

# The American Family and Family Economics

Shelly Lundberg and Robert A. Pollak

**G**ary Becker's path-breaking *Treatise on the Family* subjected individuals' decisions about sex, marriage, childbearing, and childrearing to rational choice analysis. Becker's aim was to use the foundational assumptions of "maximizing behavior, market equilibrium, and stable preferences" (1991, Enlarged edition, p. 5) to explain the basic empirical patterns of family life.<sup>1</sup> According to Becker (p. 135), "[T]he main purpose of marriage and families is the production and rearing of own children . . ." and in his model of marriage, the gains to marriage depend on specialization and exchange within the family. When *Treatise* was published in 1981, it was already apparent that the American family had entered a period of rapid change: birth rates had been falling for 20 years; cohabitation and childbirth without legal marriage had risen; divorce had become commonplace; and women, including mothers of young children, were entering the labor force in record numbers. Becker wrote in his "Introduction" that "the family in the Western world has been radically altered—some claim almost destroyed—by the events of the last three decades" (p. 1).

<sup>1</sup> Although Becker began with three foundational assumptions, in his more recent work—for example, Becker (1996)—he relaxes the assumption of stable preferences. For a discussion, see Pollak (2003).

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The American family has not been destroyed by these changes, but it has been radically altered. Family structure has become more heterogeneous and less stable. Long-term marriage combined with childrearing is no longer a near-universal adult experience, and the intense gender specialization that characterized the traditional nuclear family of the 1950s now seems archaic. In a continuation of a long-term trend noted by Becker, the economic role of the family continued to decrease as the market and the state supplemented or replaced more and more family functions, from food preparation to old-age support.

We begin by discussing how families have changed in recent decades: the separation of sex, marriage, and childbearing; fewer children and smaller households; converging work and education patterns for men and women; class divergence in partnering and parenting strategies; and the replacement of what had been family functions and home production by government programs and market transactions.<sup>2</sup> After discussing recent work in family economics that attempts to explain these changes, we point out some challenging areas for further analysis, and highlight issues of commitment in two primary family relationships: those between men and women, and those between parents and children. We then consider the effectiveness of policies to target benefits to certain family members (like children) or to promote marriage and fertility.

## **Changes in the American Family, 1960–2006**

### **The Separation of Sex, Marriage, and Childrearing**

In the early days of family economics, models of marriage and fertility reflected widely accepted social norms that were broadly consistent with social reality. Men were supposed to finish school, get a job, marry, and have children. Educational attainment and employment were less important for women, for whom the crucial steps were marriage, childbearing, and childrearing. Economists assumed that decisions about goods purchases, labor supply, fertility, and child investments maximized a family utility function subject to family resource constraints. Single-parent families were the result of divorce, which economists assumed must be due to an unhappy surprise in the realized value of marriage. Nonmarital childbearing was an anomaly.

Since the 1960s and 1970s, however, a framework that considered sex and childbearing only within the context of a committed partnership has become increasingly disconnected from reality. Reliable and convenient contraception and the availability of safe and legal abortion permitted sex with minimal risk of childbearing and the concomitant long-term commitment to parenting. These developments reduced the cost of premarital sex and, hence, the cost of remaining single. Combined with rising income and the increasing independence of women,

<sup>2</sup> In this symposium, the paper on “Marriage and Divorce: Changes and their Driving Forces,” by Betsey Stevenson and Justin Wolfers, provides additional evidence on trends in marriage and divorce.

this encouraged delayed marriage and delayed childbearing. As an alternative to marriage, cohabitation provided increasing numbers of couples with the benefits of coresidence *per se*, including economies of scale in consumption. In the 2000 Census, unmarried couple households made up 9 percent of all coupled households, with 11 percent of these being same-sex couples (Simmons and O'Connell, 2003, p. 1 and table 1).

