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Earnings Inequality and the Changing Association between Spouses' Earnings[1]

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Abstract

Increases in the association between spouses' earnings have the potential to increase inequality as marriages increasingly consist of two high-earning or two low-earning partners. This article uses log-linear models and data from the March Current Population Survey to describe trends in the association between spouses' earnings and estimate their contribution to growing earnings inequality among married couples from 1967 to 2005. The results indicate that increases in earnings inequality would have been about 25%–30% lower than observed in the absence of changes in the association, depending on the inequality measure used. Three components of these changes and how they vary across the earnings distribution are explored.

INTRODUCTION

In many ways, husbands and wives have become more equal over the past several decades. Husbands and wives increasingly share the same educational background, are more similar to one another with respect to their wages and hours worked, and share a more equal division of housework and child care (Cancian, Danziger, and Gottschalk 1993; Schwartz and Mare 2005; Bianchi, Robinson, and Milkie 2006). Increases in the resemblance of spouses, however, may have unanticipated consequences, namely, increasing inequality across families. As spouses become more economically similar, inequality among married couples may rise as marriages are increasingly likely to consist of two high- or two low-earning partners. Given the substantial rise in inequality in the United States since the late 1970s (Levy 1998), this raises the question, are marriages becoming more equal at the expense of economic equality across families? Past research suggests that the increasing resemblance of spouses' earnings accounts for a nontrivial portion of increasing inequality. Although the methodologies used and time periods studied vary, past studies have found that the increasing association between spouses' earnings accounts for between about 17% and 51% of the increase in economic inequality across married couple families (Cancian et al. 1993; Blackburn and Bloom 1995; Cancian and Reed 1999; Hyslop 2001).

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Despite the importance of increases in the association between spouses' earnings for inequality, previous research has primarily focused on the impact of changes in wives' earnings and labor force participation on inequality (e.g., Treas 1987; Maxwell 1990; Cancian et al. 1993; Cancian and Reed 1999). Although recent studies have placed somewhat more emphasis on the contribution of changes in the association between spouses' earnings (Hyslop 2001; Devereux 2004; Reed and Cancian 2009), our understanding of the nature of these trends and their contribution to inequality remains limited. Previous studies have provided descriptive accounts of the relationship between husbands' and wives' wages, hours worked, and earnings (Cancian et al. 1993; Juhn and Murphy 1997), but there are no studies that model the adequacy of various descriptions of these trends. Furthermore, previous research has generally focused on a single measure—the correlation coefficient—to estimate the impact of the changing association between spouses' earnings on inequality (Cancian et al. 1993; Blackburn and Bloom 1995; Cancian and Reed 1998, 1999; Burtless 1999; Hyslop 2001). This single measure, however, may obscure important changes in the association between spouses' earnings.

This article takes a closer look at changes in the association between spouses' earnings and the contribution of these changes to increasing economic inequality among married couples in the United States from 1967 to 2005. Because several previous studies have focused on the relative contribution of husbands' and wives' earnings to growing inequality, I focus exclusively on the changing association between spouses' earnings. I use log-linear models and data from the March Current Population Survey (CPS) to evaluate the adequacy of the correlation coefficient as a summary statistic. I find that changes in the correlation coefficient provide a poor description of changes in the association between spouses' earnings. Rather, changes in the association are better described by a model that differentiates between earners and nonearners and that incorporates measures of the shrinking economic differences between spouses, both in terms of their earnings relative to other members of their own sex (high-earning husbands are more likely to be married to high-earning wives) and in terms of the differences in their real earnings (the gap between husbands' and wives' earnings has declined). Next, I use my preferred log-linear model to decompose the total impact of changes in the association between spouses' earnings on multiple measures of inequality. Specifically, I decompose the impact of change in the association into three parts: (1) increases in the association between spouses' earnings among dual-earner couples, (2) decreases in the negative relationship between husbands' earnings and the odds that wives work, and (3) increases in the prevalence of dual-earner couples. This method produces estimates that are consistent with and extend previous research on trends in inequality. In particular, I perform this decomposition at various points in the earnings distribution and provide a more detailed account of how the changing association has affected inequality.

POTENTIAL SOURCES OF THE CHANGING ASSOCIATION BETWEEN SPOUSES' EARNINGS

Increases in the association between spouses' earnings may be the result of changes both in assortative mating, that is, who marries whom, and changes in the way that husbands and wives divide their home and market labor within marriage. Theory and previous research suggest that both mechanisms have contributed to increasing inequality across families.

Assortative Mating

The massive growth of wives' labor force participation and earnings has prompted many scholars to argue that the institution of marriage has shifted from one based on specialization and trading, in which wives specialize in child care and housework and husbands specialize

in market work (Becker 1974, 1981), to one based on collaboration, in which both partners make valued economic contributions to the household (e.g., Oppenheimer 1994, 1997; Sweeney 2002). Shifts in the economic foundations of marriage and increasingly egalitarian gender norms may have changed men's and women's preferences for mates. As women's labor force participation has grown, men may have begun to compete for high-earning women just as women have traditionally competed for high-earning men (England and Farkas 1986, p. 182; Oppenheimer 1994, pp. 332–34). Increasing symmetry in men's and women's preferences for mates implies greater resemblance between spouses' earnings and greater inequality across couples as marriages increasingly consist of partners with similar earnings.

Empirical research supports the notion that mate selection has become more symmetric. A recent study of marriage patterns among two cohorts of women shows that high-wage women are more likely to marry men with high occupational status and high earnings potential than women with lower wages and that this association has increased over time (Sweeney and Cancian 2004). Information on men's and women's stated preferences for mates also supports this hypothesis. Using data collected at six time points between 1939 and 1996, Buss et al. (2001) show that the importance that men place on women's financial prospects has increased and that, overall, men's and women's preferences for mates have become more alike. Trends such as these suggest that men are increasingly looking for partners who will "pull their own weight" economically in marriage (Oppenheimer 1994, 1997; Sweeney 2002).

Growing economic inequality and rising economic standards for marriage may have also increased the importance of economic considerations in choosing a partner. Over the past half century, but especially since the late 1970s, the United States has witnessed rapid growth in economic inequality (Mishel, Bernstein, and Allegretto 2005). As economic differences between individuals widen, the economic costs of "marrying down" may become increasingly severe. Consistent with this argument, studies that compare the strength of assortative mating cross-nationally find that countries with higher levels of economic inequality typically have higher spousal resemblance on education (Fernández, Guner, and Knowles 2005; Torche in press). Furthermore, growing economic inequality occurred alongside greater neighborhood segregation by income and greater workplace segregation by educational attainment, both of which may have increased assortative mating on earnings (Fischer et al. 2004; Hellerstein, Neumark, and McInerney 2008). Finally, rising expectations about the level of economic security necessary for marriage (Cherlin 2004; Edin, Kefalas, and Reed 2004), declines in the real earnings of men at the lower end of the economic spectrum from the late 1970s to the mid-1990s (Mishel et al. 2005), and the increased cost of raising children (Casper 1995) may have further heightened the importance of women's earnings for marriage and thus increased the symmetry of men's and women's mate selection preferences.

Even if economic considerations have not become increasingly important factors in choosing one's mate, increased sorting on earnings may be the result of increased sorting on other dimensions. For example, previous research has shown that the odds that spouses share the same educational attainment increased by about 25% between 1960 and 2003 (Schwartz and Mare 2005). To the extent that men and women are sorting on education as a proxy for "lifestyles" (e.g., values, beliefs, interests) rather than as an indicator of "life chances" (i.e., future earnings), increases in the association between spouses' earnings may be the result of increased matching on education rather than a result of direct sorting on earnings.

The Division of Labor in Marriage

The growing economic resemblance of spouses may also reflect changes in how husbands and wives allocate their labor and time within marriage. Recent evidence suggests that, not only are couples more likely to match on earnings at the outset of their marriages, but they also maintain greater economic equality within marriage. Since the late 1960s, the correlation between current spouses' earnings has increased and changed signs (Cancian et al. 1993). Before the late 1970s, the relationship between husbands' and wives' earnings was negative, with high-earning husbands tending to have low-earning wives, whereas from the 1980s on, the relationship has been positive and increasing, with high-earning husbands tending to have high-earning wives. Moreover, the earnings and labor force participation of women with high- and middle-earning husbands has increased disproportionately relative to women with low-earning husbands (Juhn and Murphy 1997). Thus, changes in the way that men and women choose their mates and changes in the way that husbands' and wives' allocate their labor within marriage are likely to have both contributed to increases in the association between spouses' earnings and greater economic inequality across married couples.

The March CPS data, unfortunately, do not contain information with which to distinguish increased assortative mating from changes in the allocation of market and household work in marriage. The mechanisms predicted to increase assortative mating on earnings, however, also generally imply greater spousal resemblance on earnings within marriage. For example, a shift from a specialization and trading model of marriage to a collaborative one suggests that men's and women's mate selection preferences will become more symmetric and that spouses will share a more equal division of labor once married. Indeed, assortative mating on economic considerations may largely be a function of one's plans about one's economic life after marriage. Therefore, although separating assortative mating effects from changes in the division of labor within marriage is an important avenue for future research, the current analysis examines the association between spouses' earnings among currently married couples, which is a product of both assortative mating and the division of labor in marriage.

INEQUALITY AND THE ASSOCIATION BETWEEN SPOUSES' EARNINGS

Previous Research

Previous studies have largely identified the impact of increases in the association between spouses' earnings on trends in inequality using the decomposition properties of the coefficient of variation, a common measure of inequality. Changes in the coefficient of variation may be decomposed into parts due to changes in inequality among husbands, inequality among wives, and the correlation between husbands' and wives' earnings. Formally, the decomposition for married couples is

$$\mathrm{CV}_m^2 = a^2\mathrm{CV}_h^2 + b^2\mathrm{CV}_w^2 + 2\rho_{hw}ab\mathrm{CV}_h\mathrm{CV}_w, \quad (1)$$

where CV_m, CV_h, and CV_w are the coefficients of variation for married couples' earnings, husbands' earnings, and wives' earnings, respectively; ρ_{hw} is the correlation between spouses' earnings; a is the share of couples' earnings from husbands' earnings; b is the share of couples' earnings from wives' earnings; and CV^2 is the variance of earnings divided by the squared mean earnings for each group (e.g., Cancian et al. 1993; Blackburn and Bloom 1995; also see Mincer 1974). Thus, when inequality among husbands or wives increases, inequality among married couples increases. Similarly, an increase in the correlation between spouses' earnings will increase inequality among married couples, holding all else constant. It is important to note that this decomposition method does not differentiate

between earners and nonearners; nonearners are included in the calculations but are given zero values for their annual earnings.

