Cohabitation and the Uneven Retreat from Marriage in the U.S., 1950-2010*

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ABSTRACT

Since 1950 the sources of the gains from marriage have changed radically. As the educational attainment of women overtook and surpassed that of men and the ratio of men's to women's wage rates fell, traditional patterns of gender specialization in work weakened. The primary source of the gains to marriage shifted from the production of household services and commodities to investment in children. For some, these changes meant that marriage was no longer worth the costs of limited independence and potential mismatch.

Cohabitation became an acceptable living arrangement for all groups, but cohabitation serves different functions among different groups. The poor and less educated are much more likely to rear children in cohabitating relationships. The college educated typically cohabit before marriage, but they marry before conceiving children and their marriages are relatively stable.

We argue that different patterns of childrearing are the key to understanding class differences in marriage and parenthood, not an unintended by-product of it. Marriage is the commitment mechanism that supports high levels of investment in children and is hence more valuable for parents adopting a high-investment strategy for their children.

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1. Introduction

Since 1950 there have been dramatic changes in patterns of marriage and divorce in the United States. Americans now marry later and are more likely to divorce. More men and women, though still a small minority, do not marry at all. Cohabitation as a precursor or an alternative to marriage has become commonplace. A growing fraction of births now take place outside marriage. This decoupling of marriage and parenthood has received a great deal of scholarly and public attention, particularly focused on differences in nonmarital childbearing across racial and ethnic groups. Within each racial and ethnic group, however, there are dramatic differences in marriage and childbearing behavior across education and income strata. But these differences, which also have potentially important implications for investments in children and intergenerational income mobility, have received less attention than racial and ethnic gaps.

In this paper, we make two claims about marriage. First, we claim that intertemporal commitment is central to understanding marriage as an economic institution. Second, we claim that in early 21st century America intertemporal commitment is valuable primarily because it facilitates investment in children. These claims are distinct, but together they imply that the desire to invest in children as a joint project has become a primary motive for marriage. Differences in the expected returns to these investments across socioeconomic groups explain the uneven retreat from marriage.

We revisit the literature on the economics of marriage, distinguishing between explanations that involve intertemporal commitment and those that do not. What Claudia Goldin has called the "quiet revolution" in women's economic status since 1970 has led to a wholesale redefinition of men's and women's roles in the household. Commitments between wage-earning men and their stay-at-home wives that were central to marriage in the first half of the 20th century became obsolete as the labor force participation of married women increased. Changes in family law and social norms weakened the strength of the marriage commitment by making divorce easier to obtain and blurring the social distinction between cohabitation and marriage. Once cohabitation became a socially and legally acceptable way to achieve the benefits of coresidential intimacy and economic cooperation, the advantages of living in a multiple-person household no longer provided a rationale for marriage. Marriage must be based on gains

compared with cohabitation as well as gains compared with living alone.[1] Sociologists have emphasized the cultural significance of marriage as the source of its persistence as a goal and ideal. An economic approach to understanding the persistence of marriage, once cohabitation is recognized as an alternative, emphasizes the potential returns to intertemporal commitment.

Investment in children is clearly not the only reason couples have ever made intertemporal commitments, nor do we claim it is the only reason couples do so now. In particular, not all couples that marry intend to have children, and some married couples have other motives for commitment.[2] Women who marry after menopause generally do not intend to have additional children; for many older couples, the relevant marital commitment may be to provide care for each other in old age. The current debate over same-sex marriage is best understood as primarily a contest over social recognition and acceptability, with considerations involving children playing a secondary role. We argue, however, that during the last half of the 20th century the importance of investment in children has increased, particularly for the most advantaged families, while the importance of other reasons for making intertemporal commitments has diminished.

2. The Retreat from Marriage: 1950-2010

"The family in the Western world has been radically altered, some claim almost destroyed, by the events of the last three decades" (Gary S. Becker, Treatise on the Family, 1981).

In her 2006 Ely Lecture, Claudia Goldin traces the "quiet revolution" in American women's careers, education, and family arrangements that began in the 1970s, and the "evolutionary" changes in labor force participation that preceded it (Goldin, 2006). Evolving patterns of marriage and divorce in the United States are linked to these changes in women's status and identity, as well as historic changes in fertility rates and in women's participation in the paid workforce. As the post-war baby boom came to an end and fertility rates fell in the

[1] By "living alone" we mean living in a one-adult household; thus, living alone includes lone parents. The not entirely satisfactory rationale for this is the fiction that the adult is the sole decision maker in a one-adult household.
[2] Abma and Martinez (2006) find that only 4 percent of married women aged 35 to 44 in the 2002 National Survey of Family Growth are voluntarily childless, and that rates of voluntary childlessness are lower in the 2002 wave of the National Survey of Family Growth (NSFG) than in the 1988 and 1992 waves.

1960s, and as women's intermittent employment turned into lifetime commitments to market work and careers, marriages changed as well. Marriage was delayed to accommodate higher education and smaller families, divorce rates rose rapidly, and for many, coresidence without marriage became an acceptable precursor if not a replacement for marriage.

The median age at first marriage was at a historic low during the height of the baby boom in the 1950s—just over age 20 for women, and about age 23 for men. A modest delay in first marriage during the 1960s was followed by a rapid increase in marriage age that continued for the next four decades (Figure 1). Part of this delay was due to additional years spent in school: the college attendance of young men and women rose steadily until the 1980s, when improvements in men's educational attainment stalled but women's continued to rise. The proportion of young adult women with college degrees equaled, and then exceeded, that of men in the 1990s. Beginning in the 1980s, increases in premarital coresidence by young couples become another important driver of marriage timing—stabilizing the age at which households are first formed while further delaying age at marriage (Bailey, Guldi, and Hershbein, forthcoming).

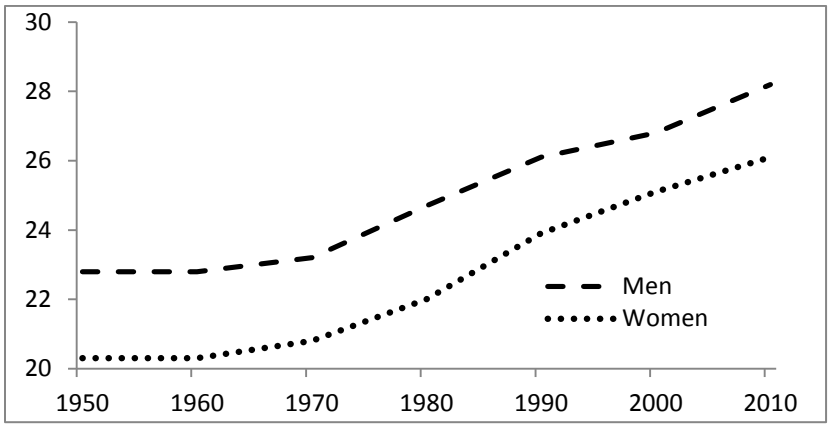

Figure 1: Median Age at First Marriage
(Source: U.S. Bureau of the Census)

Marriage delay alone tended to reduce the fraction of young men and women who were currently married (or ever married) in their twenties, but in the 1970s the prevalence of marriage began to decline even for older groups of men and women. Figure 2 shows this decline for men and women aged 30 to 44, much of it accounted for by an increase in cohabitation. The National Survey of Family Growth (NSFG) permits the tracking of trends in cohabitation from the first wave in 1982 to the most recent in 2006-2010. Over this period, the 8 percent decline in the

fraction of 15 to 44 year old women currently married (from 44 to 36 percent) is exactly offset by the increase in the proportion cohabiting (from 3 to 11 percent).[3] [4]

The gap between the proportion of 30 to 44 year-olds currently married (now about 60 percent) and the proportion ever-married (80 percent for women, 74 percent for men) has widened due to increases in divorce (Figure 2). The annual divorce rate (the number of divorces per thousand married couples) more than doubled between 1960 and 1980—from less than 10 to more than 20. In part a transitory response to liberalized divorce laws, the divorce boom has since subsided, falling by more than 25 percent since the peak in 1979. Stevenson and Wolfers (2007) argue that current rates are consistent with a long-term pre-war trend of rising divorce.[5]