Nonmarital fertility has risen dramatically in the past quarter century. According to the CDC National Center for Health Statistics, 37 percent of U.S. births were out-of-wedlock in 2005.<sup>3</sup> Though fertility outside legal marriage has become commonplace in many developed countries, especially in northwestern Europe, most unmarried European couples are living together when their child is born. In contrast, in the United States, the majority of nonmarital births are to lone mothers, although the proportion of nonmarital births to cohabiting couples is increasing (Bumpass and Lu, 2000). This emergence of nonmarital childbearing reflects, to a large extent, the decline of the social imperative that premarital pregnancy should lead to marriage. For many men, paternity has been separated from parenting responsibilities other than financial obligations, which are increasingly enforced by the state.

The increase in nonmarital childbearing and in divorce rates has altered the living arrangements of children. The proportion of children under age 18 who are living with only one parent rose from 9 percent in 1960 to 28 percent in 2005. These children also experience many transitions in where and with whom they live, since most unmarried mothers eventually marry and the divorced remarry.<sup>4</sup> With multiple, serial partnerships between parents, families have become more complex, with uncertain implications for parent-child relationships and investments in children. Using a recent sample of births to unmarried women, Mincy (2002) found that the majority of mothers with two or more children had at least one child whose biological father was not the father of their most recent child. He found that this "multiple partner fertility" compromised the marriage prospects of these new mothers.

All these factors have combined to increase the heterogeneity of families and to decrease the stability of the living arrangements in which children are reared. Moreover, with increased cohabitation, childbearing that frequently precedes the establishment of a long-term partnership, and an increased propensity for adult children to move back in with parents during extended education or early parenthood, "the sequencing of adult transitions has become increasingly complicated" (Furstenberg et al., 2004).

<sup>3</sup> The percentage of nonmarital births differs by race and ethnicity: 25 percent of non-Hispanic white births, 48 percent of Hispanic births, and 70 percent of non-Hispanic black births were nonmarital.

<sup>4</sup> Before the twentieth century, serial partnerships and "blended" families arose from the remarriage of widows and widowers with children. In the late twentieth century, they arose from the remarriage of divorced men and women with children, or from the marriage of those who become parents in nonmarital relationships.

### **Smaller Families and Longer Lives**

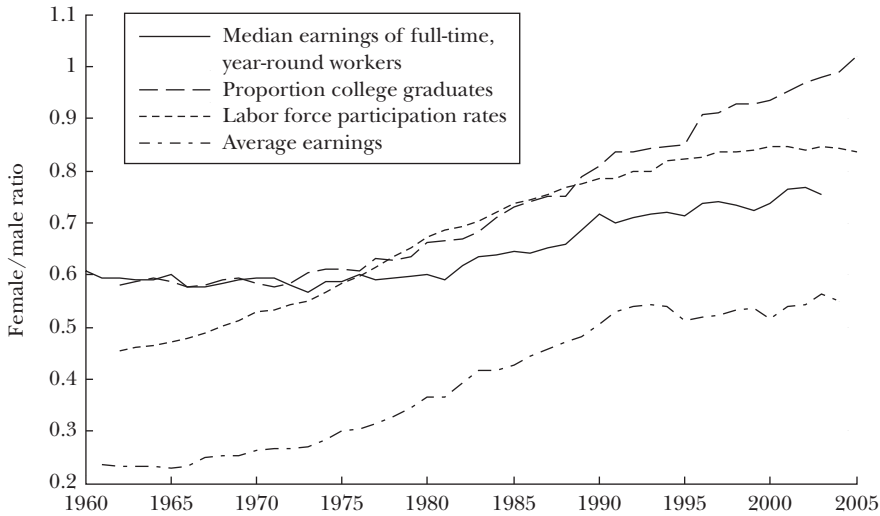
The traditional nuclear family—children living with married biological parents—has been the implicit household norm in the economics of the family. It is often the backdrop for discussions of specialization and the division of labor between spouses, and of childrearing and parental investments in children’s human capital. Nuclear families, however, make up a decreasing proportion of American households. Average household size has dropped from 3.4 people to 2.6 people between 1960 and 2005 (U.S. Census Bureau, 2006).<sup>5</sup> Declining fertility was the principal cause of the shrinking number of people per household during this period, though the average number of adults per household also fell due to an increase in single-parent households and a decline in three-generation households.