Most decomposition studies of the coefficient of variation focus on the impact of changes in women's earnings on inequality. These studies have generally found that changes in wives' earnings have attenuated rather than contributed to growing inequality and that the driving force behind increased income inequality across families has been increasing inequality among husbands, which has increased more rapidly than inequality across couples (e.g., Cancian et al. 1993; Blackburn and Bloom 1995; Cancian and Reed 1999; Reed and Cancian 2001). Changes in wives' earnings were equalizing because the massive movement of wives into the labor force compressed the distribution of wives' earnings, which counteracted growing inequality among husbands. Furthermore, changes in wives' earnings have fully offset the disequalizing impact of increases in the correlation between spouses' earnings. Nevertheless, the impact of change in the correlation has not been trivial. By one estimate, the impact of increases in the correlation was about half as large as the impact of increased inequality among husbands between 1978 and 1988 (Cancian et al. 1993, p. 216).

Although most studies have focused on the effects of changes in wives' earnings on inequality, recent studies have examined changes in the effects of spouses on one another's wages and labor supply. However, these studies have not quantified the consequences of these changes for inequality (Juhn and Murphy 1997; Devereux 2004). Still other studies have used somewhat different decomposition methods to examine the components of changing inequality in the United States (e.g., methods based on the Gini coefficient, the mean logarithmic deviation, and nonparametric ranking methods) but have not directly estimated the impact of changes in the association between couples' earnings on inequality (e.g., Karoly and Burtless 1995; Reed and Cancian 2001; Martin 2006; Western, Bloome, Percheski 2008; but see Burtless 1999; and Reed and Cancian 2009). Decomposition studies of trends in the coefficient of variation examine trends in the association between spouses' earnings through the late 1980s and mid-1990s (Cancian et al. 1993; Blackburn and Bloom 1995; Cancian and Reed 1999), whereas more recent work using non-parametric ranking methods examines trends through 2003 (Reed and Cancian 2009).

Components of the Changing Association between Spouses' Earnings

Decomposing change in the coefficient of variation involves measuring change in the association between spouses' earnings using the correlation coefficient. This method assumes that changes in a single summary measure of the relationship between spouses' earnings adequately describe the changing association. However, changes in the association may have occurred nonuniformly across the earnings distribution. In particular, examining change in the correlation between spouses' earnings conflates two potentially countervailing factors (Mincer 1974, pp. 123–24). In the late 1960s, wives with high-earning husbands were less likely to work than other wives and therefore had lower average annual earnings (Cancian et al. 1993). In other words, the relationship between spouses' earnings was negative. Yet, among couples in which both partners work, the relationship has been positive since at least the late 1960s, with high-earning men more likely to be married to high-earning women (Cancian et al. 1993). Thus, the correlation between spouses' earnings may increase (1) as a result of an increase in the association between spouses' earnings among couples in which both partners work and/or (2) as a result of a decline in the negative relationship between husbands' earnings and the odds that wives work. Previous studies have acknowledged that both of these factors have contributed to increased inequality (e.g., Mincer 1974; Cancian et al. 1993), but no study has quantified their separate effects.

A third, but little recognized, component of change in the correlation between spouses' earnings is change in the distribution of husbands' and wives' earnings. Given that the

correlation between spouses' earnings is higher among couples in which both partners work than among all couples, increases in the correlation may be the result of increases in the proportion of dual-earner couples. In other words, as single-earner families are converted into dual-earner families, couples "migrate" from areas of the distribution where the correlation is lower (or negative) to areas where it is higher. In his study of occupational mobility in Hungary, Simkus (1984) refers to these effects as composition effects. Note that composition effects are distinct from changes in the relationship between husbands' earnings and the odds that wives work. For example, as the negative effects of husbands' earnings decline, it is likely that the proportion of dual-earner couples will increase, but it is also possible that the proportion of dual-earner couples will decline if all wives, regardless of their husbands' earnings, are less likely to work. What matters for the size of the composition effects is the magnitude of the change in the proportion of dual-earner couples, or in other words, how many more couples there are in areas of the distribution where the correlation is high than where it is low compared with previous years.

This article goes beyond past work by using log-linear models to decompose the overall impact of changes in the association between spouses' characteristics on trends in inequality into these three components, that is, to (1) increases in the association between spouses' earnings among dual-earner couples, (2) declines in the negative relationship between husbands' earnings and the odds that wives work, and (3) increases in the prevalence of dual-earner couples.

Changes in the Association between Spouses' Earnings and Inequality throughout the Earnings Distribution

Although the coefficient of variation provides a convenient way of decomposing trends in inequality, as with all summary measures, it may mask trends toward greater or lesser inequality in different parts of the earnings distribution. Virtually all previous studies of the impact of change in the association between spouses' earnings on trends in inequality have used summary measures of inequality trends (e.g., Cancian et al. 1993; Blackburn and Bloom 1995; Burtless 1999; Cancian and Reed 1999; Reed and Cancian 2001; but see Reed and Cancian 2009). Nevertheless, recent studies of trends in inequality show quite different trends in different portions of the wage distribution and suggest that distinct sources have generated these trends (Autor, Katz, and Kearny 2005, 2008). Moreover, there is good reason to suspect that changes in the association between spouses' earnings have had different effects on growing inequality in different portions of the earnings distribution. For example, because increases in wives' labor force participation occurred at different rates for wives with high-, middle-, and low-earning husbands, the impact of these shifts on inequality may vary across the earnings distribution. This article investigates the impact of each of the three components of change discussed above on change in the coefficient of variation and on changes in the share of total earnings held by high-, middle-, and low-earning couples.

Other Issues in the Study of the Association between Spouses' Earnings and Inequality

Relative versus Absolute Measures—A further issue is how to conceptualize the association between spouses' earnings. An intuitive way of thinking about the association is in terms of the extent to which high-earning husbands are paired with high-earning wives and low-earnings husbands are paired with low-earning wives. Using this conceptualization, what matters is a man or woman's earnings relative to other members of his or her own sex. Previous studies of the impact of changes in the association on inequality have used measures that are consistent with this notion (Cancian et al. 1993; Blackburn and Bloom 1995; Cancian and Reed 1998, 1999; Burtless 1999; Hyslop 2001). The correlation coefficient, for example, is a relative measure of the association since it measures the extent

to which husbands with earnings above the average husbands' earnings are married to wives with earnings above the average wives' earnings.

Relative measures are conceptually appealing, but they may be inadequate for describing changes in the association between spouses' earnings. Rather, capturing changes in the absolute difference between spouses' earnings may also be important. There are several ways that absolute differences may play a role. For example, changes in individuals' stated preferences reveal that the importance men place on a woman's financial prospects has increased (Buss et al. 2001). If men increasingly prefer women with earnings that are more similar to their own in real terms, these changes may be better described by a model that accounts for declines in the absolute difference between spouses' earnings. Moreover, if egalitarian couples are more likely to strive for equal power in their relationships via the similarity of their earnings (Blumstein and Schwartz 1983, p. 142; Brines and Joyner 1999), then the increasing prevalence of couples with egalitarian gender norms may have also resulted in a decline in the absolute difference between spouses' earnings. I use log-linear models to test whether changes in the association between spouses' earnings are better described by changes in relative measures of spouses' earnings or by measures that also account for changes in the real dollar differences between their earnings.

The Accounting Framework—I follow past work by estimating the impact of various components of trends in inequality using counterfactuals. My overarching question is, what would the change in inequality among married couples have been in the absence of changes in the association between spouses' earnings, given that all else had changed as observed? Behaviorally, if the association between spouses' earnings had not changed, it is unlikely that all else would have changed as observed. I do not attempt to develop a behavioral model of the relationship between partner choice, labor force participation, and earnings here. Instead, the decomposition portion of this article is essentially an accounting exercise. Other studies have made important inroads in developing such behavioral models (Lundberg 1988; Juhn and Murphy 1997; Devereux 2004).

Selection into Marriage—This article focuses on the role of husband-wife earnings associations in accounting for increased earnings inequality among married couples. Although marriages rates have declined, the vast majority of Americans still do marry (90% of those aged 35 and older in 1998 had ever married), and married couple families remain the primary setting in which children are raised (Casper and Bianchi 2002, p. 18; U.S. Census Bureau 2008, table C3). As such, increases in inequality among married couples may have consequences for inequality not only in the current generation but in the next generation as well. Furthermore, while the declining prevalence of married-couple families has clearly affected inequality (Karoly 1996; Martin 2006; Western et al. 2008), whether these changes have contributed to or offset increases in the correlation between spouses' earnings depends on the types of marriages these singles would form if they were to marry. A major demographic shift that may have affected who marries whom is nonmarital cohabitation. Increased nonmarital cohabitation has largely offset declines in marriage rates among women (Bumpass, Sweet, and Cherlin 1991). To test the sensitivity of my results to selection into marriage versus cohabitation, I performed the analyses presented here using a pooled sample of married and cohabiting couples, defined using POSSLQ methods (Casper and Cohen 2000). The inequality trends and decompositions using the pooled sample are substantively similar to those for married couples alone. Moreover, it is possible to utilize the decomposition proprieties of the coefficient of variation and the methods presented here to incorporate singles into future analyses of trends in family inequality. Examining these processes among married couples is the first step toward understanding their consequences for the population as a whole.

DATA, MEASUREMENT, AND METHODS

Data

I use data from the 1968–2006 March Current Population Surveys (CPS) to examine trends in earnings inequality. These data have been used extensively to study changes in inequality in the United States (for reviews, see Levy and Murnane [1992] and Katz and Autor [1999]). Because the earnings data from the March CPS pertain to annual earnings in the year prior to the survey, the time series begins in 1967 and ends in 2005. I limit the sample to married adults in which both partners are between the ages of 21 and 55 (N = 849,484), in which neither partner is in the armed forces (N = 835,177) or is self-employed (N = 723,491),[2] and in which neither partner worked part of the year because of school, retirement, or military service, resulting in a final sample size of 710,899 married couples. This sample definition minimizes earnings measurement problems among younger and older adults.

