This had little effect for any census year except 1910. For the best discussion of these comparability issues and a complete guide to the secondary literature on this subject, see Sobek (1997).

8. For example, in districts with poor marriage opportunities for women, there are likely to be large numbers of single and divorced women, and such women are more likely in most periods to be employed than are married women. By limiting the independent variable to currently married-spouse present women, I eliminate the potential for a spurious relationship.

To assess the quality of jobs available to women and men, I calculated the percentage of employed persons who had occupational titles with median earnings under \$2,200 in 1950. This threshold is approximately equivalent to the poverty line for a family of four in 1990, adjusted for inflation. Although shifts in the occupational hierarchy could change the meaning of this variable, the evidence suggests that such changes have been modest (Hauser 1982; Sobek 1995, 1996, 1997; Treiman 1976). By these measures, there was dramatic improvement in economic opportunity for both sexes and races from 1880 through 1970, but for men the trend has reversed since 1970. I also directly measured the percentage of employed men and women earning under \$2,200 in 1950 dollars for the census years when personal income is available in the census (1970 through 1990), and these variables produced regression results similar to those produced by the occupation measure.

Finally, I included the percentage of the district workforce engaged in nonagricultural pursuits. This is intended as a measure of economic development and urbanization, and could be associated with individualistic norms and high marital instability. As anticipated, nonfarm employment grew dramatically over the course of the century.

RESULTS

Table 3 presents logistic regressions of the probability of being divorced, separated, or married-spouse absent on age, sex and the labor-market variables for ever-married whites in each available census year. I adjusted the sample densities by randomly selecting cases to obtain approximately equal numbers of married, separated, and divorced persons aged 20–39 in each census year. The absolute values of the coefficients shown for the labor-market variables are conservative. Because the district-level variables are estimated from sample data, they are subject to significant random measurement error that results in underestimated coefficients (Maddala 1977:293). The standard errors for these variables are also likely to be underestimated because of

TABLE 2. MEAN VALUES FOR LABOR-MARKET VARIABLES, BY YEAR AND RACE, 1880-1990

Race and Variable	Year					
	1880	1910	1940	1970	1980	1990
Whites						
Female participation	1.7	4.0	12.8	42.4	58.4	70.9
Male participation	98.1	98.5	97.1	96.4	93.5	92.9
Low female opportunity	70.2	56.8	31.8	25.8	25.6	25.4
Low male opportunity	60.3	46.2	23.1	11.7	13.7	15.0
Nonfarm employment	56.8	70.9	84.7	97.4	97.8	98.5
Blacks						
Female participation	12.5	20.0	26.6	54.4	64.3	72.0
Male participation	98.2	99.4	96.3	93.1	83.9	81.4
Low female opportunity	98.0	94.4	87.4	50.2	39.4	36.2
Low male opportunity	90.4	82.2	58.3	32.8	26.2	28.1
Nonfarm employment	48.1	52.0	74.6	96.7	98.9	99.2

Notes: Figures were calculated from the IPUMS; districts with insufficient cases excluded.

group effects, but this does not contribute to bias in the coefficients (Moulton 1986).

Age had only modest effects on marital instability, but before 1990 the probability of being divorced or separated was highest among the youngest age groups. Younger people were more often separated or divorced than were older people before 1990 because each successive cohort experienced more marital instability than the preceding one. After 1980, declining divorce rates led to a reversal of this pattern. Women were less likely than men to be divorced or separated before 1940, but this relationship reversed after the war. This apparently resulted from a shift in the relative frequency of remarriage of men and women.

The labor-market variables generally have the expected effects. As the dominant theories predict, the coefficients for female participation are remarkably consistent. They are strongly positive and significant in all census years. The coefficients for male participation are negative in all census years and significant in each year except 1910. For men, low economic opportunity had the expected positive association with the probability of divorce or separation in all years, although the effect is not significant in 1940. Low economic opportunity for women, however, had little impact before 1990. Finally, nonfarm employment is strongly associated with the probability of being divorced or separated in all census years.