As the postwar baby boom waned, birth rates for women aged 15 to 44 fell from 118 births per 1,000 women in 1960 to 68 births per 1,000 women in 1980. The birth rate has remained relatively constant since then, although women have continued to delay births; since 1980, birth rates have risen for women over 30, and fallen for women under 25. Birth rates for teenagers aged 15 to 19 fell dramatically from 89 per 1,000 women in 1960 to 53 in 1980, and have since fallen to the current level of 41 per 1,000, after an increase in the late 1980s and early 1990s (Child Trends DataBank, 2006). Current U.S. birth rates imply a total fertility rate approximately at the replacement rate of 2.1 children per women—a higher fertility rate than any other major developed country. The fertility rate of native-born women, however, is below the replacement rate; that of foreign-born Hispanic women is 2.8, while that of foreign-born non-Hispanic women is 2.2 (Dye, 2005, p. 3). Thus, current population growth in the United States is attributable to immigrants and their children.

In the second half of the twentieth century, estimated life expectancy at birth in the United States rose from 65 to 74 years for men and from 71 to 80 for women, primarily due to a reduction in death rates for the elderly (Arias, 2006, p. 5 and table 11). Improved nutrition, behavioral changes, and medical progress against degenerative disease have improved the overall health of the elderly, so that disability and death now occur at more advanced ages. Remaining life expectancy at age 65 rose from 12.7 to 16.3 years for men and from 15.0 to 19.2 years for women after 1950, and Cutler (2001) documents a corresponding decline in age-specific disability rates. Declining birth rates and age-specific death rates imply an aging population, though projections of the population age structure depend not only on assumptions about future fertility and mortality, but also on assumptions about future immigration. The ratio of economic dependents—children plus the elderly—to the working-age population is a measure of the burden of care that families and the state will have to bear. Census population projections imply child “dependency ratios” that remain roughly constant through 2050, but the ratios of

<sup>5</sup> “Household” refers to individuals who live in the same residence and are related by birth, marriage, or adoption. We use the term “family” more broadly to include closely-related individuals whose decisions to live together or independently are one of the outcomes we are interested in explaining.

Figure 1

**Converging Economic Lives of Men and Women: 1960 to the Present**

Source: March 1961–2005 Supplements to the Current Population Survey.

Notes: Sample includes individuals 25–60 years old (except median earnings). Average earnings include working and nonworking individuals. Median earnings series includes people 15 years and above and, before 1989, includes civilian workers only.

both the old (65+) and the extremely old (85+) to adults under 65 are projected to rise dramatically during this period (U.S. Census Bureau, 2004). If these projections are correct, then in the future, the focus of family ties will inevitably shift from working-age adults looking after their young children to working-age adults looking after their elderly parents.

**The Converging Economic Lives of Men and Women**

During the baby boom years that followed World War II, intense gender specialization was the norm, with married women performing almost all household work and married men focusing on market work. Substantial specialization remains in married-couple households, particularly those with young children, but individual men and women have become increasingly similar as economic actors during the past four decades. Figure 1 shows converging patterns of time use, human capital investment, and earnings across genders. Women now attend college at higher rates than men, and this difference is particularly large for those from disadvantaged backgrounds. The median earnings of full-time, year-round working women have increased from 60 percent of men's to 76 percent between 1960 and 2003. Winkler, McBride, and Andrews (2005) find that about a quarter of married working women now earn more than their husbands and that for 60 percent of such couples this earnings differential persists for at least three years.

The remaining gap between men's and women's hourly wages is about

20 percent, and about half of this gap can be explained by individual characteristics, job experience, and occupational choices (Blau and Kahn, 2006, table 2a). The source of the unexplained residual—whether labor market discrimination or the continuing gender disparity in family and household responsibilities—remains the subject of considerable controversy. Traditional gender roles do persist in the allocation of time within households. Total hours of housework in married couple households fell more than 20 percent between 1965 and 1995 (Bianchi, Milkie, Sayer, and Robinson, 2000) but, though husbands' hours of housework increased substantially, wives still performed most of the housework at the end of this period. In the 2005 American Time Use Survey, married women reported an average of 16 hours per week of "household activities" compared to less than 11 hours for men.