Measurement

I define husbands' (wives') earnings as the sum of their annual wage and salary income. This diverges somewhat from past work, which typically includes other sources of income, such as interest and dividend income, transfer payments, and pension income (Cancian et al. 1993; Blackburn and Bloom 1995; Cancian and Reed 1999; but see Hyslop 2001). I examine the association between spouses' earnings rather than their incomes because of the special importance of those with zero annual wage and salary income. On average, wage and salary income makes up 92% of the total income of spouses. The percentage of total income from spouses' wage and salary income has remained relatively stable over the period examined here, declining 2 percentage points from 1967 to 2005. Moreover, trends in income inequality and the correlation between spouses' incomes closely resemble those for earnings (author's calculations from CPS data).

The Census Bureau places an upper bound or "top code" on the earnings it releases to protect the confidentiality of high-earning individuals. The dollar amount of these top codes has changed over time, which may, in and of itself, induce variation in inequality. To avoid these effects, I impose a consistent top code corresponding to the maximum percentage of the sample with top-coded earnings in any year (3.0% of men's wage and salary income) following Burkhauser et al. (2004). Thus, husbands' (wives') earnings above the 97th percentile are replaced with the earnings of those at the 97st percentile in each year. Earnings are inflation adjusted to 2005 dollars using the CPI-U-RS from 1977 to 2004. For the period 1967–76, I use extrapolated measures of the CPI-U-RS that are based on the ratio of the CPI-U-RS to the CPI-U in 1977 (U.S. Census Bureau 2006).

I examine trends in the coefficient of variation and inequality in different portions of the earnings distribution, measured in terms of couples' share of total earnings among all married couples (Kuznets 1955). Under perfect equality, the top 20% of couples would command 20% of the earnings. However, historically, the top 20% of families have received a much larger portion of total national income (Mishel et al. 2005). I use the ratio of the share of total earnings held by the top 20% of couples compared with the earnings held by the lowest 20% of couples to measure inequality between high- and low-earning couples (high-low inequality), the ratio of the earnings shares for the top 20% compared with the middle 60% to measure inequality between high- and middle-earning couples (high-middle

[2]Sensitivity tests showed that, for most measures of inequality, the total impact of change in the association between spouses' earnings on inequality are slightly smaller when the self-employed and earnings from self-employment are included in the analysis than when they are excluded, but overall, the decomposition results are quite similar.

inequality), and the ratio earnings shares for the middle 60% compared with the bottom 20% to measure inequality between middle-and low-earning couples (middle-low inequality).[3]

Methods

I analyze changes in the association between spouses' earnings using log-linear models for contingency tables. Log-linear models are flexible tools for describing different facets of changing associations and allow for the easy construction of counterfactuals by imposing constraints on the association coefficients. To form the contingency table, I classify husbands and wives with nonzero earnings by the percentile they occupy in their sex-specific earnings distributions and include a separate category for those with zero annual wage and salary income. Specifically, I cross-classify husbands' earnings by wives' earnings (H, W = zero annual earnings, 1st–5th percentile, 6th–10th percentile, …, 96th–100th percentile, by year (1967–70, 1971–74, …, 1999–2002, 2003–5), which results in a 21 × 21 × 10 = 4,410 cell table. The table of husbands' earnings by wives' earnings is large to preserve adequate detail in spouses' earnings.

Because spouses are classified according to their earnings percentiles separately by sex, the classification scheme is based on husbands' and wives' earnings relative to other members of their own sex. I incorporate the real dollar value of husbands' and wives' earnings by assigning time-varying "scale scores" to each earnings category. Mobility researchers have frequently used scale scores in models of occupational mobility (e.g., Hout 1984, 1988), but these methods are less common in the analysis of marriage tables. The scale scores equal zero for the zero earnings category and are equal to the real earnings of those in the third percentile for those in the 1st–5th percentiles, the earnings of those in the 8th percentile for those in the 6th–10th percentiles, and so forth. By assigning scale scores to spouses' earnings categories, I incorporate both relative and absolute measures of spouses' earnings into the analysis. This approach is consistent with previous descriptive work, which has often examined trends in wives' earnings and labor force participation by their husbands' earnings or wage decile (e.g., Cancian et al. 1993; Juhn and Murphy 1997).

An alternative way of forming the contingency table would have been to classify husbands and wives according to their real earnings rather than their earnings percentiles. There are two main drawbacks to this approach. First, wives' real earnings have increased so dramatically that any constant classification scheme necessarily results in the clustering of wives' earnings at the bottom of the earnings distribution in the late 1960s or at the top in recent years. Because of this clustering, data from tables formed in this way do not reproduce observed trends in the association between spouses' earnings or inequality well. Second, this method leads to a table with many zero cells, which can be problematic for log-linear models (Clogg and Eliason 1987). Data tables formed by classifying spouses' earnings by their earnings percentiles reproduce observed trends well and, as discussed above, also incorporate measures of spouses' real earnings. Moreover, a comparison of changes in the correlation between spouses' earnings percentiles and changes in the correlation between their real earnings showed that the two trends are quite similar.

I start with a baseline model in which the association between spouses' earnings is assumed to be time invariant. Because the primary concern of this article is with trends in the association, I do not parameterize the time-invariant association parsimoniously. Instead, I

[3]Another way of measuring inequality in different portions of the earnings distribution would be to examine the ratio of couples' earnings at various percentiles, e.g., the 90th/ 10th, 90th/50th, and 50th/10th ratios. The decomposition of trends in these measures, however, is sensitive to the categorization of earnings used in the log-linear models, whereas the decomposition of the measures used here is not. Substantively, it makes little difference which measures are used as trends in the earnings ratios and trends in the ratios of earnings shares are similar to one another (Daly and Valetta [2006] and author's calculations).

allow the association between spouses' earnings to vary freely in the cross section and focus on more parsimonious representations of the change (Xie 1998;Raymo and Xie 2000). Doing so substantially improves the fit of the model over more restricted representations of the association. The baseline model for the association is

$$\log(\mu_{ijt}/t_{ijt})=\lambda+\lambda_i^H+\lambda_j^W+\lambda_t^Y+\lambda_{it}^{HY}+\lambda_{jt}^{WY}+\lambda_{ij}^{HW}, \quad (2)$$

where H is husband's earnings category (i = 1, …, 21), W is wife's earnings category (j = 1, …, 21), and Y is period (t = 1, …, 10). Thus μ_{ijt} is the expected number of marriages between husbands in earnings category i and wives in earnings category j in period t. This model contains all possible interaction terms for the cross-sectional association between husbands' and wives' earnings categories (λ_{ij}^{HW}), controls for changes in the distributions of husbands' and wives' earnings $(\lambda_{it}^{HY}, \lambda_{jt}^{WY})$, and contains all lower order terms. The March CPS contains weights to ensure that the sample is representative of the population. I incorporate the weights by using an offset t_{ijt}, which is the inverse of the total weighted frequency of the cell divided by the unweighted cell count (Clogg and Eliason 1987;Agresti 2002, p. 391).

Linear-by-Linear Models—To examine the adequacy of correlation-type measures in describing changes in spouses' earnings, I use linear-by-linear association models (Haberman 1974; Agresti 2002). Linear-by-linear association models represent the relationship between spouses' earnings in terms of a single association parameter that is conceptually and mathematically similar to the correlation coefficient. Formally, a linear-by-linear association model is

$$\log(\mu_{ijt}/t_{ijt})=\text{Baseline model}+\beta_t^Y u_{it} v_{jt}, \quad (3)$$

where u_{it} are husbands' log scale scores in period t, v_{jt} are wives' log scale scores in period t, $u_{it}v_{jt}$ is the product of the scale scores, and β_t^Y denotes the linear-by-linear association parameter in period t. For standardized scale scores, β is equal to $\rho/(1-\rho^2)$, where ρ is the correlation coefficient (Agresti 2002, p. 370). Thus, to maximize the comparability of the linear-by-linear coefficients to the correlation coefficients, I standardize u_{it} and v_{jt} to have a mean of zero and a standard deviation of one within years.

The model presented in equation (3) assumes that change in the association between spouses' earnings can be represented with a single correlation-type measure. However, increases in the correlation between spouses' earnings may be due both to increases in the association between spouses' earnings among dual-earners and to declines in the negative relationship between husbands' earnings and the odds that wives work. I add terms to equation (3) to capture both types of changes. This model can be represented as

$$\log(\mu_{ijt}/t_{ijt})=\text{Baseline model}+\beta_t^Y u_{it} v_{jt}+\gamma_{ikt}^{HZ^wY}, \quad (4)$$

where Z^w is a dummy variable indicating whether wives have zero annual earnings (k = 0, 1) and $\gamma_{ikt}^{HZ^wY}$ represents the log odds that wives with zero annual earnings are married to husbands in earnings category i in period t. This model contains all possible interaction terms for changes in the relationship between the odds that wives work and their husbands'

earnings category. As discussed below, when estimating the models, I specify a more parsimonious representation of this relationship.

Distance Models—The linear-by-linear models presented above estimate changes in the association between husbands' and wives' earnings relative to other members of their own sex. However, if men's and women's preferences about how different their earnings are have also changed, then correlation-type models may not fit changes in the association between spouses' earnings adequately. To test whether changes in the association are better represented by changes in the difference between spouses' real earnings, I estimate the following model:

$$\log(\mu_{ijt}/t_{ijt}) = \text{Baseline model} + \gamma_{ikt}^{HZ^wY} + \delta_t^Y(|u_{it} - v_{jt}|), \quad (5)$$

where $|u_{it} - v_{jt}|$ is the absolute value of the difference between husbands' and wives' log scale scores (unstandardized) in period t and δ_t^Y is the association between a one unit increase in $|u_{it} - v_{jt}|$ and the log odds that a marriage is in joint earnings category ij in period t.