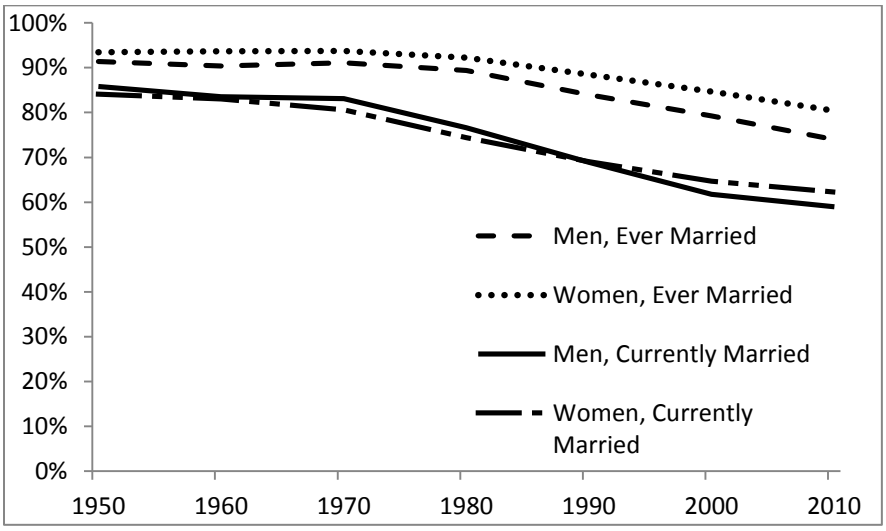

Figure 2: Proportion of Men and Women Ever Married and Currently Married, Ages 30-44
(Source: Census 1950-2000, American Community Survey 2010)

In recent decades, the social and legal significance of the distinction between marriage and nonmarriage has eroded. Spells of cohabitation have become longer and more likely to involve children (Kennedy and Bumpass, 2008). Supreme Court decisions in the 1960s and

[3] Copen et al., (2012) find, not surprisingly, similar trends for men.
[4] Much of the family structure literature combines cohabitation and marriage into a single category (i.e., "two-parent families"), rather than distinguishing between cohabitation and marriage. Ginther and Pollak (2004) and Gennetian (2005) distinguish between families that include step-children (e.g., "blended families) and "traditional nuclear families" (i.e., households in which all of the children live with both biological parents.
[5] Taking a different approach, Rotz (2011) shows that, given the strong negative relationship between the probability of divorce and age at marriage, the delay in marriage age since 1980 may be a major proximate cause of the decrease in divorce propensity during that period.

1970s increased the rights of children born out of wedlock to financial support and inheritance.[6] Marriage also became less important as a determinant of obligations for paternal child support as the introduction of in-hospital voluntary paternity establishment programs by states (following a federal mandate) during the 1990s reduced the costs of legal paternity establishment. By 2005, the ratio of paternities established to nonmarital births had risen to nearly 90 percent (Rossin-Slater, 2012). The costs of exiting marriage fell as unilateral divorce became, in one form or another, universal across the United States.[7] Changes in social norms that accompanied these changes have also played a role: the stigma associated with nonmarital sex, cohabitation, nonmarital fertility, and divorce have declined dramatically (Thornton and Young-DeMarco, 2001).

Rising rates of nonmarital fertility in the United States and the pronounced race/ethnic gaps in these rates (Figure 3) have received a great deal of attention from researchers and policymakers. The median age at first marriage has been rising more rapidly than the median age at first birth and in 1991 the two trends crossed and continue to diverge. In 2009, the median age at first birth was more than one year lower than the median age at first marriage (Arroyo, et al., 2012). The circumstances in which nonmarital births take place have been changing, however. England and Wu (forthcoming) show that, for women who reached childbearing age in the 1950s through the mid-1960s, the primary cause of rising premarital births was an increase in premarital pregnancies that were brought to term (and, in all probability, an increase in premarital sex). During the subsequent two decades, however, the principal driver of the trend in premarital childbearing was a reduction in the probability of marriage following a premarital conception—a decrease in "shot-gun" marriages.[8] The proportion of nonmarital births that are to lone mothers has also been decreasing: 52 percent of nonmarital births now occur within cohabiting unions, many of them the outcome of a "shot-gun cohabitation" (Manlove, et al., 2010; Lichter, 2012)

[6] Stevenson and Wolfers (2007) provide a summary of these rulings.

[7] Grossman and Friedman (2011) describe these changes as well as changes in the rules governing the division of property, spousal support, and alimony. To a first approximation, however, these rules affect distribution between the ex-spouses, not the cost of exiting marriage.

[8] Akerlof, Yellen and Katz (1996) attribute this change to endogenous norms regarding nonmarital sex and responsibility for unintended pregnancies. They argue that the increasing availability of the birth control pill in the 1960s and the nationwide legalization of abortion in 1973 led to a new equilibrium in which nonmarital sex was more readily available because competition for the attention of men increased the pressure on unmarried women to have sex and responsibility for contraception (and unintended pregnancies) shifted to women.

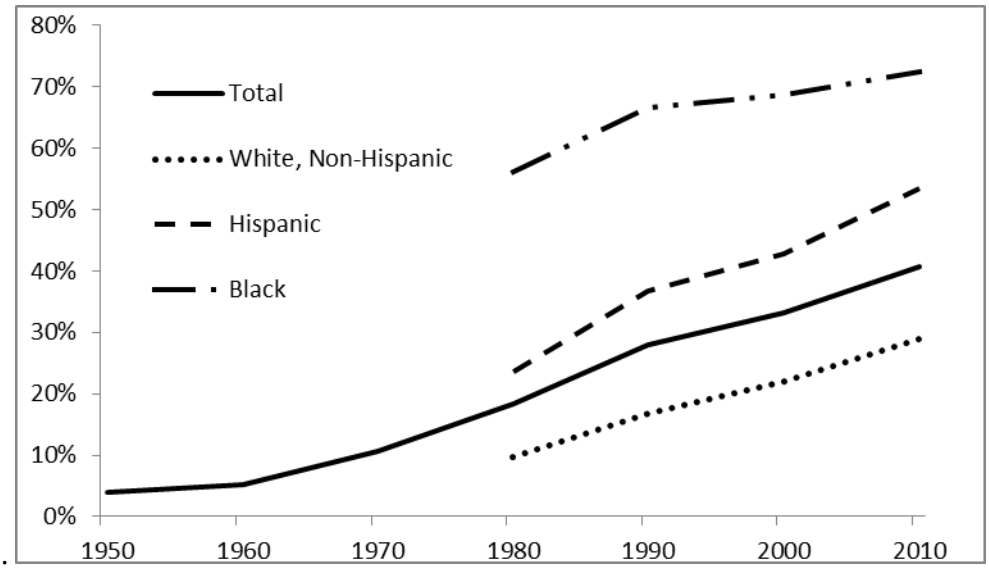

Figure 3: Nonmarital Births as a Proportion of All Births, by Race and Ethnicity

(Source: Child Trends Data Bank

Compared with other wealthy countries, the U.S. is an outlier in many dimensions of family dynamics. The level of fertility that occurs outside any union—marital or cohabiting—is relatively high, and both marital and cohabiting unions are very unstable (Cherlin, 2009). In many northern European countries, cohabitation has progressed further in the direction of becoming a replacement for marriage: a much smaller proportion of the population ever marries, rates of cohabitation and proportions of births within cohabiting unions are much higher, and these unions are much more durable than in the U.S. In most southern European countries, levels of non-marital fertility are much lower, but in both Northern and Southern Europe there are substantial differences within countries (e.g., between eastern and western Germany, and between northern and southern Italy).[9] There is a socioeconomic gradient in family structure in most European countries, with low levels of education associated with more cohabitation and higher rates of nonmarital childbearing[10] but these discrepancies are less pronounced than in the U.S.

Focusing on whites with different levels of education, we can see that the retreat from marriage has been much more rapid for men and women with lower levels of education (Figures

[9] Klüsener, Perelli-Harris, and Sánchez Gassen (2013) document the differences in nonmarital fertility between and within European countries since 1960.

[10] Perelli-Harris, et al., (2010) also find that the negative educational gradient of childbearing within cohabitation is significantly steeper than that of marital births in four of the eight countries they study.