The convergence in the economic profiles of men and women since 1960, though incomplete, has changed both the nature of marriage and its prevalence. It seems clear that gains to marriage based on specialization and exchange within the household have decreased. Becker (1991, p. 350) writes: "I believe that the major cause of these changes [in the family in the United States in the last half of the twentieth century] is the growth in the earning power of women as the American economy developed." Establishing, in turn, the causes of these changes in the market and household roles of women is not straightforward. Education, market work, and fertility are codetermined: women who expect to have fewer children and maintain a consistent attachment to the work force will rationally invest more in market skills. For these women, greater investment in education and improved employment opportunities raise the cost of childbearing and childrearing. To explain the last stage of the "quiet revolution" in women's roles, Goldin (2006) emphasizes a change in the career expectations and educational investments of young women growing up in the 1960s, women who observed the substantial increases in both full-time work and divorce among their predecessors and who benefited from the availability of convenient and reliable contraception ("the pill").

### **Class Divergence in Partnering and Parenting Strategies**

In recent decades, the parenting and partnering experiences of those at the top of the socioeconomic scale in the United States have diverged from the family life of those at the bottom. College graduates have deferred marriage and childbearing. College-educated mothers, even those with infants, have remained in the labor force. Otherwise, however, the family trajectories of college graduates have deviated little from the family trajectories of the mid-century: almost all children are born within legal marriages, and these marriages are relatively stable. On the other hand, high divorce rates and nonmarital childbearing among those with lower levels of education have resulted in about one-third of all children living in single-parent families. Nonmarital fertility and multiple partner fertility is concentrated among women in the bottom third of the income/education distribution, and the marriages that do take place are relatively early and relatively unstable.

Because the trajectories of individuals at the top and bottom of the income/education scale are diverging, trends in average family outcomes in the United States can be misleading. Lifetime marriage rates are high for Americans at all levels of education, but divorce and nonmarital childbearing rates have increased much more rapidly for the less-educated. The three panels of Figure 2 show the diverging family lives of the more- and less-educated, for both men and women. The marriage-rate trajectories of the more- and less-educated began to diverge in the mid-1980s. Although college-educated men and women marry later than those with less education, they are now substantially more likely to be married between ages 30 and 50 than those without a college degree. For college-educated women, the proportion of mothers who are single has remained low; for high-school dropouts, high-school graduates, and women with some college, single-motherhood has increased dramatically.

McLanahan (2004) emphasizes how the disparate patterns in marriage and fertility across socioeconomic groups affect the inequality of parental resources available to children. Mothers with lower levels of education have their children at younger ages, are less likely to marry and more likely to divorce, and have lower levels of employment than highly-educated mothers. A shift towards smaller, less-stable households at the bottom of the income/education scale reinforces the increasing income inequality generated by labor market forces since about 1980.

The inequality across families created by increasing selectivity into marriage is further exacerbated by assortative marriage. For example, men and women with similar educational backgrounds are increasingly likely to marry each other (Schwartz and Mare, 2005). Becker's analysis assumes that the gains to marriage are generated by specialization and the division of labor, implying that those with higher wages will tend to marry those with lower wages. If both spouses are working, however, then most of the gains to marriage may not arise from specialization and a division of labor between home and market, but instead from the joint consumption of household public goods (Lam, 1988). In this case, marriage market equilibrium implies positive assortative mating. The empirical evidence has always suggested positive assortative mating on measurable characteristics. Theory suggests that the positive correlation between wives' and husbands' preferences and resources should increase as specialization within marriage declines.