RESULTS

Descriptive Statistics

Figure 1 shows trends in the coefficient of variation and in the ratio of earnings shares going to high-, middle-, and low-earning couples.[4] Earnings inequality has risen by each of the four measures. From 1967–1970 to 2003–2005, the coefficient of variation for married couples grew by 38%. Furthermore, the earnings of married couples were increasingly concentrated in the hands of couples in the top 20% of the earnings distribution and less concentrated in the hands of couples in the bottom 20% and middle 60% of the distribution. Specifically, high-low inequality grew by 87% over this period and middle-low inequality increased by 59%. By contrast, high-middle inequality grew more slowly, rising by 18%. Figure 1 also shows that high-low and middle-low inequality declined during the economic expansion of the mid-1990s but that both measures have increased substantially since then. These estimates are consistent with other studies of trends in inequality among families (e.g., Gottschalk and Danziger 2005;Daly and Valletta 2006). Increases in the association between spouses' earnings may play a key role in accounting for these trends. As discussed above, increases in the association between spouses' earnings may be decomposed into three components: (1) increases in the association between spouses' earnings among dual-earner couples, (2) declines in the negative relationship between husbands' earnings and the odds that wives work, and (3) increases in the proportion of dual-earner couples. In what follows, I describe trends in each of these three components before modeling them more formally.

First, as inequality among married couples increased, the correlation between spouses' earnings also shifted substantially. Figure 2 shows that, among dual-earner couples, the correlation between spouses' earnings rose from .08 in 1967–70 to .23 in 2003–5, or almost tripled. Trends for all couples mirror those for dual-earners, but they are lower or negative, moving from −.08 to .12. The 1980s witnessed the largest change in the correlation, while the 1970s and 1990s were relatively stable in comparison, especially for dual-earners. These results are consistent with past studies (Cancian et al. 1993;Reed and Cancian 2009) and

[4]Fig. 1 is estimated from individual-level data. Grouped data, which are used to estimate the log-linear models, produce qualitatively similar results. An analysis of the impact of using grouped versus individual-level data in estimating the trends and decompositions is available from the author upon request.

show that, despite considerable variation over time, the correlation remains quite low. Nevertheless, these shifts may have substantial implications for changes in earnings inequality if their effects on inequality are large.

Among dual-earner couples, the earnings of wives with middle- and high-earning husbands increased especially rapidly. Figure 3 shows the percentage change in the median earnings of wives with high-, middle-, and low-earning husbands (defined as husbands with annual earnings in the top 20%, middle 60%, and bottom 20% of the distribution, respectively). Wives' earnings increased regardless of their husbands' earnings, but the earnings of wives with high-earning husbands increased fastest, followed by the wives of middle-earning husbands, and finally by the wives of low-earning husbands. These trends have implications for inequality in different parts of the earnings distribution. Because the gap between (*a*) the earnings of wives with high-earning husbands and those with middle-earning husbands increased faster than the gap between (*b*) the earnings of wives with middle-earning husbands and those with low-earning husbands, we would expect that changes in the association between spouses' earnings among dual-earners will have contributed more to high-middle inequality than to middle-low inequality.

Second, part of the increase in the correlation between spouses' earnings among all couples may arise from a decline in the negative relationship between husbands' earnings and the likelihood that wives work. Figure 4 shows that, between the late 1960s and the early 2000s, wives were increasingly likely to work regardless of husbands' earnings. At the same time, the relationship between husbands' earnings and the likelihood that wives work shifted. In the late 1960s, as husbands earned more, the likelihood that their wives worked declined in a relatively linear fashion. This relationship has slowly changed into a weak inverted U, with the wives of low- and high-earning husbands being somewhat less likely to work than the wives of middle-earning husbands.

Figure 5 presents the information shown in figure 4 in a somewhat different way to highlight the potential consequences of these trends for inequality. Figure 5 shows that the labor force participation of wives with high- and middle-earning husbands grew disproportionately relative to those with low-earning husbands. The labor force participation of wives with middle-earning husbands is quite high, topping 80% in the late 1990s. In the 2000s, however, women's labor force participation dropped somewhat as overall unemployment increased (Boushey 2005;Percheski 2008). The similarity of the increase in labor force participation among the wives of high- and middle-earning husbands suggests that reductions in the negative relationship between husbands' earnings and wives' labor force participation will not have had large effects on high-middle inequality. By contrast, the greater growth in the labor force participation of wives with high- and middle-earning husbands compared to those with low-earning husbands suggests that the effects of these shifts will have had larger effects on changes in high-low and middle-low inequality than on high-middle inequality.

Finally, increases in the proportion of married couples in which both partners work can also affect the correlation between spouses' earnings as couples move from areas of the distribution where the association is low or negative to areas in which it is higher. Figure 6 shows that, in the late 1960s, just over half of husbands and wives worked but that, in the 2003– 5 period, 69% of all couples were dual-earners, down from a high of 73% in the period 1995–98. A regression of variation in the proportion of dual-earner couples on the proportion of working wives reveals that virtually all of this increase is due to increases in the proportion of wives who work (R^2 = .998). Given that the correlation between spouses' earnings among dual-earners is higher than that among all couples (fig. 2), as the proportion

of dual-earners increases, the correlation between spouses' earnings will increase due to these compositional shifts alone.

Log-Linear Models

Table 1 provides the model specifications and fit statistics for log-linear models of trends in the association between spouses' earnings. I present both the likelihood-ratio G^2 and the Bayesian information criterion (BIC) statistics for model fit but rely mainly on the BIC because of the large sample sizes in each year (Raftery 1995). More negative BIC statistics indicate a better fitting model. Table 1 shows that the baseline model (model 1), which assumes that the association between spouses' earnings is time invariant, fits the data poorly relative to other models.

Linear-by-Linear Models—Model 2 estimates the log-linear model equivalent of trends in the correlation coefficient for all couples. This model assumes that changes in the association between spouses' earnings are adequately represented by a single association parameter measuring the relationship between spouses' relative earnings, an assumption implicit in previous decompositions of the coefficient of variation.[5] In model 3, I test whether special terms for the substantial change in the relationship between husbands' earnings and the likelihood that wives work shown in figure 4 improve the fit of the model. This model allows for changes in a nonlinear (quadratic) association between husbands' earnings percentile and the odds that wives have zero annual earnings.[6] The linear-by-linear coefficients estimated in models 2 and 3 produce trends that are nearly identical to trends in the correlation coefficient for all couples and for dual-earner couples, respectively (not shown). The better fit of model 3 compared with model 2 suggests that change in the association between husbands' earnings and the odds that wives work is a key component of the changing association between spouses' earnings. The interaction coefficients estimated in model 3 ($Z^w H^2_{lp} Y$) also produce trends in the association between husbands' earnings and the odds that wives work that are qualitatively similar to the descriptive trends shown in figure 4 (not shown).

Distance Models—Model 3 includes special terms for the changing relationship between husbands' earnings and the odds that wives work, but it still assumes that trends in the association between the earnings of dual-earner couples can be described in terms of the association between spouses' relative positions in their sex-specific earnings distributions. That is, these models estimate the extent to which high-earning women are married to high-earning men, but if spouses are increasingly concerned about the equality of their real earnings (Brines and Joyner 1999), these models will not fit the data as well as models that incorporate differences in spouses' real earnings. To investigate this possibility, I add terms for changes in the absolute value of the difference between husbands' and wives' log earnings scale scores by year ($|H_s – W_s|Y$). These terms significantly improve the fit of the model over model 3, which is consistent with the hypothesis that changes in the difference between spouses' absolute earnings is an important component of the changing association.

It may be, however, that model 4 fits the data better than model 3 not because absolute measures of the association fit the data better than relative measures, but because of other differences in the way that the two models specify the changing association. A more

[5]The earnings scale scores are constructed using logged earnings in all models except model 2, in which earnings are not logged. Model 2 does not use logged earnings because it does not include special parameters for couples in which either partner has zero earnings. Using logged earnings does not affect the model selection.

[6]Model specification tests not presented here showed that the quadratic specification fits the data as well as a model in which the relationship between husbands' earnings percentile and the odds that wives work is allowed to vary freely. Other tests showed that terms for changes in the relationship between wives' earnings and the odds that husbands work did not improve the fit of the model.

comparable test of whether relative or absolute measures fit the data better is a test of the fit of model 5, which includes terms for changes in the absolute value of the difference between spouses' earnings percentiles by year ($|H_p–W_p|Y$), against model 4. As is evident from the G^2 and BIC, models that describe changes in the association between spouses' relative earnings fit the data somewhat better than those that refer only to changes in absolute measures of the earnings association. It is possible, however, that both measures are necessary to describe change. Model 6 includes both relative and absolute measures of economic differences between spouses' earnings, and it fits the data better than models 4 or 5. These results suggest that increases in the association between spouses' earnings were due both to a tighter association between spouses' relative earnings and to declining differences in their earnings in real terms.

Decomposing the Impact of the Changing Association between Spouses' Earnings

To perform the decomposition, I successively remove terms from the preferred log-linear model (model 6) and use the predicted frequencies from these models to estimate counterfactual trends in inequality. Table 2 shows the model specifications and fit statistics for the models used in the decomposition and describes the counterfactuals employed. First, I use model 6 to predict trends in married-couple inequality (shown in table 2 as model D1).[7] Second, I estimate the contribution of changes in the association between spouses' earnings among dual-earners to increased inequality by removing these terms from model 6 ($|H_s – W_s|Y + |H_p – W_p|Y$, model D2). Removing these terms is equivalent to estimating a model that assumes there has been no change in the association between spouses' earnings for dual-earners.[8] The difference in predicted inequality trends implied by models D1 and D2 is an estimate of the portion of the trend that is due to changes in the association between spouses' earnings among dual-earner couples. Third, to estimate the impact of changes in the relationship between husbands' earnings and the odds that wives work, I remove the terms for trends in this association ($Z^w H_{lp}^2 Y$, model D3). The difference between inequality trends implied by models D2 and D3 is an estimate of the impact of change in the relationship between husbands' earnings and the odds that wives work on trends in inequality.