4 and 5). We use a three-fold classification, distinguishing among college graduates (the "college educated"), individuals with some college, and those with a high-school education or less.[11] The proportion of men aged 30 to 44 who are currently married (reflecting both marriage and divorce behavior) has been almost flat for men with a college degree, but has declined substantially for men with less education. Women with college degrees were less likely to be married than women with less education until 1990, and more likely to be married thereafter. Both marriage and remarriage rates have risen for women with college degrees relative to women with less education, and the fall in divorce rates since 1980 has been much larger for the college educated (Isen and Stevenson, 2011). This implies that long-term marital stability also has an education gradient: the probability that a first marriage will remain intact for 20 years is sharply higher for women with a college degree (78 percent) than for women with a high-school diploma (41 percent) or some college (49 percent) (Copen et al., 2012).[12]

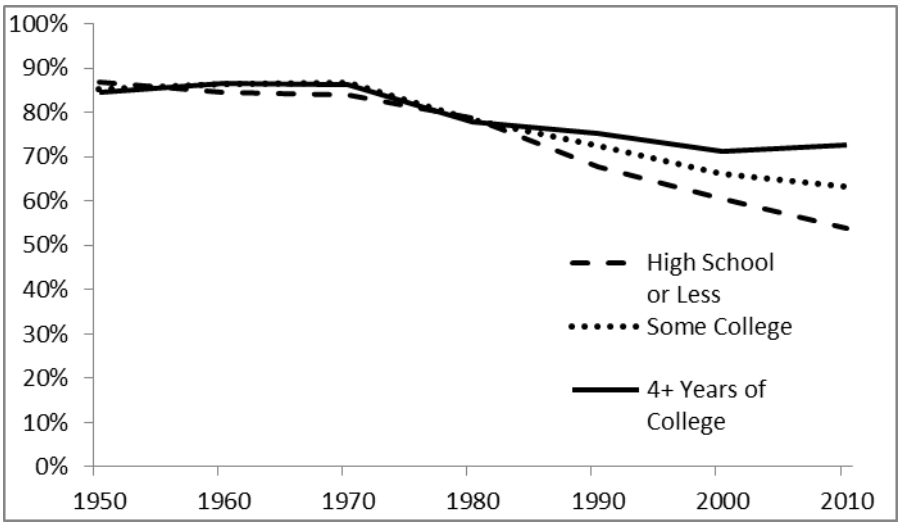

Figure 4: Proportion of White Men Currently Married, Age 30-44

(Source: Census 1950-2000, American Community Survey 2010)

[11] The literature often uses a different three-fold classification, combining college graduates and individuals with some college into a single category, but distinguishing between high-school graduates and high-school dropouts. We have chosen our categorization because the high school dropout group has become increasingly dominated by immigrants with distinctive family patterns and the 'some college' group behaves very differently from college graduates. According to Census figures, in 2012 43.7 percent of non-Hispanic white women between 25 and 29 were college graduates; the comparable figure for Hispanics is 17.5 percent and for non-Hispanic blacks is 26.2 percent.

[12] They also find that the education gradient in divorce probability is much less steep for men than for women.

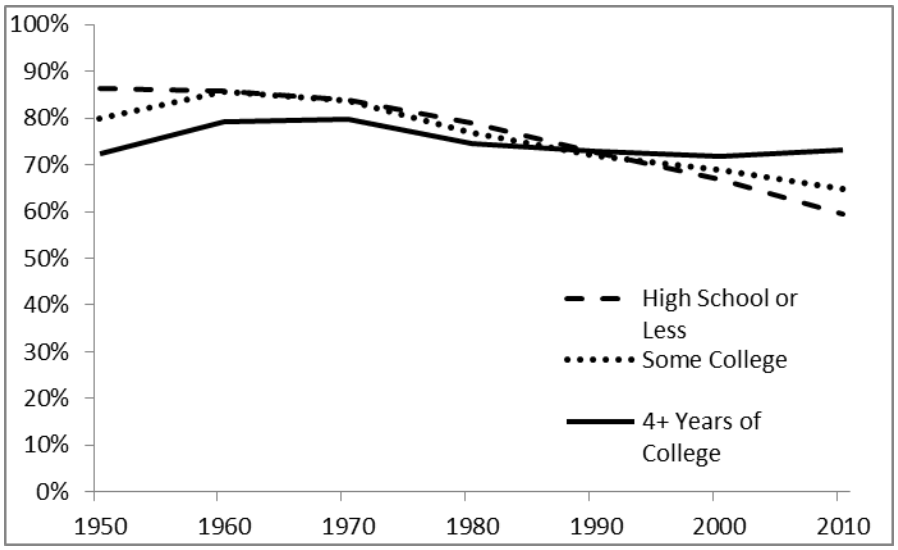

Figure 5: Proportion of White Women Currently Married, Age 30-44

(Source: Census 1950-2000, American Community Survey 2010)

The prevalence of cohabitation is strongly decreasing in education (Table 1) and cohabitation tends to play different roles in the lifecycles of women with high and low levels of education. For high-education couples, cohabitation is usually a precursor to marriage—a part of courtship or a trial marriage that rarely includes childbearing. Serial cohabitation[13] is much more prevalent among economically-disadvantaged men and women and, for low-income and low-education groups, cohabiting unions are less likely to end in marriage than in dissolution (Lichter and Qian, 2008). Though serial cohabitation increased in the late 1990s and early 2000s along with cohabitation more generally, a substantial majority of women only cohabit with the men they eventually marry (Lichter, Turner, and Sassler, 2010).

[13] Serial cohabitation is defined as multiple premarital cohabiting relationships (Lichter et al., 2010).

	First marriage	Second or higher marriage	Cohabiting	Never in a union	Formerly married
No high-school diploma or GED	36.6	7.7	20.2	19.1	16.5
High-school diploma or GED	39.5	9.2	15.5	20.3	15.6
Some college	42.1	7.4	11.6	26.4	12.6
Bachelor's degree	58.3	3.3	6.8	25.5	6.1
Master's degree or higher	63.0	4.4	5.5	20.1	7.0

Table 1: Current Union Status among Women Aged 15-44 Years, 2006-2010
(Source: Copen et al., 2012, from National Survey of Family Growth)

The growing divergence in marriage, cohabitation, and fertility behavior across educational groups has potentially important implications for inequality and the intergenerational transmission of economic disadvantage. In her Presidential Address to the Population Association of America in 2004, Sara McLanahan (2004) showed how the rise in single-parent families and widening gaps in maternal age and divorce rates were leading to growing disparities in the parental resources, both time and money, received by the children of more- and less-educated mothers. The sociologist Andrew Cherlin (2009) also emphasizes the costs imposed on children, and particularly the children of the non-college educated, by the instability in living arrangements and parental ties inherent in what he calls the American "Marriage-Go-Round." Focusing on non-Hispanic whites, Charles Murray's 2012 book on the class divide in family arrangements and economic status makes a similar point from a conservative social and political perspective.

The causes of post-war changes in cohabitation and marriage patterns, both the general retreat from marriage and its education and income gradient, are more difficult to establish than their likely consequences. The question we address here is how to reconcile these changes with an economic model of marriage.

3. Economic Models of Cohabitation and Marriage: The Role of Commitment

"From an economic point of view, marriage is a voluntary partnership for the purpose of joint production and joint consumption." (Yoram Weiss, The New Palgrave Dictionary of Economics, 2008)

The standard economic model of marriage ignores cohabitation as a possible living arrangement and recognizes only two alternatives: marriage and living alone. Marriage is treated as a choice by individuals who evaluate the gains to a specific marriage relative to other marriages and to living alone. According to this approach, divorce is the only route to lone parenthood and, hence, never-married individuals will be childless.[14] For example, in Becker's *Treatise on the Family* (Becker, 1981, 1991) and in Weiss's important survey article on "The Formation and Dissolution of Families..." (Weiss, 1997), the feasible set contains exactly two elements, marriage and living alone without children. In the mid-20th century, when cohabitation and nonmarital childbearing were rare and stigmatized, this truncation of the feasible set bought analytical simplicity at a relatively low cost. In recent decades, however, changes in technology, social norms, and laws have increased the attractiveness and prevalence of alternative family arrangements including cohabitation and lone parenthood.[15]

The economics of the family has recognized two broad categories of potential gains from marriage: joint production and joint consumption. Production gains arise in household production models and reflect the "division of labour to exploit comparative advantage or increasing returns" (Weiss, 2008). Consumption gains come from the joint consumption of household public (non-rival) goods (Lam, 1988). Stevenson and Wolfers (2007) expand the joint consumption category to include shared leisure activities as well as household public goods and coined the phrase "hedonic marriage" to describe modern marriages in which there is little gender-based division of labor and consumption benefits are paramount.