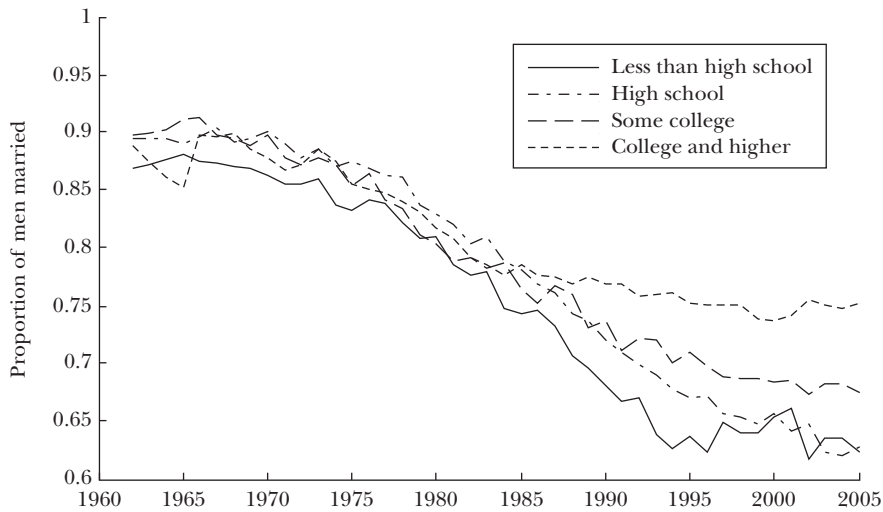
### **The Shrinking Economic Role of Families**

In Chapter 11 of the *Treatise*, Becker (1991) considers the evolution of the family from primitive societies to the late twentieth century and concludes that many of the functions that families performed in traditional societies are now performed by the market or the state. The market has largely displaced the family in some activities, such as food production, and continues to encroach on other activities, such as food preparation. Families have become less important and the state more important as guarantors of security for persons and property, insurance, care for the disabled, and care and education of children. As Coontz (2005) has emphasized, these changes have diminished the role of marriage as a tool for

Figure 2

**Diverging Family Lives of More and Less-Educated**

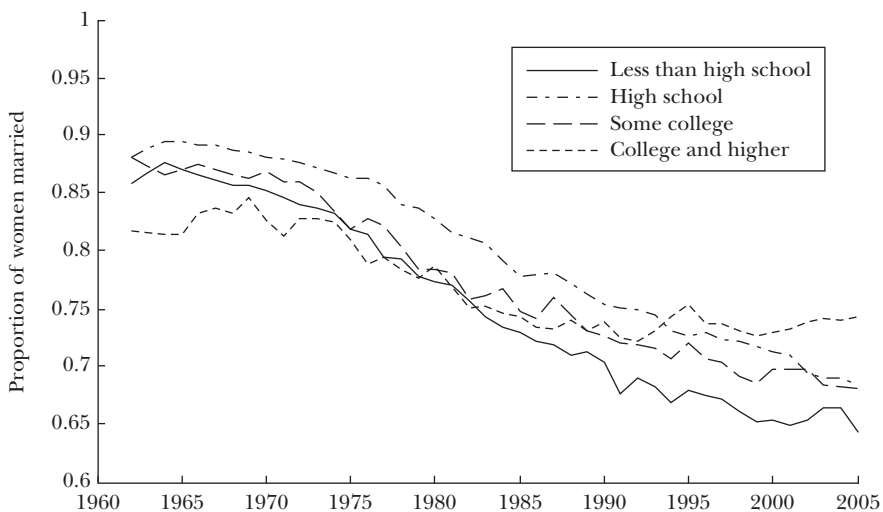
*A: Proportion of Men Married at Ages 30–50*



Source: March 1962–2005 Supplements to the Current Population Survey.

Note: Sample includes men 30–50 years old, not inmates or in armed forces.

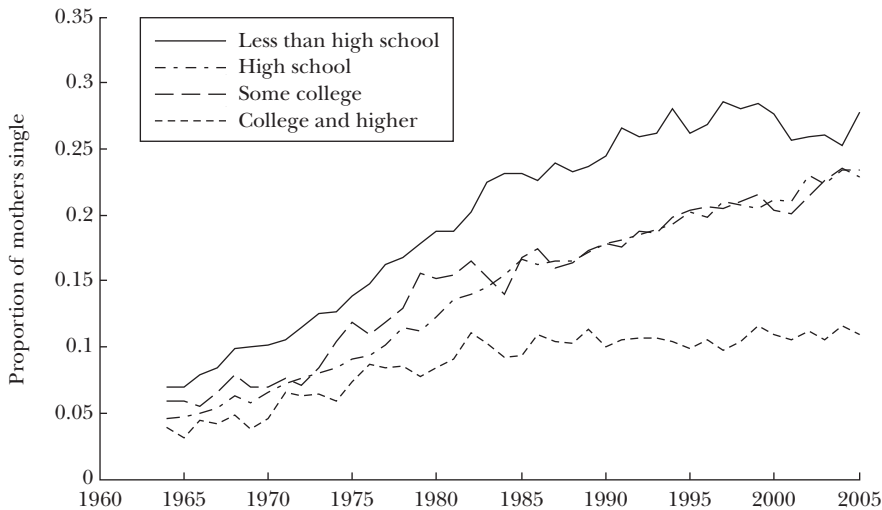
*B: Proportion of Women Married at Ages 30–50*