The magnitude of these coefficients is large relative to the change over time. This is illustrated by a pooled analysis incorporating all six census years (last column). All the labor-market variables in the pooled equation are highly significant and have the expected signs. The dummy variables for census year, however, have the opposite of the expected sign in 1880, 1910, and 1940. This means that if the inde-

pendent variables were held constant across time, there would be a *higher* probability of divorce or separation in the earlier period than in recent years. Figure 3 plots the predicted percentage divorced or separated in each census year, holding constant all other independent variables at the mean levels of 1940. The pooled model predicts that 6% to 7% of the eligible population would have been divorced or separated between 1880 and 1940, compared with only about 4% in the most recent census years.

Surprisingly, the pooled model predicts a *decline* in divorce and separation between 1940 and 1970 when the independent variables are held constant, and this suggests that there may be an important intervening variable not included in the model. The most obvious candidate is income level for males. In every census year for which data are available, male income had a strong positive association with marital stability. Real incomes for men rose dramatically over the course of the century. Most of this change occurred between 1940 and 1970, when median wages for men aged 20-39 rose from just over \$6,000 to just over \$17,000 in constant 1990 dollars. All things being equal, the dramatic rise in male incomes should have resulted in an abrupt downward movement in the frequency of divorce or separation. The low male opportunity variable captures some of this change, but because it is an occupation measure it reflects only increases in opportunities that resulted from shifts in the occupational structure; the rise of income within occupation categories is missed. Unfortunately, there are insufficient data to calculate district-level income measures before 1970. If real income could be included in the pooled equation, the positive coefficients for 1880, 1910, and 1940 would probably disappear or reverse.

Table 4 shows the predicted effect of change in each variable across each time period. Each column is based on the

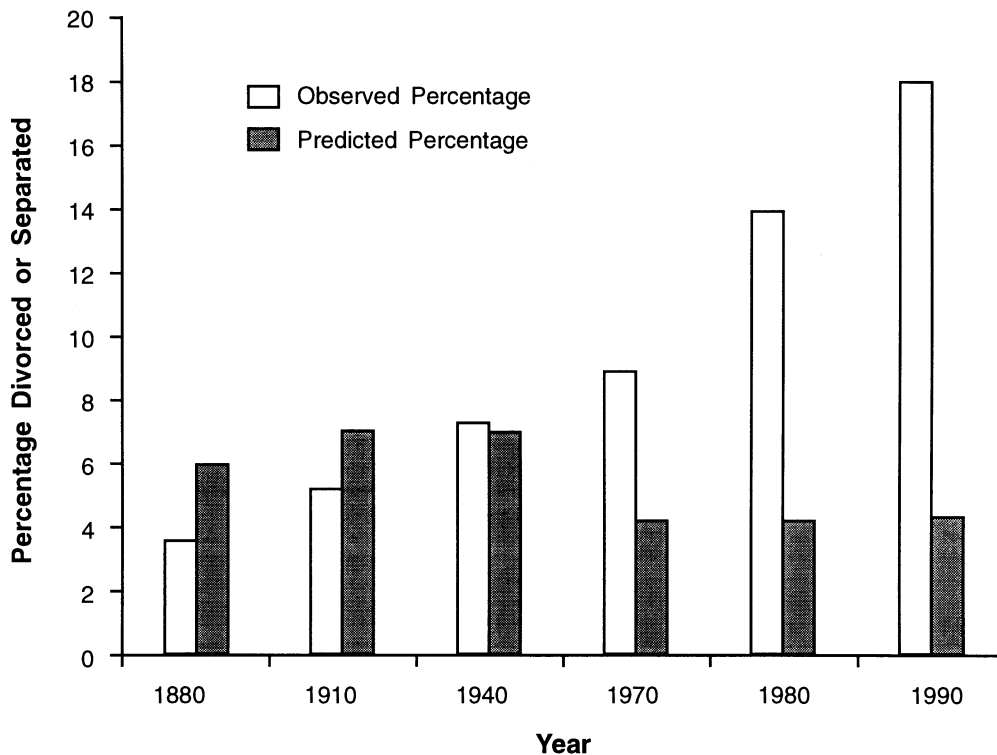
TABLE 3. LOGISTIC COEFFICIENTS FOR REGRESSIONS OF THE PROBABILITY OF BEING DIVORCED OR SEPARATED ON SELECTED INDEPENDENT VARIABLES: EVER-MARRIED U.S. WHITES, 1880–1990