The presence of children affects both the production and consumption gains to marriage, and the economics of the family has long acknowledged the centrality of children. For example, Becker (1991, p. 135) writes "...the main purpose of marriage and families is the production and rearing of own children." Similarly, Weiss (1997, p. 82) writes, "the production and rearing of children is the most commonly-recognized role of the family" (also, see Weiss, 2008). The

[14] And possibly celibate—for the most part, family economics is silent about sex.
[15] The few theoretical papers in economics that model nonmarital fertility do so in the context of lone parenthood, rather than cohabitating parents (Willis, 1999; Neal, 2004).

presence of children enhances the gains to marriage in two ways: children are themselves household public goods that generate utility for each of their parents, and the coresidence of their caring parents permits the efficient coordination of childcare and investment in children (Weiss and Willis, 1985).

How can the standard model of marriage explain the retreat from marriage over the past 60 years? As long as the family economics literature continues to assume that unmarried men and women face a two-element feasible set—{marriage (i.e., living together), living alone}—it must explain the delay and increased instability of marriage in terms of the increasing relative attractiveness of living alone.

Though much of the increase in the age at first marriage for very recent cohorts can be attributed to increases in premarital cohabitation, the pronounced delay in marriage between 1970 and 1990 was associated with an extended period of living alone. Advances in contraceptive technology and changes in state laws in the 1970s regarding access to oral contraceptives made reliable fertility control readily available to young single women. These changes in technology and law, together with the weakening of norms stigmatizing premarital sex, reduced the risk and increased the availability of sex outside marriage or cohabiting unions. As a result, delaying "union formation" no longer required choosing between abstinence and the risk of unwanted pregnancy.[16] Goldin and Katz (2002) show that these changes in technology and law accelerated the entry of women into careers that required extended periods of tertiary education.

The relative attractiveness of living alone was also enhanced by the greater availability of market substitutes for commodities that used to be produced within the household and by improvements in household technology. The availability of market substitutes led to the outsourcing of functions that were traditionally regarded as central to the family such as cooking and childcare. Improvements in household technology such as electric washing machines and microwaves not only reduced the time needed to perform the remaining household tasks but also reduced the level of skill required to feed and clothe oneself (Greenwood, Seshadri, and Yorukoglu, 2005). This emergence of market substitutes and developments in applied

[16] Sex does provide a rationale for marriage if sex outside marriage is strongly stigmatized. For example, those who believe that sex outside marriage is a sin may marry early, especially in communities that readily accept divorce and remarriage. Cherlin (2009) argues that the acceptance of divorce and remarriage by religious communities, especially evangelical Protestants, has been an important factor in the instability of American children's living arrangements.

technology were, to a considerable extent, endogenous—responding to the growing number of single-person households as well as to increased market work by women. This is one way that living alone creates positive externalities for others who live alone; the increased density in single social networks is undoubtedly another.

As conditions for one-adult households improved and women entered the workforce, the incremental value of specialization and exchange in multiple-person households fell. Gender specialization in married couple households has decreased dramatically during the past 60 years (Lundberg and Pollak, 2007).[17] The labor force participation rate for women aged 25 to 54 has increased from 37 to 75 percent between 1950 and 2010, while the participation rate for prime-age men has fallen from 97 to 89 percent. Though married women still report more weekly hours of housework than married men, women's housework hours have fallen by 10 hours per week since 1965 and men's have increased by about 4 hours per week (Aguiar and Hurst, 2007). As women's educational attainment, wages, and hours of market work have risen relative to men's, the opportunities for gains from trade within a household, which depend to a large extent upon the segregation of men and women in separate home and market sectors, have diminished—and so have the potential gains to marriage.

The expansion of the feasible set to include cohabitation, with or without children, substantially changes the economic analysis of marriage. Cohabitation provides many, but not all, of the sources of marital surplus identified in standard economic models of marriage. In particular, a cohabiting couple can exploit many of the joint production advantages (e.g., specialization and the division of labor; economies of scale) and the joint consumption advantages (e.g., shared leisure and household public goods, including children). Many of the gains that economists usually ascribe to "marriage" are, in fact, gains to multiple-person households that coordinate production. For some couples, living together can be simply a solution to the problem of finding a compatible roommate or housemate, unrelated to children or to marriage, but for others cohabitation can be a precursor to marriage or a substitute for it. What distinguishes marriage from cohabitation in an economically-meaningful way?

[17] By "gender specialization" in a married couple household, we mean that the husband's allocation of time between market work and household work differs substantially from the wife's. In contrast, the "specialization theorems" in Becker's *Treatise on the Family* concern extreme patterns of specialization in which one spouse (and perhaps both spouses) work in only the market sector or only the household sector (see Pollak, 2013).

Marriage is more costly to exit than cohabitation, and this higher exit cost enables marriage to act as a commitment device that fosters cooperation between partners. Some degree of commitment is valuable in any shared household because of transactions costs—even roommates must rely on one another to pay a share of next month's rent—and all commitments, including marriage, are limited. Marriage represents a stronger commitment because the social and legal costs of exit are greater than the costs facing roommates or cohabitants, even though the legal costs of marital exit have decreased as fault-based or mutual consent grounds for divorce have been replaced by state laws permitting unilateral divorce. The social costs of marital dissolution have also fallen as divorce has become commonplace. Nevertheless, a theme of much of the sociological literature on the retreat from marriage is that divorce is seen as a personal failure to be avoided, if necessary, by delaying or avoiding marriage (Edin and Kefalas, 2005; Gibson-Davis, Edin, and McLanahan, 2005). The cultural significance of marriage in America and the public commitment to a permanent and exclusive relationship that marriage entails distinguishes marriage from cohabitation, which often begins informally and without an explicit discussion of terms or intentions (Manning and Smock, 2005).

Divorce costs enable marriage to serve as a commitment device that fosters cooperation and encourages marriage-specific investments, and models of marriage emphasize this high cost of exit. For example, Matouschek and Rasul (2008) construct alternative models of marriage and cohabitation with differential exit costs. They show that, if marriage facilitates commitment, a decrease in divorce costs may lead to an improvement in the average match quality of married couples (lower divorce costs weaken marriage as a commitment device, leading low-match-quality couples to cohabit instead of marrying). Their empirical evidence supports this commitment theory of marriage over an alternative model in which the willingness to marry acts as a signal that expected match quality is high. A plausible theory of marriage, however, must explain not only why commitment is valuable in generating a demand for marriage rather than cohabitation but also, given the substantial heterogeneity in marriage patterns across education/income groups, why couples with more education and income value it more than others. Such an explanation requires that we specify the types of investments that marriage can foster.

Long-term intertemporal commitments are required to support the production benefits of specialization and exchange. Becker (1991, p. 30-31) provides a clear statement of this aspect of

the marital contract: “Since married women have been specialized to childbearing and other domestic activities, they have demanded long-term 'contracts' from their husbands to protect them against abandonment and other adversities. Virtually all societies have developed long-term protection for married women: one can even say that 'marriage' is defined by a long-term commitment between a man and a woman.” In its strongest form, the standard model assumes and rationalizes a traditional marriage with strong sector specialization: the wife works exclusively in the household sector and the husband works exclusively in the market sector. This pattern of sector specialization leaves the wife vulnerable because she fails to accumulate market human capital. Marriage, and in particular the costs of exiting marriage, protects her.[18] Specialization and vulnerability provide a plausible account of most marriages in the 19th and early 20th centuries but they are less and less plausible as a rationale for contemporary American marriage in the face of the converging economic lives of men and women.