Source: March 1962–2005 Supplements to the Current Population Survey.

Notes: Sample includes women 30–50 years old, not inmates or in armed forces.



*C: Proportion of Mothers Who Are Single at Ages 30 to 50*

Source: March 1964–2005 Supplements to the Current Population Survey.

Note: Sample includes women 30–50 years old with children under 18 in the household.

forming family alliances and increased the importance of love and companionship as a basis for marriage. The instrumental value of children to their parents has continued to decrease. Replaced long ago as primary sources of agricultural labor and of old-age support, children are still important providers of eldercare, but a rapid expansion of government and market substitutes means that the elderly no longer need to depend on their own children.

## Family Economics

Becker's economic approach to marriage, home production, and fertility has been quite successful in explaining most of the dramatic changes in family behavior we have documented. In the broad historical context, Becker identifies increasing levels of income and wealth and the interrelated development of markets and the state as the key factors altering family functions and family structure. As the instrumental value of children fell, parents had fewer children and invested more in each child—a reflection, in Becker's terminology, of the “quantity–quality” tradeoff. The reduction in household size can be attributed to improvements in technology and increases in per capita income. Greenwood and Guner (2004) identify technological progress in home production and the declining prices of household appliances as a source of reduced returns to living in the same residence. Costa (1998) focuses on increases in per capita incomes, which increase the demand for privacy and decrease the importance of household economies of scale in home production and consumption. In her historical analysis of the changing

economic role of women, Goldin (2006) emphasizes changes in technology: the increased availability of office jobs considered suitable for women, the diffusion of the “electric” household, and contraceptive innovation.

Changes in laws and institutions have also been identified as shifters of family behavior. Legal changes that have been intertwined with alterations in the family include the move from fault-based to no-fault divorce; the legalization of abortion; and the 1996 welfare reform, with its emphasis on child support enforcement, time limits, and work requirements. However, since laws and institutions adapt to changing conditions, the exogeneity of legal changes in a long-term analysis of family structure or family behavior is questionable. This is also true, of course, of changes in applied technology (the introduction of oral contraceptives and improvements in household technology) and of increased market availability of goods and services traditionally produced within the household (including child-care and prepared food).

Despite the success of family economics in explaining many of the broad patterns of family change, the complexity and heterogeneity of current family arrangements eludes simple analysis. We focus here on two key issues that are both of considerable concern to policymakers and present economists with difficult modeling tasks: the prevalence of childrearing outside committed partnership and the allocation of eldercare burdens in an aging society. An economic analysis of either topic requires that we specify what types of credible promises individuals can make to each other.

Individuals make resource-sharing commitments—often implicitly rather than explicitly—in their roles as sexual, romantic, and domestic partners, and as parents and children. Changes in the social and legal environments in which these commitments are made and enforced affect the willingness and ability of individuals to make credible commitments.<sup>6</sup> This environment includes labor market conditions; prospects in the marriage/partner market; social norms and penalties for violating them; and the legal and institutional framework within which families function. To address nonmarital childbearing and eldercare, we consider the changing nature and scope of the enforceable obligations for the two main sets of implicit family contracts: those between partners/spouses and those between parents and children.