Independent Variable	1880	1910	1940	1970	1980	1990	Pooled Data
Age							
20–24	.476*** (.068)	.166** (.059)	.203*** (.048)	.367*** (.042)	.087* (.038)	-.020 (.039)	.160*** (.018)
25–29	.277*** (.062)	.078 (.051)	-.049 (.044)	.117** (.041)	.055 (.033)	-.045 (.029)	.032* (.016)
30–34	.046 (.064)	-.002 (.051)	-.035 (.430)	.055 (.043)	.052 (.033)	-.033 (.027)	.004 (.016)
Female	-.371*** (.045)	-.683*** (.039)	.063 (.320)	.233*** (.030)	.146*** (.024)	.059** (.022)	.008 (.012)
Female Participation	.121*** (.026)	.032** (.012)	.029*** (.005)	.010** (.003)	.025*** (.002)	.012*** (.002)	.019*** (.001)
Male Participation	-.110* (.053)	-.036 (.029)	-.065*** (.017)	-.054*** (.010)	-.026** (.005)	-.044*** (.005)	-.050*** (.003)
Low Female Opportunity	.002 (.002)	.004 (.003)	.009** (.003)	-.006 (.004)	-.006* (.003)	-.018*** (.003)	-.003** (.001)
Low Male Opportunity	.018** (.007)	.047*** (.005)	.006 (.004)	.029*** (.006)	.037*** (.005)	.042*** (.004)	.009*** (.001)
Nonfarm Employment	.021*** (.005)	.059*** (.004)	.011*** (.002)	.038*** (.006)	.092*** (.008)	.071*** (.007)	.020*** (.001)
Census Year							
1880	— —	— —	— —	— —	— —	— —	.304*** (.101)
1910	— —	— —	— —	— —	— —	— —	.479*** (.096)
1940	— —	— —	— —	— —	— —	— —	.463*** (.081)
1970	— —	— —	— —	— —	— —	— —	-.049 (.045)
1980	— —	— —	— —	— —	— —	— —	-.021 (.023)
Constant	4.878 (5.315)	-5.945* (2.973)	2.033 (1.728)	-1.588 (1.082)	-10.293*** (1.051)	-5.498*** (.904)	-.254 (.299)
-2 Log-Likelihood	17,748	22,817	53,928	52,974	46,610	54,394	207,747
Chi-Square	270***	897***	226***	311***	490***	368***	11,438***
Number of Cases	58,136	58,122	58,187	58,187	58,137	58,151	348,920

* $p < .05$; ** $p < .01$; *** $p < .001$

Notes: Numbers in parentheses are standard errors. Reference categories are: age 35–39 for Age, male for the Sex variable; and 1990 for Census Year.

FIGURE 3. OBSERVED AND PREDICTED PERCENTAGES DIVORCED OR SEPARATED: POOLED DATA



Note: Predicted values were calculated holding constant all other independent variables at the mean levels of 1940.

average of the regression equations for the time period shown. Thus, the 1880–1910 column is based on the average of the equations for 1880 and 1910, the 1910–1940 column is based on the average of the equations for 1910 and 1940, and so on. The values shown for each variable indicate how much the overall predicted percentage of divorce and separation is altered by change in that variable. For example, to estimate the effect of change in female participation between 1880 and 1910, I first calculated the predicted percentage of divorce or separation in 1880 using the mean values for all variables in 1880. I then carried out the same calculation, but substituted the mean value of female participation in 1910 for the 1880 value. The difference between the two calculations is .66, which means that changing the level of female participation but holding everything else constant increases predicted divorce or separation by .66 percentage point.