It is clear that one-period models are not well-suited to explaining marriage. Once cohabitation is recognized as a socially and legally-acceptable alternative, then cohabitation is as good as marriage in a one-period model except to the extent that marriage has direct “consumption” value to one or both spouses or associated tax and transfer advantages. For example, increasing returns to scale in household production provides a rationale for multiple-person living arrangements (e.g., marriage; cohabitation; roommates) rather than living alone, but cannot explain the choice among alternative multiple-person living arrangements.[19] Household production can provide a rationale for intertemporal commitment only in the context of a multiperiod model that includes physical or human capital.

After discussing “the division of labor to exploit comparative advantage or increasing returns,” Weiss (1997) discusses two sources of gains from marriage that are necessarily intertemporal: providing credit that facilitates investment (one partner works while the other is in school) and risk pooling (one works while the other is sick or out of work). Credit and investment activities require intertemporal commitment, but one spouse investing in the other's human capital has become less common as student loans have become more important and age at

[18] Cigno (2012) argues that the effectiveness of marriage as a commitment device depends, not on the exit cost per se, but upon the property division regime, which can be designed to compensate domestic specialists.
[19] For discussions of the perfect substitutes assumption, see Becker (1991, Ch. 2), Lundberg (2008) and Pollak (2012, 2013).

marriage has increased.[20] Risk pooling also requires intertemporal commitment and often involves extended families as well as marital partners. Other benefits (and costs) of marriage depend on policy structures and laws that are conditional on legal marital status, including the tax code (e.g., joint taxation vs. individual taxation), eligibility for social security (e.g., spousal and survivor benefits) and eligibility for employer benefits (e.g., health insurance).

Hedonic/consumption theories of marriage focus on shared leisure and household public goods. Their starting point is the recognition that production theories, with their emphasis on specialization and the division of labor, fail to provide a satisfactory account of contemporary marriage. Stevenson and Wolfers (2007, 2008) sketch a hedonic/consumption theory that can be extended to a multiperiod theory in order to provide a rationale for commitment and, hence, for marriage. If shared leisure requires the purchase of physical capital (e.g., ski equipment) or investment in activity-specific human capital (e.g., "skiing human capital"), then intertemporal commitment may be useful. Shared leisure, however, seems too insubstantial a motive for intertemporal commitment to provide a plausible account of marriage.[21]

Lam's notion of household public goods provides a more promising rationale for intertemporal commitment. Weiss (1997, p. 86) observes that "Some of the consumption goods of a family are nonrival and both partners can share them. Expenditures on children or housing are clear examples." With household public goods, multiple-person living arrangements may dominate living alone. When the household public good is housing, intertemporal commitment is valuable only in the presence of market imperfections, transaction costs, or search frictions. If the rental market for housing were frictionless, an individual could share housing with one person today and another tomorrow. If the market for owner-occupied housing were perfect, an individual could buy a house in one period, live in it, and sell it in the next. Even with transaction costs, it is reasonable to ask whether these costs are high enough to motivate marriage: cohabiting couples, after all, do own houses.

[20] Because marriage is a limited commitment with divorce always an outside option, such investments are risky. How risky depends on the divorce laws of the state. Stevenson (2007) finds that spouses are less likely to invest in each other's human capital in states where the investing spouse has less legal protection. For a discussion of the optimal treatment of human capital in divorce, see Borenstein and Courant (1989).

[21] The weasel word "seem" is deliberate. The findings of Buckles, Guldi, and Price (2011) on the effect of state blood test requirements for marriage imply that modest increases in the cost of marriage can deter couples near the margin between marriage and nonmarriage.

A child is different: parents tend to be extremely attached to their "own" children, whether defined by birth or adoption, and child wellbeing is enhanced by stability and consistency in parenting. We argue that a principal role of marriage is as a social institution that enables parents to commit themselves and their partners to intense and long-term investments in their children. Hence, we expect differences in marriage patterns across education and income groups and, particularly, differences in the timing of marriage and childbearing to be associated with differences in parental investment strategies.

4. Marriage and Investments in Children

"Middle-class parents tend to adopt a cultural logic of childrearing that stresses the concerted cultivation of children. Working-class and poor parents, by contrast, tend to undertake the accomplishment of natural growth..." (Annette Lareau, Unequal Childhoods: Class, Race, and Family Life, 2003, p. 3)

Patterns of marriage, childbearing and childrearing across education and income groups are consistent with the existence of a close connection between the decision to marry and childrearing practices. Within each race/ethnic group, the rate of nonmarital childbearing is sharply declining in mothers' educational attainment. Single or cohabiting motherhood remains uncommon among non-Hispanic white college graduates, the women who are most likely to have the earnings and benefits that would enable them to support a child alone (Table 2).[22]

Table 2: Nonmarital Births as a Proportion of All Births by Mother's Education, 2010

	Non-Hispanic White	**Black**	**Hispanic**
High School or Less	53.6	83.5	59.6
Some College	31.0	68.7	45.3
College Graduate or more	5.9	32.0	17.4

(Source: Centers for Disease Control and Prevention. National Center for Health Statistics. VitalStats http://www.cdc.gov/nchs/vitalstats.htm.)

[22] A closer look at the Vital Statistics data reveals additional evidence that high-education women wait for marriage until the biological clock has almost run out — for college-educated women in their early 40s, the rate of nonmarital childbearing rises to 10 percent.

As Bailey, Guldi, and Hershbein (forthcoming) show, most women in all education groups eventually marry—the proportions of women in the upper and lower education quartile who are currently married or have been married by age 35 are close to 80 percent for recent cohorts. However, they also show that the age at first birth has risen along with the age at first marriage for high-education women, while the age at first birth for women in the lowest education group has remained essentially constant for decades. The decoupling of marriage and childbearing has simply not occurred for the most advantaged women.

Direct evidence on parental investments in children also shows pronounced and increasing inequality. Time use and expenditure data indicate that parents with more education spend more time with children and that parents with more income spend more money on children. Sorting out the relative importance of time and money investments in determining child outcomes is difficult, but the increasing divergence in child inputs across income and education groups is striking.

Parental time with children has been increasing in recent decades despite rising rates of maternal employment (Bianchi, 2000; Bianchi, Robinson, and Milkie, 2006; Aguiar and Hurst, 2007). Guryan, Hurst and Kearney (2008) show that there is a positive relationship between parental education and time with children: despite their higher rates of employment, mothers with a college education spend about 4.5 more hours per week with children than mothers with a high-school degree or less. This pattern holds for both working and non-working mothers, and also for working fathers, and can be documented not only in the U.S. but across a sample of 13 other countries. Ramey and Ramey (2010) examine the trends in U.S. childcare time separately by parental education, and find that the increase in childcare time that began in the mid-1990s was particularly pronounced for college-educated parents. They attribute this change to increased competition for admission to selective colleges. Figures 6 and 7 show a widening gap between the childcare time of parents of younger children (i.e. whose youngest child is under 5), a divergence that is particularly pronounced for fathers.[23]

[23] The fathers included are only those who live in the same household as their children. In Figures 6 and 7 parents with some college and college graduates are combined for the high-education group to avoid very small samples sizes for some years.