### **Partners/Spouses**

A retreat from marriage has been observed in most parts of the developed world, but it has taken very different forms in different countries and among different socioeconomic groups. As noted above, well-off Americans have delayed marriage and childbearing, while those lower on the income/education scale have delayed marriage but not childbearing. In many other countries, and particularly

<sup>6</sup> Same-sex couples face most of the same commitment problems as heterosexual couples, but face different legal and social environments. In this symposium, the paper on “The Economics of Lesbian and Gay Families,” by Dan A. Black, Seth G. Sanders, and Lowell J. Taylor, provides evidence on and analysis of same-sex families.

in southern Europe and Japan, both marriage and fertility rates have fallen to extremely low levels. One explanation of this diversity focuses on the ability of young men and women to strike bargains involving long-term commitments to joint parenting and how the ability to strike such bargains differs across economic and social environments.

Individuals' incentives to establish long-term relationships depend upon relative values of single and partnered life and on their ability to make long-term commitments. The relative return to partnership/marriage depends, in turn, on how much a joint household expands production and consumption opportunities, and on the willingness and ability of partners/spouses to make commitments about intrahousehold distribution of resources. We will first sketch the existing models of household production and intrahousehold distribution, and then discuss how focusing on long-term commitment illuminates some of the observed differences in partnering and fertility behavior.

In Becker's (1991, chaps. 1–2) basic household production model, gender specialization in home and market tasks is an important source of gains to marriage and family membership. If the time inputs of household members are perfect substitutes in production, and if individuals have no “process” preferences (that is, “direct” preferences for spending time engaging in some activities and not engaging in others), then differences in the relative productivities of men and women in home and market production will result in gender specialization by at least one spouse. Becker (1991, chaps. 2–3) emphasizes that the division of labor by gender depends not only on intrinsic differences in productivity, but also on increasing returns to sector-specific investments in human capital. He also points out that small amounts of market discrimination or biological differences can give rise to large differences in equilibrium patterns of specialization. If individuals' preferences and abilities were fixed at birth, then the overlap between men's and women's preferences and abilities might prevent the emergence of a complete sex-segregated equilibrium. But if preferences and abilities are shaped by socialization and human capital investments, then complete gender specialization might emerge as the result of premarriage market socialization and training in market and/or home skills.

The twin assumptions that there are exactly two activities—home and market—and that husbands and wives provide time inputs that are perfect substitutes (that is, identical on a quality-adjusted basis) to household production is crucial to Becker's specialization results. If household production involves many different activities requiring different skills or if, for example, mothers and fathers make distinct contributions to childrearing, then this efficiency rationale for home–market segregation of the sexes becomes less compelling (Lundberg, 2005).

Becker's (1974, 1981) first model of intrahousehold allocation was an “altruist model.” It begins by assuming that one spouse, the “altruist” or “head,” cares about the utility of other family members and has a privileged position in the family bargaining game. Becker argued that, under certain assumptions, household members would “automatically” adjust their behavior to maximize the altruist's

utility, subject to the family's resource and technology constraints.<sup>7</sup> Models that imply household behavior consistent with utility maximization are called "unitary models." Both the altruist model and its intergenerational generalization, the dynastic model, are unitary models. Unitary models imply that spouses pool their resources. A couple's behavior—for example, its expenditure pattern—depends on prices, wage rates, and total nonlabor income (the latter assumed to be exogenous). Their behavior, however, is independent of the share of nonlabor income separately controlled by the wife and by the husband. Because empirical evidence rejects pooling and, hence, unitary models, economists have turned to other approaches.<sup>8</sup>

Game theoretic models of family bargaining offer alternatives to unitary models and a different perspective on intrahousehold distribution. Most models of family collective choice have relied on cooperative game theory, which assumes that players can make binding, costlessly enforceable commitments. These models provide some help in identifying the determinants of individuals' bargaining power. In the earliest family bargaining models, the "divorce threat" models of Manser and Brown (1980) and McElroy and Horney (1981), bargaining power depends upon the expected well-being of the spouses outside the marriage. In contrast to this external threat point, our "separate spheres" model (Lundberg and Pollak, 1993) assumes an internal threat point, in which husband and wife behave noncooperatively, and treats divorce as an "outside option." Bargaining models, even static bargaining models, provide a framework for thinking about renegotiation and family instability when bargaining power or external opportunities change unexpectedly.