From 1880 through 1940, the rise in nonfarm employment was the most important contributor to the increase in the predicted frequency of divorce or separation. After mid-century, however, nonfarm employment was saturated. Since 1940, the most important variable by far has been rising female participation. The effect of female participation was especially dramatic in the period 1940–1970 when female participation increased from 13% to 42%. For the period 1880–

1970, the model suggests that rising male economic opportunity significantly slowed the rise in separation and divorce. Again, the model no doubt understates this effect, because the male opportunity variable is based strictly on occupational structure and does not fully capture rising incomes.

The row of Table 4 labeled “All Variables” shows the effect of simultaneously substituting the means of all variables at the end of each period for the means at the start of each period. This effect can be compared with the actual change in the percentage divorced or separated that occurred in each period, shown in the bottom row. In the period 1880–1940, the predicted change is significantly lower than the observed change, mainly because of the sharp increases in male occupational opportunity during that period. By contrast, in the period 1940–1970 the model predicts an increase in divorce and separation of 5.8 percentage points, but only a 1.6 percentage-point increase actually occurred. Again, this discrepancy probably occurs because the model cannot account for the dramatic rise in real incomes of males between 1940 and 1970. In the period since 1970, the predicted change in divorce and separation is close to the change that actually took place.

This analysis is not a pure study of divorce and separation, but rather a study of the combined effects of divorce,

TABLE 4. PREDICTED EFFECT OF CHANGE IN EACH INDEPENDENT VARIABLE ON THE PERCENTAGE DIVORCED OR SEPARATED AMONG WHITES

Independent Variable	Period of Change					Total
	1880–1910	1910–1940	1940–1970	1970–1980	1980–1990	
Age/Sex	-.01	-.02	.08	-.07	-.02	-.04
Female Participation	.66	1.53	4.31	2.39	2.99	11.87
Male Participation	-.08	.37	.22	.98	.24	1.72
Low Female Opportunity	-.12	-.75	-.05	.01	.03	-.88
Low Male Opportunity	-1.29	-2.36	-1.06	.54	.62	-3.55
Nonfarm Employment	2.53	3.03	2.04	.20	.69	8.49
All Variables	.82	.25	5.82	4.52	4.85	16.26
Actual Change	1.59	2.13	1.64	5.05	3.95	14.36

separation, and remarriage. It is likely that expanding employment opportunities not only allowed many women to become divorced, but also allowed them to remain divorced. At the same time, poor male employment opportunities would tend to reduce the pool of suitable partners for remarriage.

IMPLICATIONS FOR BLACK DIVORCE AND SEPARATION

Unfortunately, the IPUMS has insufficient cases to tabulate the labor-market variables for blacks at the district level. Labor-market opportunities for blacks usually differ substantially from those for whites in the same geographic area. Therefore, I excluded blacks from the preceding regression analyses.

Nevertheless, the regressions for whites have interesting implications for divorce and separation among blacks. As shown, among whites the levels of female participation, male participation, male opportunity, and nonfarm employment are powerfully and consistently associated with divorce and separation. There is no way to determine if these effects are equally strong among blacks. But we *can* assess whether the coefficients for whites are sufficient to account for the rise of divorce and separation in the black population. In other words, we can assess whether it is plausible that blacks were operating according to the same set of rules as were whites.

As shown in Table 2, blacks have significantly higher female participation and lower male economic opportunities than whites in all census years, and since 1940 they have also had lower male participation. All of these factors should contribute to higher marital instability among blacks. Compared with whites, blacks experienced less change over the past century in female market-labor participation, but greater change with respect to every other labor-market measure in the model: male participation, male and female economic opportunity, and nonfarm employment.

Even though the data do not permit direct analysis of the local labor-market conditions faced by blacks, the potential

impact of changes in the labor-market variables for blacks can be assessed by using the same strategy as adopted for Table 4. Table 5 uses the equations calculated for whites in each census year, but substitutes the national mean values for blacks on each of the independent variables. In essence, the table shows how much change in white marital instability would be expected if whites experienced the labor-market changes that blacks experienced.