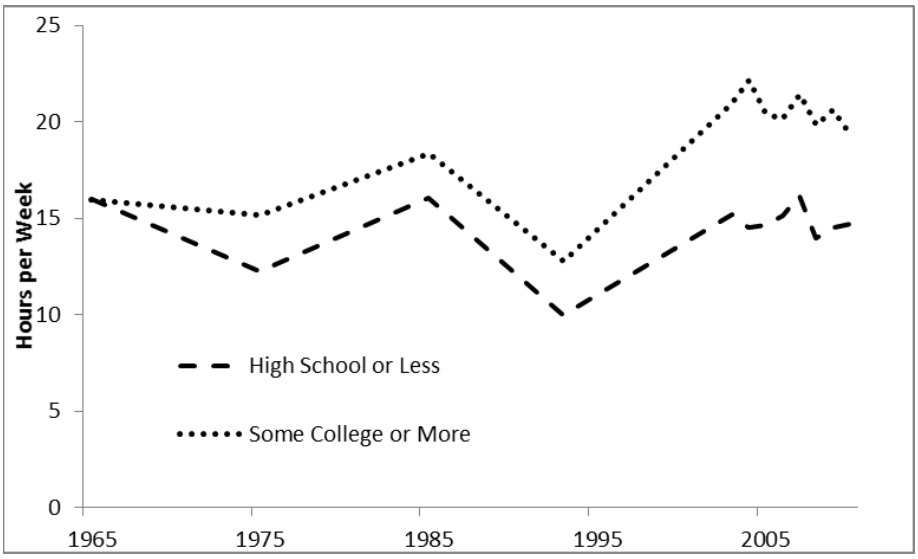

Figure 6: Childcare Time of Mothers with Children Under 5 (under 4 in 1965)
(Source: 1965-1966 America's Use of Time, 1975-1976 Time Use in Economics and Social Accounts, 1985 Americans' Use of Time, 1992-1994 National Human Activity Pattern Survey, and the 2003-2010 waves of the American Time Use Survey)

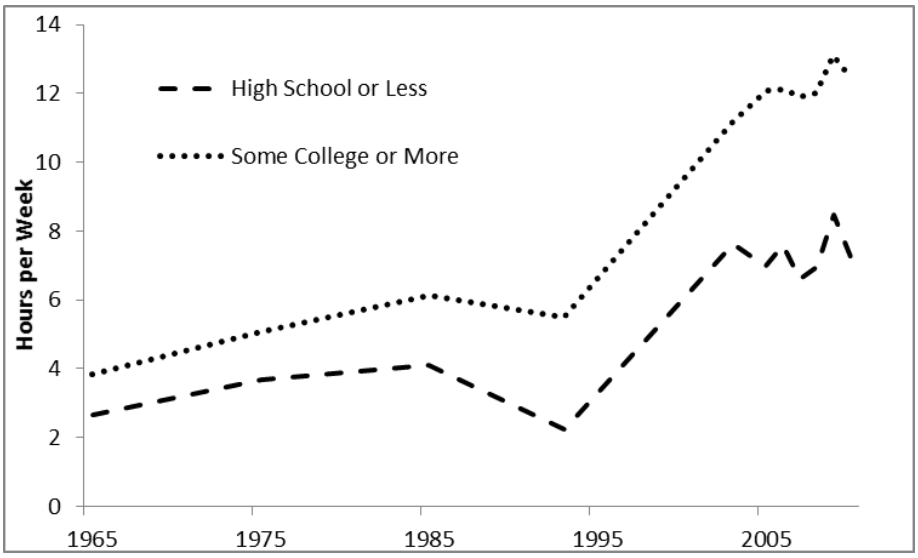

Figure 7: Childcare Time of Fathers with Children Under 5 (under 4 in 1965)
(Source: See Figure 6)

Real expenditures on children have increased over time and these increases have been especially pronounced for high-income households. Kornrich and Furstenberg (2013) find that expenditures on children increase with income, and that both parental spending and the

inequality of this spending has risen from the early 1970s to the late 2000s (Figure 8). To a large extent, this increase in spending inequality across income deciles has been driven by the increase in income inequality during this period. But expenditures on children as a percentage of income have also been rising overall (particularly in the 1990s), especially for the top two income deciles. Kornrich and Furstenberg note that increased parental spending "may reflect growing pressures to invest in children," particularly for middle- and upper-class parents. Kaushal, Magnuson and Waldfogel (2011) document rising expenditures on child "enrichment items" by income quintile. In both cross-sectional and longitudinal analyses, they find that parental expenditures on items such as education and childcare, trips and recreation, and books and computers rise with total expenditure, and that many expenditure elasticities exceed one, particularly for older children.[24] The significance of income-driven changes in child expenditures for child outcomes is unclear. Recent studies using natural experiments or policy-driven changes in family income find significant effects of increases in income on test scores and school achievement, but principally for young children from low-income families (Akee et al., 2010; Dahl and Lochner, 2012; Duncan, Morris, and Rodrigues, 2011; Løken, Mogstad, and Wiswall, 2012).[25]

[24] The longitudinal expenditure elasticities tend to be about two-thirds of the cross-sectional elasticities, indicating some unobserved heterogeneity between high- and low-income families in the propensity to spend on child enrichment.

[25] The causal effect of family income on child outcomes was hotly contested in the 1990s. Duncan and Brooks-Gunn (1996) argued for the causal effect of income on child achievement. Mayer (1997) argued that the correlation between income and child achievement reflected parental education and unobserved heterogeneity. Blau (1999) summaries the debate. Also, see Gennetian and Morris (2010).

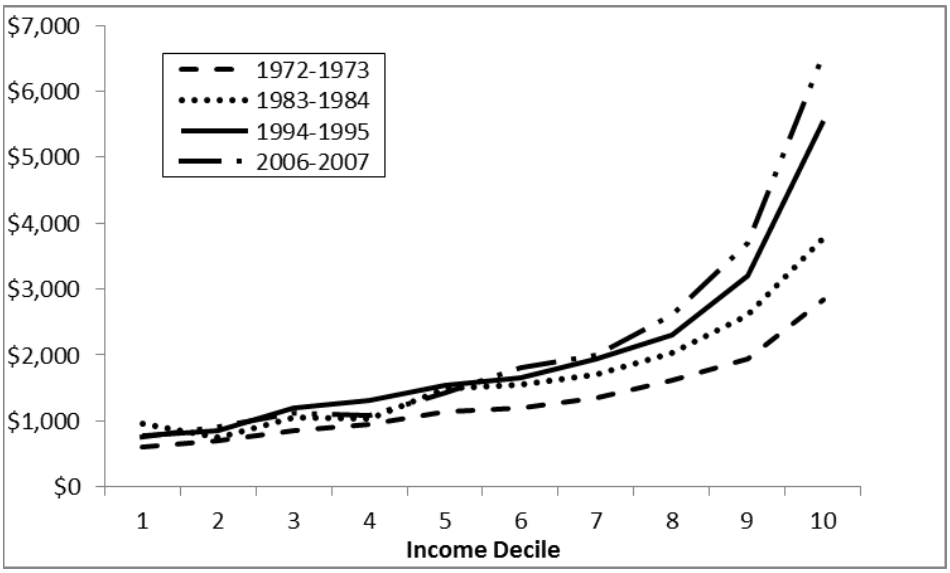

Figure 8: Spending per Child, 1972-2006
(Source: Kornrich and Furstenberg, 2013, from Consumer Expenditure Survey)
Note: Dollar figures adjusted to year 2008 dollars using the CPI-U-RS.

The differences in time and money inputs to childrearing are reflected in parenting practices and attitudes. In her ethnographic research, the sociologist Annette Lareau (2003) has documented pronounced class differences in childrearing practices.[26] What Lareau terms "concerted cultivation" of middle-class children includes parental involvement in recreational and leisure activities as well as school and schoolwork, and is one source of the large gaps in skills and behavior that are present when children enter school (Duncan and Magnuson, 2011). In Lareau's analysis, these childrearing practices reflect parents' class-determined "cultural repertories" for childrearing. Concerted cultivation is the childrearing script consistent with the advice of "experts" and is designed to foster children's cognitive and social skills.[27] Working-class and poor families consider the consistent provision of food, shelter, and other basic support to constitute successful parenting. Given their time and resource constraints, few low-income parents attempt concerted cultivation.[28] Sociologists Kathryn Edin and Maria Kefalas (2005), in their ethnographic study of low-income single mothers, conclude that in the face of economic hardship poor mothers "adopt an approach to childrearing that values survival, not achievement" (p. 166).

[26] Lareau's analysis is based on intensive observation of 12 families in a "large northestern city" and its suburbs.
[27] Hulbert (2003) traces the history of expert childrearing advice in the U.S. in the 20th century.
[28] Lareau raises the question of whether concerted cultivation requires a two-parent family but cannot, with her small sample, attempt an answer.