At this point, there are no remaining terms for trends in the association between spouses' earnings. Although the association is constant in model D3, the predicted frequencies from this model may still produce trends in the correlation coefficient because the correlation coefficient is sensitive to changes in the marginal distributions of husbands' and wives' earnings. This occurs because, even given a constant association between spouses' earnings (H_pW_p), the correlation between spouses' earnings will increase as spouses move from areas of the marriage table where the association is low or negative to areas in which it is higher. For comparability with past research using the correlation coefficient, I capture these composition effects by dropping the cross-sectional association terms (H_pW_p) from model D3. The difference in inequality trends implied by models D3 and D4 is an estimate of the impact of composition effects, which are largely a function of the increasing proportion of dual-earner couples, on trends in inequality. Note that terms for trends in the distributions of husbands' and wives' earnings remain in model D4 (H_pY, W_pY). Thus, although wives' labor force participation increased dramatically between 1967 and 2005, the difference in inequality trends implied by models D3 and D4 only captures the portion of this change that

[7]The use of predicted trends in inequality introduces some error into the decomposition, but the model fits the data well enough so that this error is minimal.

[8]When the trend parameters are removed, the associations are held constant at their average values across the time series. See Simkus (1984) for a further discussion of this issue.

is due to the "migration" of couples from areas of the marriage table in which the association is low or negative to areas in which it is higher.

Figure 7 summarizes the results of the decomposition. Appendix table A1 shows the predicted and counterfactual trends estimated from models D1 to D4 and is the basis for the results shown in figure 7. The total heights of the bars in figure 7 correspond to the counterfactual, what would trends in inequality have been had the association between spouses' earnings remained constant but all else had changed as observed? Under this counterfactual, I estimate that approximately 25%–30% of the increases in earnings inequality among married couples between 1967 and 2005 can be attributed to the increasing association between spouses' earnings, depending on the measure used. These estimates fall between those presented by Blackburn and Bloom (1995), who estimate that changes in the correlation accounted for 44%–51% of change in the coefficient of variation between 1979 and 1987, and those presented by Cancian and Reed (1999), who estimate that changes in the correlation accounted for 17% of changes in the coefficient of variation between 1979 and 1989.

Over a period similar to that examined by Blackburn and Bloom (1995) and Cancian and Reed (1999) (between the 1975–78 and 1987–90 periods), I find that 44% of the change in the coefficient of variation is due to changes in the association between spouses, an estimate closer to Blackburn and Bloom's. Cancian and Reed's estimate may be lower than Blackburn and Bloom's and that presented here because, unlike Blackburn and Bloom and the present analysis, Cancian and Reed estimate the contribution of changes in the correlation between wives' earnings and all other sources of income (husbands' earnings, the earnings of other household members, income from other sources such as interest and dividend income, transfer payments, and pension income) rather than just between husbands' and wives' earnings. Changes in the correlation between wives' earnings and residual income (income other than husbands' earnings) have been negative (Cancian et al. 1993; Cancian and Reed 1999), and thus the inclusion of residual income depresses estimates of the contribution of changes in the correlation to inequality. Nevertheless, together these findings suggest that the increasing association between spouses' earnings has had modest effects on trends in inequality.

Figure 7 also shows the contribution of the three subcomponents of the changing association. Although changes in the association account for roughly similar portions of increased inequality across the four inequality measures, the source of these contributions vary. For the coefficient of variation, 45% of the total impact of change in the association is attributable to increases in the association between spouses' earnings among dual-earner couples, 36% is due to the weakening negative association between husbands' earnings and the odds that wives work, and 19% is due to the increasing proportion of dual-earner couples (appendix table A1). By contrast, the contribution of changes in the relationship between husbands' earnings and the odds that wives work is larger for trends in high-low inequality than for the coefficient of variation (48% vs. 36%) and the contribution of the growing association between spouses' earnings among dual-earnings is smaller (28% vs. 45%).

Furthermore, as expected on the basis of the descriptive statistics showing a disproportionate increase in the earnings of working wives with high-earning husbands (fig. 3), changes in the association between spouses' earnings among dual-earners had the largest impact on trends in high-middle inequality and a smaller impact on middle-low inequality (57% vs. 8%). Conversely, declines in the negative relationship between husbands' earnings and the odds that wives work had a larger impact on middle-low inequality than on high-middle inequality (69% vs. 17%). This can be traced to the similar magnitude of increases in labor force participation among wives with high- and middle-earning husbands and the slower

rates of increase among wives with low-earning husbands (fig. 5). The impact of the increasing percentage of couples that are dual-earners was roughly similar across the different inequality measures, explaining about 20%–25% of the total contribution of changes in the association.

DISCUSSION

This study has investigated whether the growing economic similarity of spouses has resulted in an unintended consequence–growing inequality across married couples. The increasing association between spouses' earnings accounts for a nontrivial portion of trends in earnings inequality among married couples in the United States between 1967 and 2005. Increases in earnings inequality among married couples would have been about 25%–30% lower than observed in the absence of the increased association between spouses' earnings, depending on the measure of inequality used. The magnitude of these estimates is consistent with previous studies estimating changes in inequality through the late 1980s, which used different methodologies (Blackburn and Bloom 1995; Cancian and Reed 1999).

What is new to this analysis is that I decompose the sources of these impacts and show how the changing association has contributed to inequality in different ways in different portions of the earnings distribution. Specifically, changes in the association between spouses' earnings among dual-earner couples have contributed more to growing inequality at the top of the earnings distribution, whereas declines in the negative relationship between husbands' earnings and the odds that wives work have contributed more to growing inequality at the bottom. Changes in the association between spouses' earnings among dual-earner couples and declines in the negative relationship between husbands' earnings and the odds that wives work have had roughly equal impacts on increases in the coefficient of variation. Previous research has speculated that both of these factors have played a role in increasing inequality in the United States, but none have quantified their separate contributions to inequality in different portions of the earnings distribution.

These trends offer a basis for tentative speculation about the future impact of changes in the economic resemblance of spouses. First, between the mid-1990s and 2005, wives' labor force participation rates flattened, leading some to speculate that wives' labor force participation had reached a ceiling (Goldin 2006). Over this period, there was also little change in the relationship between husbands' earnings and the odds that wives work. Nevertheless, the correlation between spouses' earnings continued to increase because of disproportionate growth in the earnings of wives with high-earning husbands. If the labor force participation rate of wives remains at its current level and the relationship between husbands' earnings and the odds that wives work also remains unchanged, then any future increases in the association between spouses' earnings will come from dual-earner couples. Furthermore, the faster growth of wives' earnings among those with high-earning husbands suggests that the near future impact of changes in the association between spouses' earnings may be greatest for inequality between high- and middle-earning couples.

In addition to providing a decomposition of the impact of change in the association between spouses' earnings on inequality, this article has tested the adequacy of various descriptions of the changing association between spouses' earnings. I find that changes in the association between spouses' earnings are not well described by the correlation coefficient, which has often been used in previous literature, but are better described by a model that distinguishes between earners and nonearners and that incorporates measures of diminishing economic differences between spouses, both with respect to their relative earnings (high-earning husbands are more likely to be married to high-earning wives) and with respect to the absolute difference between spouses' earnings. These findings suggest that the association

between spouses' earnings increased because of more than just a tightening of the rank-order pairing of husbands' and wives' earnings. Rather, these findings are consistent with hypotheses that emphasize couples' growing egalitarianism and concern with differences in their real earnings (Brines and Joyner 1999).

More generally, these findings complement work on the shifting economic foundations of marriage (e.g., Oppenheimer 1994, 1997; Sweeney 2002; Sweeney and Cancian 2004). Recent empirical studies have shown that spouses' preferences for mates have become more similar, that sorting into marriage on socioeconomic factors has increased, and that husbands and wives play more similar economic roles within marriage (e.g., Buss et al. 2001; Sweeney and Cancian 2004; Schwartz and Mare 2005; Bianchi et al. 2006). Each of these findings supports the notion that marriage has moved from being well characterized by a specialization and trading model to being better characterized by a collaborative model, both at the outset of marriage and within marriage. This study connects a key component of these trends, the rising resemblance of spouses' earnings, to growing inequality.

A limitation of this article is that it relies on cross-sectional data, which means that I have not been able to determine the extent that trends in the association between spouses' earnings are due to increased assortative mating and changes in the division of labor within marriage. The independent contribution of these effects to increased inequality has received limited attention (Hyslop 2001), and it deserves further study. Although the potential effects of assortative mating patterns on inequality have been of considerable interest to stratification researchers and demographers (e.g., Smits, Ultee, and Lammers 1998; Schwartz and Mare 2005), it is possible that changes in assortative mating have had negligible effects on the association between spouses' earnings compared with the dramatic changes in wives' labor force participation. Indeed, studies of trends in educational assortative mating suggest that increased assortative mating may have had little impact on inequality (Kremer 1997; Western et al. 2008). These studies point to the importance of future research on the consequences of changes in spouses' behavior after marriage for growing inequality.

This article has focused on one component of changing family patterns and their effects on inequality, but it is part of a growing constellation of research that examines the relationship between changing family patterns and economic inequality. The increasing prevalence of single-parent families stemming from increased divorce and nonmarital fertility has also had substantial effects on trends in inequality across families (e.g., Daly and Valletta 2006; Western et al. 2008). At the same time, growing economic inequality itself may affect family and marriage patterns (Mc-Lanahan and Percheski 2008). For example, rising economic inequality may have increased the economic resemblance of spouses as the costs of "marrying down" have increased (Fernández et al. 2005). Finally, the growing resemblance between spouses' earnings may have consequences for the intergenerational transmission of status and inequality. Occupational and educational mobility studies show that both mother's and father's status matter for children's success (Mare 1981; Kalmijn 1994) and that the effects of mother's characteristics on children's outcomes have increased (Beller 2009). Future research should investigate whether the growing resemblance between spouses' earnings has led to a stronger relationship between children's family background and their life chances.