The results are striking. In every period except 1910–1940, the predicted change in the percentage of divorce or separation exceeds the change that actually took place. Before 1970, the increases in female participation and nonfarm employment were the key motors of the predicted change. Since 1970, the decline in black male participation has also made a significant contribution.

This does not mean, of course, that the relationship between labor-market changes and marital instability was essentially similar for blacks and for whites. It does mean, however, that the rise of divorce and separation need not have operated differently for blacks and for whites. If whites had experienced the same labor-market changes as did blacks over the last century, one would predict an increase in divorce and separation at least as great as actually occurred among blacks.

We can take the analysis one step further and address whether the regression coefficients for whites can predict the race differential between blacks and whites within each period. Table 6 shows the effects on the predicted percentage of divorce or separation obtained by successively substituting the black values of each independent variable for the white values. Thus, for example, if I take the 1880 equation for whites and plug in the mean value of nonfarm employment for blacks but the mean value for whites on all other variables, it reduces the predicted divorce and separation by .54 percentage point.

The race difference in female participation has a consistent powerful effect on predicted divorce and separation.

TABLE 5. PREDICTED EFFECT OF CHANGE IN EACH INDEPENDENT VARIABLE ON THE PERCENTAGE DIVORCED OR SEPARATED AMONG BLACKS

Independent Variable	Period of Change					Total
	1880-1910	1910-1940	1940-1970	1970-1980	1980-1990	
Age/Sex	-.06	-.17	.04	-.16	-.09	-.44
Female Participation	8.91	2.48	7.17	2.60	2.94	24.12
Male Participation	-1.06	1.87	2.28	6.04	1.79	10.92
Low Female Opportunity	-.12	-.51	-.52	1.01	.77	.62
Low Male Opportunity	-3.12	-5.74	-4.11	-2.95	1.58	-14.33
Nonfarm Employment	2.09	11.86	7.08	2.20	.58	23.81
All Variables	5.27	6.05	11.21	8.91	7.98	39.41
Actual Change	2.32	8.20	6.87	8.33	6.75	32.47

Note: Effects are predicted using mean values for the black population and equations derived for whites.

This is most dramatic in 1880, when substituting the black level of female participation for the white level raises predicted divorce and separation by more than 8 percentage points. In 1910, at the peak of Jim Crow, the key difference between blacks and whites is the lower male opportunity of blacks, which raises predicted divorce or separation by almost 16 percentage points. Low male opportunity among blacks has also been the key factor in recent years, followed closely by low male participation.

As shown in the last two rows of Table 6, simultaneously substituting the values for blacks for all independent variables yields a predicted race difference that was greater than the observed difference in 1880, 1910, and 1940. This means that if whites faced the same labor-market conditions as did blacks in those years, their predicted percentage of divorce or separation would have been greater than the observed level for blacks. For the period since 1970, however, the labor-force differences between whites and blacks do not account for the entire race difference in divorce and separation.

DISCUSSION

Taking these results at face value, they could be interpreted as a full explanation for the century-long rise of divorce and separation. But this kind of analysis is notorious for producing misleading results. The district-level correlations do not necessarily mean that the rise in work opportunities for females and decline of work opportunities for males actually led to the increase in divorce and separation. All we can say for sure is that the more working women and fewer working men in a district, the higher the likelihood of being divorced or separated. Such correlations could arise entirely from unmeasured intervening variables. In particular, the rise of both female market-labor participation and marital instability could be the result of attitudinal changes. The decline of patriarchal authority within the home and the increase of individualistic values stressing self-fulfillment may have re-

sulted in a decline of social sanctions against both marital breakup and female work. Under this scenario, there could be little direct causal linkage between female work and marital instability.

There is some limited evidence, however, that attitudinal shifts may not be the driving factor behind either marital breakup or married women's entry into the workforce. Some scholars argue that the rise in female labor-force participation was driven by labor market pressures rather than by cultural change (Goldin 1990). Moreover, attitudes toward women's work appear to have lagged behind the actual increases in female work (Cherlin and Walters 1981; Oppenheimer 1970). There is also evidence at the individual level that attitudes are poor predictors of divorce (Thornton 1985). Thus, shifting attitudes may be more a response to changing patterns of work and marriage than a cause of those changes.