Culturally-determined childrearing scripts leave little room for deliberate choice. Easterlin, Pollak, and Wachter (1980) use the phrase "unperceived jointness" to describe situations in which individuals do not recognize the relationship between their actions and outcomes.[29] To restate Lareau's analysis in these terms, suppose parents do not realize that talking with or reading to their children would increase their children's vocabularies. Then the class gradient in children's vocabularies would be an unintended by-product of following different class-specific cultural scripts, not the result of parents choosing different investment strategies. If differences in child outcomes arise because of unperceived jointness, teaching parents about the effects of alternative parenting practices could affect their behavior and, hence, outcomes for children. But if differences arise because informed parents with different preferences and opportunities choose different investment strategies, providing information to parents will not affect their parenting practices or outcomes for their children.

In a rational-choice (i.e., maximizing) framework, parents choose different child investments strategies because their preferences or their perceived opportunities differ. To the extent that preferences over outcomes for children or activities with children vary systematically by income or education, the rational-choice framework intersects with the cultural scripts story of divergent parenting practices.[30] First, prospective parents may differ in the kind of children that they want to produce. If all parents love and are attached to their children, then they will want their children to be happy and economically successful, but also to remain emotionally close (and possibly physically close) and to share their social and cultural values. For high-education and high-income parents, these objectives are more or less consistent; economically-successful children are likely to accept their family's culture and values. For low-education and low-income parents, these objectives may conflict: children who are economically successful may reject their family's culture and values and, for this reason, these parents may be ambivalent about what they want for their children.[31] Thus, faced with the same opportunity set, parents

[29] Easterlin, Pollak and Wachter focused on breastfeeding, practiced because it nourished the child; the reduction in fertility was an unintended effect.

[30] The dichotomy between culture and choice is perhaps overdrawn. The sociologist Andrew Cherlin (2009, p. 9) writes, "Social scientists who think about culture these days claim that people often learn more than one cultural model of the social world and actively choose which one to apply." For surveys on the use of cultural differences in empirical economics, see Guiso, Sapienza and Zingales (2006) and Fernández (2008). In economic theory, the threshold question is whether culture operates through preferences alone or through both preferences and beliefs; for differing interpretations, see Becker (1996) and Pollak and Watkins (1993).

[31] The children may also be ambivalent, but economists generally assume that the parents are the decision makers and children are passive.

with different levels of education and income might rationally choose different childrearing practices.

Second, parents may have direct preferences regarding the nature of their interactions with children, and therefore in the investments they make in them. "Process preferences" (i.e., direct preferences for engaging in some household production activities rather than others) may also contribute to the class gradient in outcomes for children.[32] The usual assumption that individuals have preferences for the outputs of activities (e.g., home cooked meals, clean houses) but not direct preferences for engaging in particular activities rules out process preferences (see Pollak, 2013). Parents who enjoy reading to, or verbally interacting with, children (an assumption about process preferences) are more likely to do so than parents who do not enjoy these activities. Divergent preferences over parenting practices, which may in turn stem from the parents' own upbringing, are one possible route, among many, to the class-divergent parenting practices observed by Lareau and others.[33]

Even if parents at different education and income levels have identical goals for their children and identical process preferences, however, differences in parental resources and the productivity of parental time, combined with complementarities between early and later investments, can produce a parenting strategy divide across education and income groups. Rising returns to skill in the labor market and growing income inequality may have accentuated the class divide in child investments through diverging parental resources. Greater nonlabor income or greater wealth leads to better outcomes for children provided investment in children is not an inferior good. But the effect of higher parental wages on time allocated to children is theoretically indeterminant because income and substitution effects work in opposite directions. On the one hand, the opportunity cost of time allocated to children is higher, which would tend to reduce time allocated to children. On the other hand, higher wages imply higher "real income" which would tend to imply greater expenditure on children and better outcomes for

[32] This paragraph elaborates a comment by Betsey Stevenson about 'accidental' investments in children.

[33] Cherlin (1996) summarizes the classic literature on socialization and social class and provides references to the literature. Fernald, Marchman and Weisleder (2013) provide references to the recent literature in psychology. Psychologists Betty Hart and Todd Risley (1995), who conducted a two-year longitudinal study of children's exposure to language and use of language in their homes, also emphasize class differences. In their study, researchers spent one hour a month with each of 42 children, following the children from age 1 until age 3 and measuring, inter alia, the parents' and the children's vocabularies. Fernald, Marchman and Weisleder (2013) "... found significant differences in both vocabulary learning and language processing...." at 18 months "...with a 6-month gap emerging between higher- and lower-SES toddlers by 24 months."

children, although not necessarily more time allocated to children. The productivity of parental time with children may also increase with parents' education—at least for outcomes such as school and occupational success. Higher productivity of parental time with children implies better outcomes for children, at least in the simplest case in which the marginal productivity of parental time is constant (i.e., independent of the level of time and money inputs).[34] Even in this simplest case, however, whether higher productivity implies more time with children or less time with children is theoretically indeterminant.[35]

Recent work in economics has modeled and estimated dynamic production functions for children's human capital or "capabilities" in which child development is treated as a cumulative process that depends on the full history of parental and school-based investments (Heckman, 2000; Todd and Wolpin, 2003, 2007). A key feature of these models is complementarity between the child's stocks of human capital and the productivity of subsequent investments. Cunha and Heckman (2007) construct a multi-period model in which parental investments in different periods are complements in the production of human capital, and Aizer and Cunha (2012) find evidence of dynamic complementarities in the effects of preschool on children with different stocks of early human capital. These complementarities suggest that parental investments (and also formal schooling) will be more productive for children who have early cognitive and health advantages, whether these are due to genetic endowments, prenatal environment (Currie, 2011), or early post-natal investments. The increasing evidence that "skill begets skill" (Heckman, 2000) implies that even if the time inputs of high-education parents are not inherently more productive, payoffs to parental investments, and especially to paternal investments, are highest for the most-advantaged children.

The observed divide in parenting strategy between parents at different education and income levels can be rationalized by differences in preferences, perhaps reflective of divergent cultural scripts for parenting, or by differences in parental resources and the productivity of parental time, combined with complementarities between early and later investments. If parents differ in their

[34] Becker and Murphy (2007) suggest that the time that high-education parents spend with their children is likely to be more productive in enhancing children's skills. A productivity effect may occur because parents possess a higher level of the skills they wish to impart, or because they have better information about how children learn: parents with higher levels of education may be better able to read with a younger child or help an older child with homework.

[35] Guryan, Hurst, and Kearney (2008) point out that both the wage effect and the productivity effect on time allocated to children are theoretically indeterminate.

motivation to make intense investments in their children's human capital, they may also differ in their desire to enter into the long-term, cooperative joint parenting arrangement that marriage facilitates. If marriage is a mechanism by which parents support a mutual commitment to continue to invest in their children's human capital, then for parents following a relatively low-investment strategy for their children, the benefits of marriage before childrearing will be substantially lower than for high-investment parents.

5. Marriage Trends and Class Divergence

"Couples rarely referred to their children when discussing marriage, and none believed that having a child was a sufficient motivation for marriage. Furthermore, no parent talked about marriage enhancing the life chances of their child." (Christina Gibson-Davis, Kathryn Edin, and Sara McLanahan, "High Hopes but Even Higher Expectations: The Retreat from Marriage Among Low-Income Couples," 2005).

One of the most striking aspects of the trends in marriage behavior documented in section 2 is the relative stability of traditional patterns of marriage and childbearing among the highly-educated, compared with the pronounced retreat from marriage and marital childbearing among men and women with a high-school diploma or less and, to a lesser extent, among those with some college. Although college-educated couples are much less likely than in the past to require marital commitment to support a sharply gender-specialized division of labor, marriage has persisted as the standard context for childrearing. High-education couples choose marriage because it entails a greater degree of commitment, a choice that is consistent with decreased returns to gender specialization that are offset by increased returns to joint investments in children. Intensive investment is a characteristic parenting pattern among the well-educated and well-off, and these investments are increasing in absolute terms and relative to the investments made by those with less education and fewer resources. These increases are probably due to some combination of rising returns to human capital as income inequality rises, increasing real incomes at the top of the distribution, and improved information about the payoffs to early child enrichment activities—perhaps reinforced by evolving class-specific social norms.