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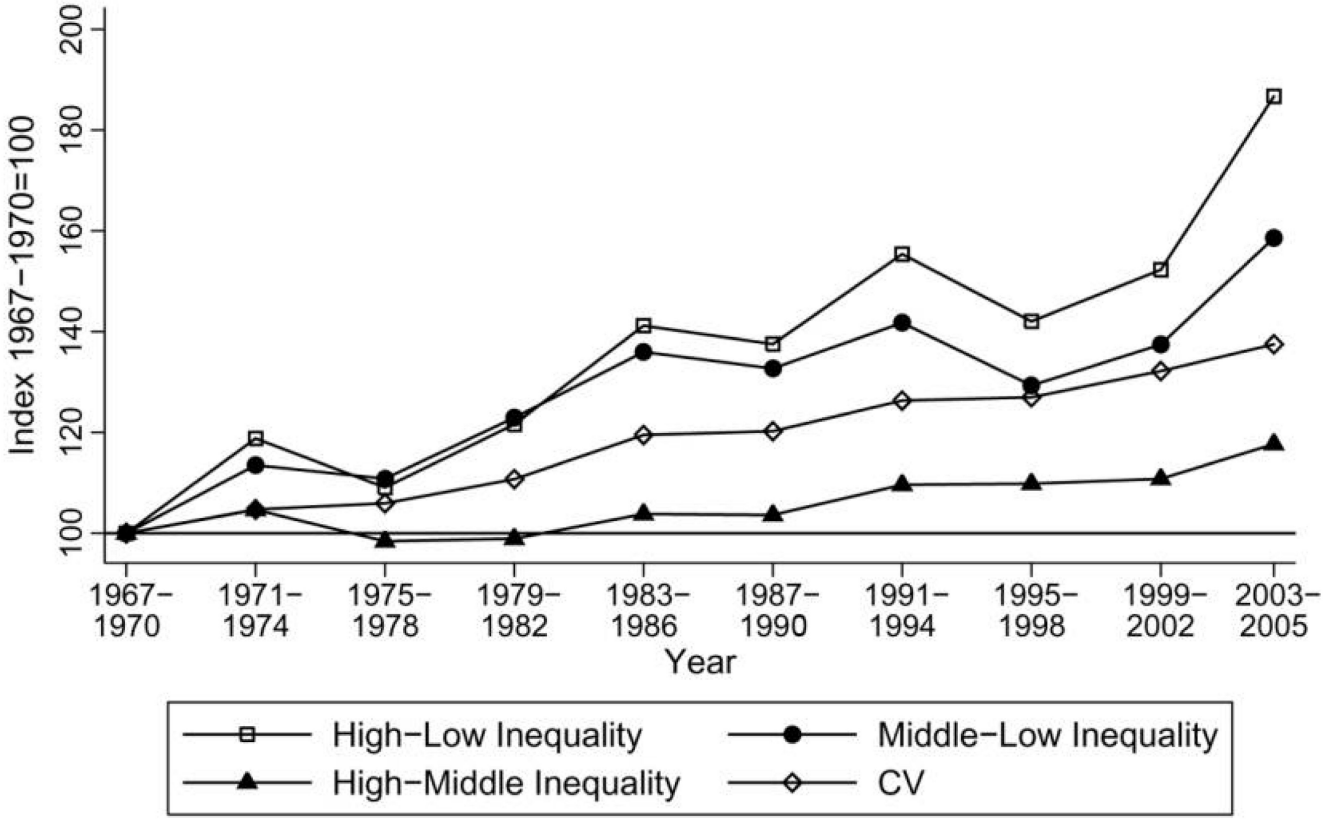

FIG. 1.
Changes in earnings inequality among married couples (husbands and wives ages 21–55).

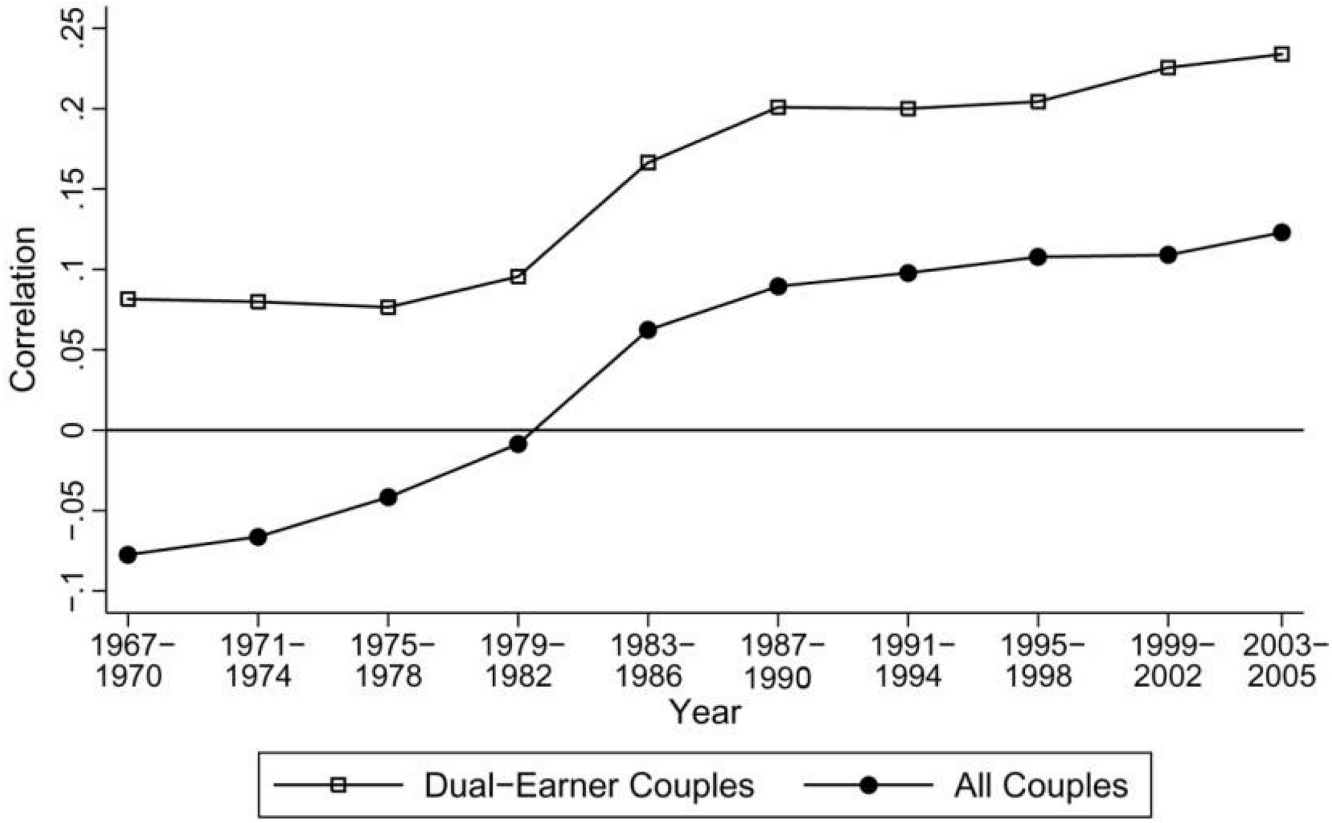

FIG. 2.
Trends in the correlation between husbands' and wives' earnings

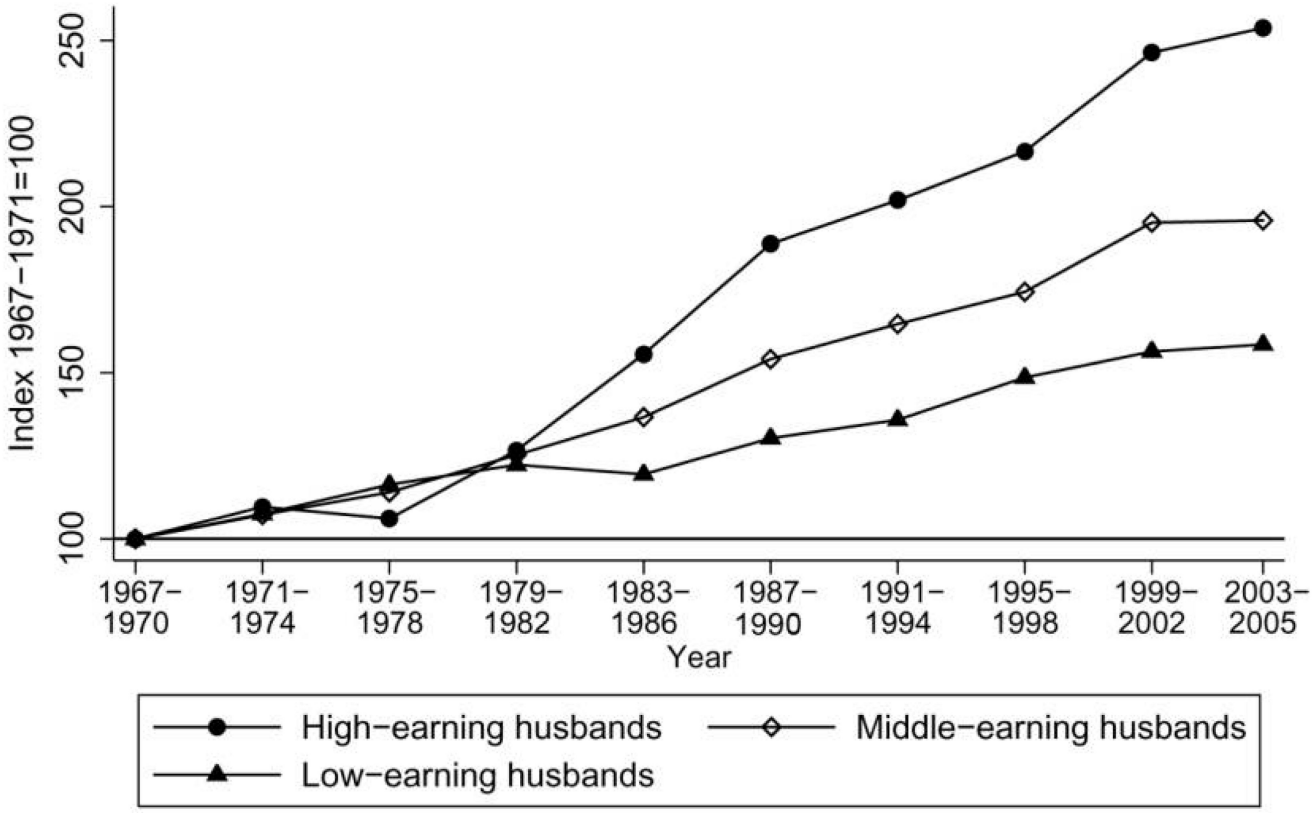

FIG. 3.
Changes in wives's earnings by husbands' earnings (dual-earner couples)