Even if attitudinal changes were the main source of change in married female work and marital instability, the changing economic opportunities for women probably would have reinforced the shift in divorce and separation. Women without an independent means of support would have had a powerful incentive to remain married, however unsatisfactory the marriage. There will probably never be sufficient data to determine empirically whether attitudinal changes were a cause or a consequence of the structural shifts in work and family, but in all likelihood they were a little of both.

These results should not be interpreted as applying to changes in marriage patterns more generally. When I applied a similar model to predict the probability of being ever-married among young adults, the results were considerably weaker and less consistent than the models for divorce or separation. This reinforces the conclusions of Oppenheimer (1994) and Mare and Winship (1991) that changing labor-market opportunities cannot fully explain recent declines in marriage rates. Marriage formation simply operates differently than marital dissolution.

TABLE 6. PREDICTED EFFECT OF RACE DIFFERENCE IN EACH INDEPENDENT VARIABLE ON PERCENTAGE DIVORCED OR SEPARATED

Independent Variable	Year					
	1880	1910	1940	1970	1980	1990
Age/Sex	.13	.05	.08	.05	.05	.02
Female Participation	8.18	2.81	3.18	.98	1.81	.20
Male Participation	-.02	-.13	.33	1.58	3.25	8.57
Low Female Opportunity	.14	.65	4.12	-1.17	-.97	-2.60
Low Male Opportunity	2.36	15.91	1.51	6.23	6.55	9.65
Nonfarm Employment	-.54	-2.96	-.70	-.23	1.22	.77
All Variables	13.64	9.27	11.06	7.85	14.07	17.85
Actual Difference	3.48	4.21	10.28	15.51	18.79	21.59

Note: Effects are predicted using the black mean value for the given independent variable and the mean value for whites for all other independent variables and differencing the result from the predicted effect using the mean value for whites on all variables.

Despite these qualifications, the results presented here allow two key generalizations about the rise of divorce and separation. First, the powerful century-long association between female market-labor participation and marital dissolution is entirely consistent with the dominant interpretations of the rise of divorce and separation. Second, these findings lend partial support to Oppenheimer's contention that male economic opportunities and participation are important determinants of marital instability. However, among white males, the decline in economic opportunities over the past 20 years has been modest; so, despite the powerful effect of the variable in recent census years, it can explain only a small proportion of the overall increase in marital instability. It is possible, however, that declining market-labor participation of black men since 1970 is the single most important source of rising marital instability for blacks.

These results have another important implication for the sources of increases in marital instability among blacks. Wilson and Neckerman (1987) view the dramatic rise of single-parent households among blacks mainly as a response to increasingly adverse economic conditions. Recent historical studies, however, have challenged the view that the distinctive patterns of black family structure can be ascribed to changes in economic conditions faced by blacks. Instead, they point to persistent cultural differences between blacks and whites as the most persuasive explanation for the historical pattern of race differentials in family structure (McDaniel 1990, 1994; Morgan et al. 1993; Ruggles 1994). Although such cultural differences remain perfectly plausible, the present investigation suggests that they may not be needed to explain historical race differentials in divorce and separation. If whites had faced the same labor-market conditions as blacks, the models predict that from 1880 to 1940 they would have had an even greater likelihood of divorce or separation

than did blacks. Moreover, the analysis suggests that changes in labor-market conditions for blacks over the past century may fully explain the rise of black marital instability.

Readers should exercise caution in interpreting all the results presented here. The world was radically transformed between 1880 and 1990, and my simple measures of the changing labor force capture only a few aspects of that change. It remains perfectly plausible that unmeasured variables—such as changing attitudes toward divorce—were the real driving force behind the rise in marital instability. Nonetheless, the strength and long-run consistency of the associations between the labor-force measures and marital instability are so striking that some degree of direct causal linkage between them seems likely.

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