Couples with low levels of education are more likely to choose cohabitation or lone parenthood, suggesting that for many of them the decreased returns to specialization are not offset by increased returns to joint investments in children. For these couples, a child's limited

prospects for upward mobility combined with falling real resources, particularly those of fathers with little education, precludes an intensive investment strategy for parents and limits the value of marriage and the commitment it implies.[36] Kearney and Levine (2012) offer a related explanation for the very high rate of teenage childbearing in the United States, attributing it to a limited expectation of economic success caused by high inequality and low mobility, and leading to "choices that favor short-term satisfaction—in this case, the decision to have a baby when young and unmarried." Their analysis focuses on the young mother's own prospects for upward mobility while we focus on the child's limited prospects for economic success and low expected returns to parental investment.

The social science literature generally treats differences in investments in children as a by-product of changing patterns in marriage, cohabitation, and lone parenting and identifies three other factors as contributing to or causing the uneven retreat from marriage: the decline in the marriageability of men with low levels of education; the incentives created by government policies (e.g., welfare benefits and the Earned Income Tax Credit); and the increasing cultural significance of marriage to women in low-income communities. To some extent, we view these as complements to our emphasis on marriage as a commitment to invest in children.

The marriageability explanation attributes the decline in marriage to the decline in the employability of men with low levels of education and the fall in their wages. The marriageability explanation is related to the wage ratio explanation that we have already discussed (i.e., the fall in the ratio of men's wages to women's wages drastically reduced the gains to the traditional pattern of gender specialization) but, unlike the wage ratio explanation, it applies only to the experiences of men at the bottom of the wage/earnings distribution. Wilson (1987) points to the decline in industrial jobs in inner-city neighborhoods as the cause of a shortage of marriageable men and, since then, this shortage has been exacerbated in black marriage markets by the rise in incarceration (Charles and Luoh, 2010). Ethnographic research by sociologists Kathryn Edin and Timothy Nelson (2013) suggests that many men living in inner cities earn so little that they are likely to be net drains on household resources. The decline in

[36] Autor and Wasserman (2013) provide a compelling summary of the declining economic fortunes of men with high-school education or less. To explain the gender difference in outcomes for boys and girls from disadvantaged backgrounds, they emphasize the role of family structure. More specifically, they argue that female-headed families are particularly damaging for boys and speculate that this may be because it is important for children to have a same-sex parent as a role model. Bertrand and Pan (2011) focus on boys' disruptive behavior. They suggest that boys may be more sensitive than girls to parental time inputs and find that mothers in female-headed families spend less time with sons than with daughters.

wages and employability reduced the ability of these men to contribute to a joint household and, hence, reduced their attractiveness as cohabiting partners or husbands. This analysis is consistent with our emphasis on investments in children as a principal motive for marriage, since men who can contribute neither income nor quality childcare time to this joint household investment are poor candidates for a co-parenting contract. It is worth noting, however, that marriage to or cohabitation with less-employable men may carry additional costs if they also represent commitments to partners who are likely to be incarcerated or prone to substance abuse or violence.[37]

In two books published almost three decades apart, Charles Murray argues that government welfare benefits and welfare policy caused the retreat from marriage. Murray (1984) argued that both the value of welfare benefits and conditioning eligibility for benefits on not having a man in the house caused poor women to substitute away from marriage and toward welfare dependency in order to provide for their children. In his more recent book, Murray (2012) argues that the availability of welfare benefits sapped the moral fiber of the working poor and triggered a cascade of bad behaviors. Neal (2004) also treats the provision of government aid as a necessary condition for widespread lone motherhood, reinforced by the declining economic prospects of less-educated men.

Most studies of the effect of government tax and transfer programs on marriage, cohabitation, and lone parenthood focus on the incentives created by a particular means-tested program (e.g., EITC, food stamps, TANF) and the behavioral responses of individuals and couples to these incentives. Most empirical studies find that these programs have had little or no effect on these outcomes (Ben-Shalom, Moffitt, and Scholz, 2011; Lopoo and Raissian, 2013). A study of the full effect of means-tested programs on family structure and incentives to marry and cohabit would need to take into account state-specific rules and the complex interactions among the various programs (Primus and Beeson, 2001). Few papers investigate the effect of the marriage penalties and bonuses in the tax system on marriage and cohabitation in the general (i.e., non-welfare) population. An exception is Alm and Whittington (2003), who find that cohabiting couples are

[37] In apparent contrast to the marriageability claim, Thomas and Sawhill (2002, 2005) argue for "marriage as an antipoverty strategy." They show that if the unmarried mothers were to marry men similar to the unmarried fathers of their children, the couples and their child(ren) would often be above rather than below the poverty line. This analysis, however, is not restricted to the extremely disadvantaged sub-population that Edin-Nelson focus on, and does not consider the possible ancillary costs of these relationships.

significantly more likely to transition to marriage when faced with positive tax incentives, but that the effect size is small.

Based on their ethnographic work, Edin and Kefalas (2005) offer a cultural explanation of the decline in marriage among women in low-income communities, arguing that these women have unrealistically-high aspirations for marriage. In these communities marriage is no longer closely connected to parenting, but is about "the white picket fence dream": good stable jobs and maturity are prerequisites. In a similar vein, Cherlin (2004) asserts that, as the "practical significance" of marriage has diminished, its "cultural significance" has grown. The practical significance of marriage as a contract that supports the traditional gendered division of labor has certainly decreased: our argument is that, for college-educated men and women, marriage retains its practical significance as a commitment device that supports high levels of parental investment in children.

Cultural explanations are more useful in understanding persistent similarities or differences in behavior across groups than in understanding change. We view the rapid changes in cohabitation, marriage, and nonmarital fertility since 1960 as responses to changing incentives, not as responses to exogenous changes the cultural significance of marriage. One could argue that the continuity in family life among white college-educated women reflects their commitment to traditional cultural values, but this argument assumes that college-educated women are more committed to traditional cultural values than less-educated women. We think it is more likely that the limited change in marriage among this group is the result of offsetting changes in incentives—the decrease in the returns to traditional patterns of gender specialization and the increase in the returns to investment in children's human capital, perhaps reinforced by a cultural script that emphasizes concerted cultivation.

6. Conclusion

Since 1950 the sources of the gains from marriage have changed radically. As the educational attainment of women overtook and surpassed that of men and the ratio of men's to women's wage rates fell, the traditional pattern of gender specialization and division of labor within the household weakened. The primary source of the gains to marriage shifted from the production of

household services and commodities to investment in children. As a result, the gains from marriage fell sharply for some groups and may have risen for others.

For some, the decline in the male-female wage ratio and the erosion of traditional patterns of gender specialization meant that marriage was no longer worth the costs of limited independence and potential mismatch. Cohabitation became a socially and legally acceptable living arrangement for all groups, but cohabitation serves different functions among the poor and less educated than among the affluent and highly educated. The poor and less educated are much more likely to have and rear children in cohabitating relationships, although the extent of this decoupling of marriage and parenthood is often exaggerated. Among the college-educated, marriage and parenthood remain tightly linked. College-educated men and women have delayed marriage and typically cohabit before marriage, but they marry before conceiving children and their marriages are relatively stable.[38]

This class divergence in patterns of marriage and parenthood is associated with class differences in childrearing. Lareau characterizes the childrearing practices of poor and working class parents as one of "natural growth," which she contrasts with middle-class practices of "concerted cultivation." Time use data are consistent with Lareau's ethnographic findings: college-graduate mothers and fathers spend considerably more time interacting with their children than mothers and fathers with less education.

How do we understand these class differences (and divergence) in marriage, parenthood, and childrearing? We have suggested that different patterns of childrearing are the key to understanding class differences in marriage and parenthood, not an accidental or unintended by-product of it. Rising returns to human capital, dynamic complementarities in human capital production, and diverging parental resources across the education and income distribution have increased the returns to joint investments in children especially by high-education, high-income parents. We view marriage as the commitment mechanism for this joint project and, hence, marriage is more valuable for parents adopting a high-investment strategy for their children.

[38] We have focused on non-Hispanic whites in discussing differences by education but, as table 2 shows, both Hispanic and black marriage and cohabitation patterns also exhibit strong education gradients. Black marriage and childbearing patterns are substantially different from those of both non-Hispanic whites and Hispanics, and these differences are the subject of an enormous literature; Banks (2011) is a recent example and provides extensive references to the literature.

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