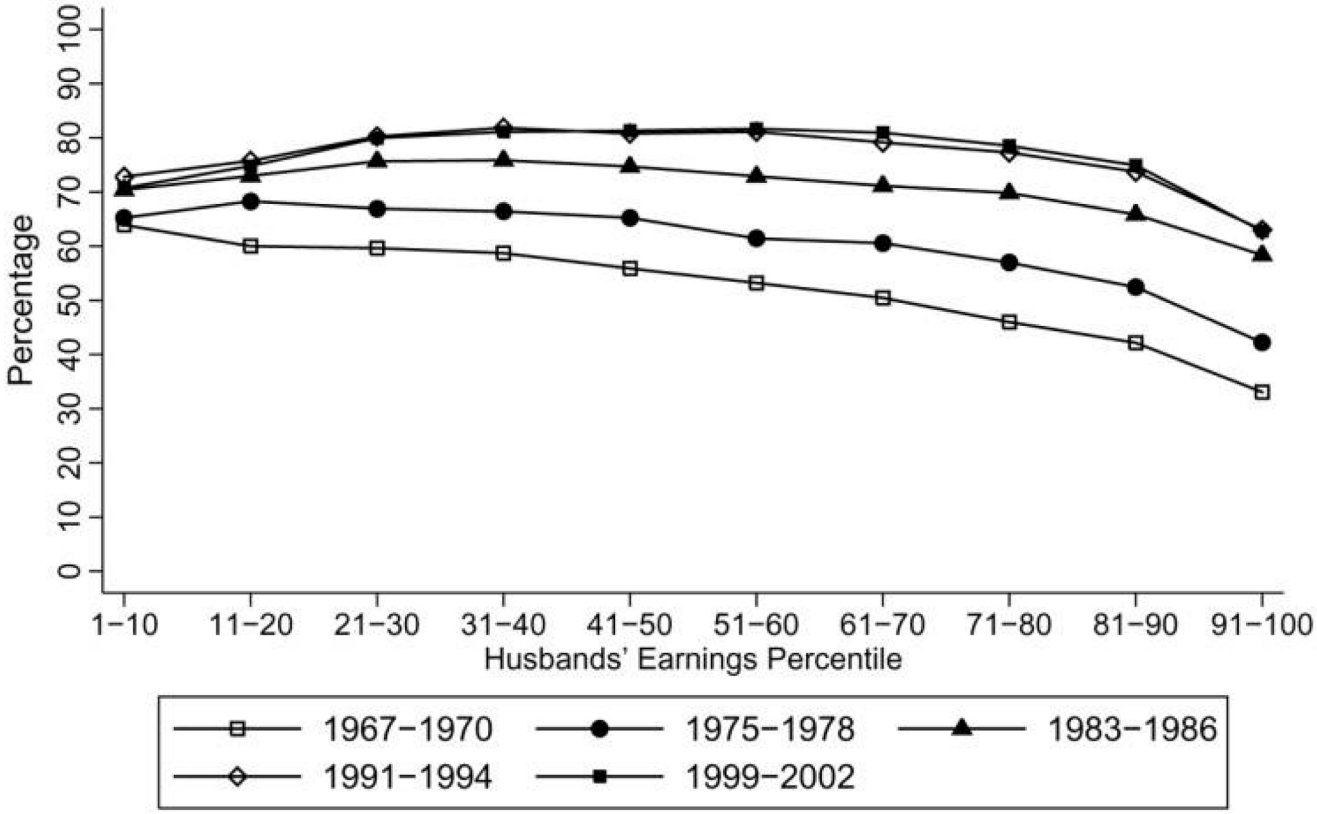

FIG. 4.
Percentage of wives with nonzero annual earnings by husbands' earnings percentile in selected years.

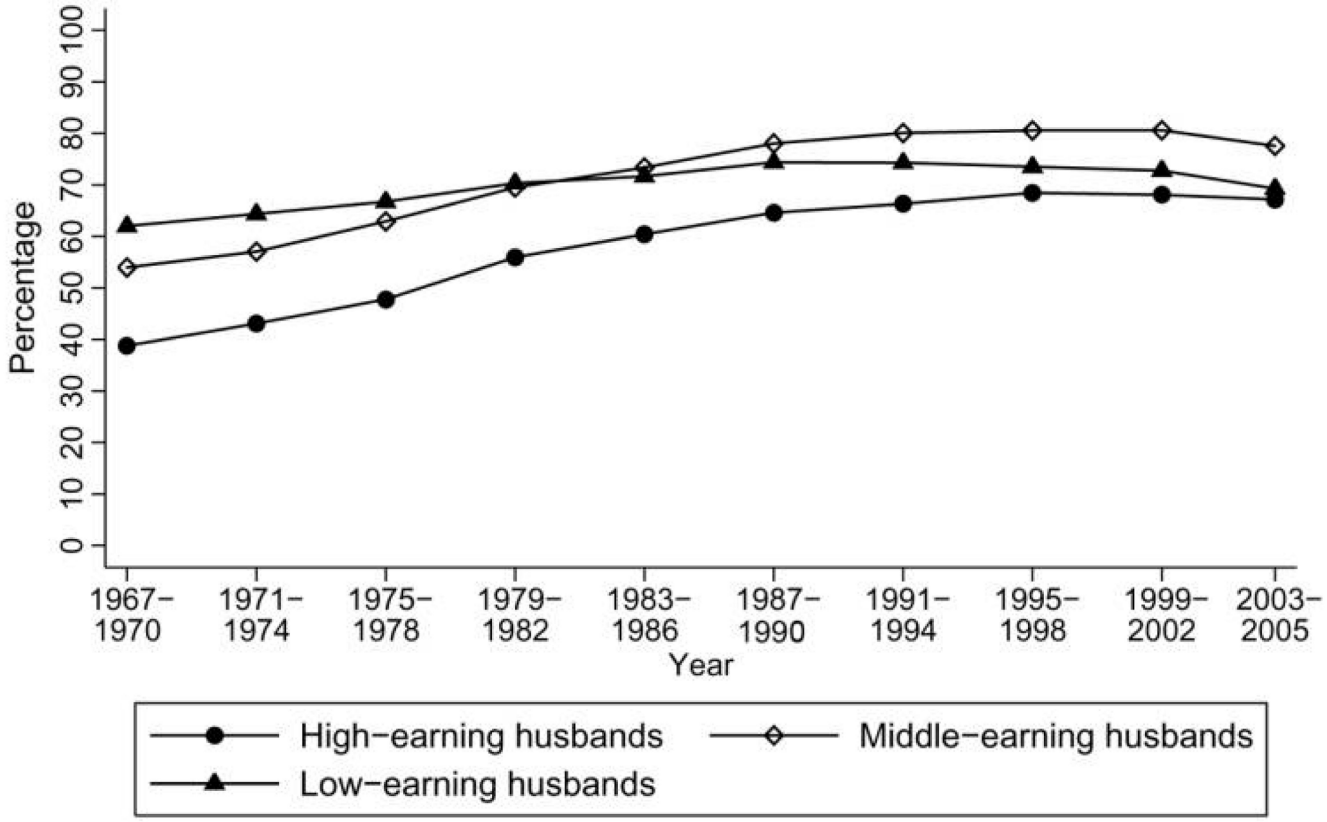

FIG. 5.
Percentage of wives with nonzero annual earnings by year and husbands' earnings.

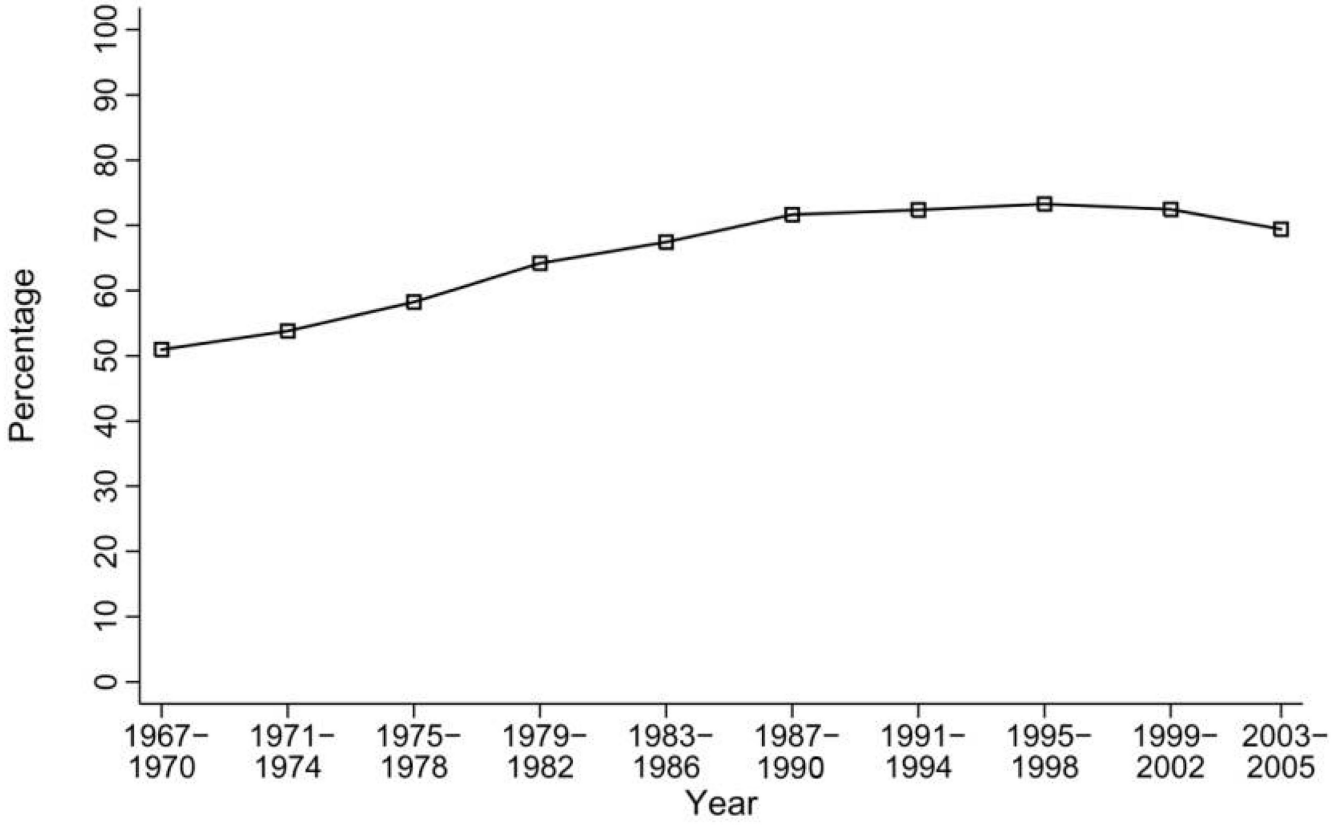

FIG. 6.
Trends in the percentage of married couples in which both partners have nonzero annual earnings.

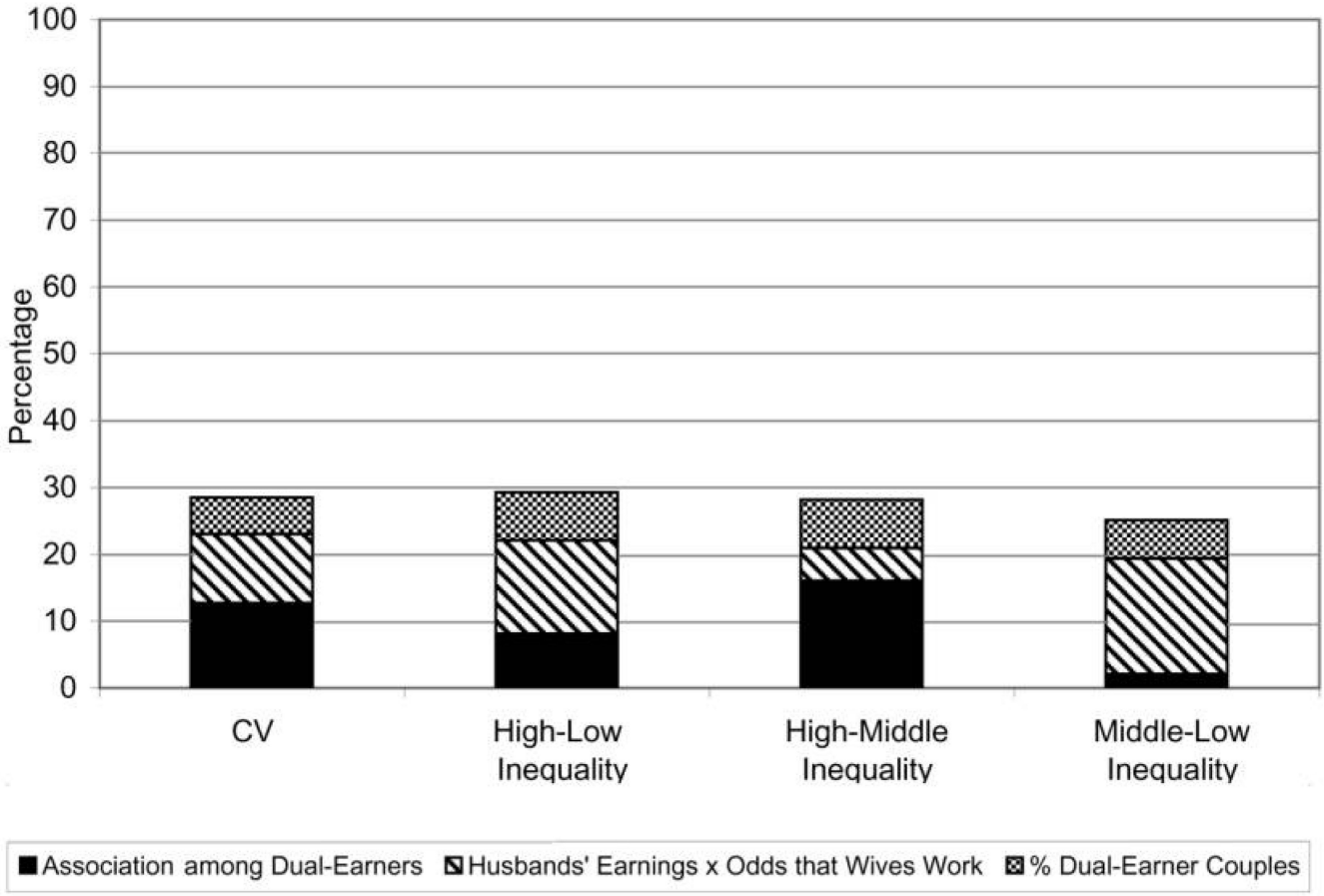

FIG. 7.
Decomposition of change in earnings inequality among married couples into components due to the association between spouses' earnings.

TABLE 1

Log-linear models of trends in the association between husbands' and wives' earnings, 1967–2005

Model	*df*	G^2	BIC
1. $H_pY + W_pY + H_pW_p$	3,600	13,476	−35,031
2. Model 1 + L_sY	3,591	10,986	−37,400
3. Model 1 + $L_sY + Z^wH^2_{lp}Y$	3,564	8,960	−39,062
4. Model 1 + $Z^wH^2_{lp}Y + \lvert H_s - W_s\rvert Y$	3,564	7,617	−40,405
5. Model 1 + $Z^wH^2_{lp}Y + \lvert H_p - W_p\rvert Y$	3,564	7,509	−40,513
6. Model 1 + $Z^wH^2_{lp}Y + \lvert H_s - W_s\rvert Y + \lvert H_p - W_p\rvert Y$	3,555	6,942	–40,959

NOTE.—N = 710,899; cells = 4,410. Earnings are log earnings in 2005 dollars except in model 2 in which earnings are not logged. Model terms are as follows (*df* are in parentheses): H_p = husbands' earnings percentile (20); W_p = wives' earnings percentile (20); Y = year (9); L_S = linear-by-linear association, using time-varying scale scores (1); Z^W = no annual earnings, wives (1); H_{lp} = husbands' earnings percentile, linear term (1); $|H_S - W_S|$ = absolute value of difference between husbands' log earnings and wives' log earnings (1); $|H_p - W_p|$ = absolute value of difference between husbands' earnings percentile and wives' earnings percentile (1). Data are from the 1968–2006 March Current Population Surveys.

TABLE 2

Log-linear models for decomposing the impact of changes in the association between spouses' earnings on earnings inequality, 1967–2005

	df	G^2	BIC
Model:			
(D1) Model 1 + $Z^W H_{lp}^2 Y$ + $\lvert H_s\text{-}W_s\rvert Y$ + $\lvert H_p\text{-}W_p\rvert Y$	3,555	6,942	−40,959
(D2) $H_pY + W_pY + H_pW_p + Z^W H_{lp}^2 Y$	3,573	10,602	−37,542
(D3) $H_pY + W_pY + H_pW_p$	3,600	13,476	−35,031
(D4) $H_pY + W_pY$	4,000	55,579	1,682
Counterfactuals:			
(D1) – (D2) = no change in the association among dual-earners			
(D2) – (D3) = no change in the relationship between husbands' earnings and the odds that wives work			
(D3) – (D4) = no change in the percentage of couples that are dual-earners (composition effects)			

NOTE.—N = 710,899; cells = 4,410. Model terms are as follows (*df* are in parentheses): H_p = husbands' earnings percentile (20); W_p = wives' earnings percentile (20); Y = year (9); L_S = linear-by-linear association, using time-varying scale scores (1); Z^W = no annual earnings, wives (1); H_{lp} = husbands' earnings percentile, linear term (1); $|H_S - W_S|$ = absolute value of difference between husbands' log earnings and wives' log earnings (1); $|H_p - W_p|$ = absolute value of difference between husbands' earnings percentile and wives' earnings percentile (1). Data are from the 1968–2006 March Current Population Surveys.

TABLE A1

Decomposition of changes in earnings inequality among married couples into components due to the association between spouses' earnings:

Inequality Measure and Component	1967–70 (A)	2003–5 (B)	Difference (C) = (B) – (A)	% Change vs. (Dl) (D)	% of Total Association Component (E)
CV:					
(Dl) Predicted	.451	.629	.178		
(D2) No change in association among dual-earners	.460	.616	.155	12.7	44.6
(D3) + no change in husbands' earnings × odds wives work	.470	.607	.137	23.0	36.2
(D4) + no change in % dual-earner couples	.468	.596	.127	28.5	19.2
Total					100.0
High-low inequality:					
(Dl) Predicted	3.959	7.257	3.298		
(D2) No change in association among dual-earners	3.987	7.018	3.031	8.1	27.6
(D3) + no change in husbands' earnings × odds wives work	3.894	6.464	2.570	22.1	47.8
(D4) + no change in % dual-earner couples	3.806	6.137	2.332	29.3	24.7
Total					100.0
High-middle inequality:					
(Dl) Predicted	.582	.736	.154		
(D2) No change in association among dual-earners	.592	.721	.129	16.0	56.7
(D3) + no change in husbands' earnings × odds wives work	.600	.721	.122	20.9	17.4
(D4) + no change in % dual-earner couples	.603	.714	.111	28.2	25.9
Total					100.0
Middle-low inequality:					
(Dl) Predicted	6.804	9.860	3.056		
(D2) No change in association among dual-earners	6.735	9.728	2.993	2.1	8.2
(D3) + no change in husbands' earnings × odds wives work	6.495	8.959	2.464	19.4	68.8
(D4) + no change in % dual-earner couples	6.307	8.595	2.288	25.1	23.0
Total					100.0

NOTE.—Data are from the 1968–2006 March Current Population Surveys. Model definitions are given in table 2. In this table, the plus sign (+) indicates that constraints are being added to the previous model. For example, (D3) is "No change in association among dual-earners + No change in husbands' earnings × odds wives work."