When current household production affects future production or consumption possibilities (for example, because of the accumulation of human capital that will increase productivity in the home or wages in the market), the ability and willingness of family members to make binding long-term commitments becomes crucial. In the *Treatise*, Becker (1991, chaps. 3–4) sometimes assumes that prospective spouses can make binding commitments about allocation within marriage when they meet in the marriage market. Such commitments preclude a role for any other model of allocation within marriage. But even if individuals can make binding agreements in the marriage market, they cannot make agreements with partners they have not yet met. Konrad and Lommerud (2000) begin with the fact that before individuals enter the marriage market, they make decisions (for example, about human capital investments) that affect their bargaining power within marriage; hence, individuals will overinvest in education prior to marriage, even if they expect to bargain cooperatively with their spouses.

<sup>7</sup> Pollak characterizes the altruist as "husband–father–dictator–patriarch" (1988) or as a "quasi-dictator" (2003) and suggests interpreting the altruist model as an ultimatum game.

<sup>8</sup> We discussed this point in our 1996 article in this journal (Lundberg and Pollak, 1996); in our entry in *The New Palgrave Dictionary of Economics*, we review more recent evidence (Lundberg and Pollak, forthcoming).

The actual gains to marriage depend on the potential gains and on the ability of couples to enforce agreements that support the generation of these gains. Enforceable agreements concerning future division of labor and allocation within the family may not be feasible for modern couples. The opportunities for men and women to make credible commitments that sustain efficient outcomes within the family depend upon external factors, including laws, norms, and institutions. Many of the notable changes in American family life—including the shift to no-fault divorce—have reduced the ability of spouses and prospective spouses to commit. In the United States, courts will generally enforce prenuptial agreements regarding the distribution of assets in the event of divorce. They will not, however, enforce agreements regarding the distributions of benefits and burdens in ongoing marriages. Marriage is essentially a standard form contract specified by state law, although some states offer couples a choice between two contracts: the standard marriage contract and “covenant marriage,” a contract that makes divorce more difficult. Individuals are unable to contract around the terms of the marriage contract offered by the state, although they can choose to opt out and cohabit without marrying. State law also governs the division of property for cohabiting couples who split up and imposes child support obligations on parents regardless of their marital relationships. Thus, family law severely limits the set of legally-enforceable agreements that partners/spouses can make.

Limited commitment can also have efficiency implications. In Lundberg and Pollak (2003), we model the “two-earner couple location problem”—the problem facing a couple that must decide where to live and whether to stay together without being able to make binding commitments concerning their future behavior—as a two-stage game. The first-stage game which determines location is assumed to be noncooperative. The spouses understand that once a location is determined, allocation will be determined as the solution to a second-stage game which is conditionally efficient—that is, efficient given the location determined in the first stage. The equilibrium of the two-stage game need not be efficient even if the second-stage allocation is conditionally efficient. The two-earner couple location problem provides a paradigm for situations in which couples face decisions that affect future bargaining power, such as childbearing, human capital investments, and marriage itself. All of these situations can be modeled as two-stage games with limited commitment and thus may have inefficient equilibria. An efficient level of fertility, for example, may require a mechanism for insuring mothers against future losses due to what Waldfogel (1998) calls the “family gap” between the wages of mothers and the wages of women without children.

Working within the broad context of rational choice, economists have offered a range of models to explain the growth of single-parent families and nonmarital childbearing as an equilibrium outcome. In Willis’s (1999) model, men care about the number of children they father and the quality of those children, and may be able to free ride on the ability of women to rear those children on their own at zero cost to the men. In Neal (2004), the gains to marriage come only from the role of children as public goods within marriage, and the availability of government aid to

single mothers will cause some women to choose to have children outside marriage. Nonmarital childbearing appears in each model when the relative income of single mothers (in the form of government aid or market income) is sufficiently high. In yet another approach, Burdett and Ermisch (2002) show that nonmarital fertility can be an equilibrium outcome in marriage markets with search frictions. In their model, couples who find each other mutually acceptable marriage partners will wait for marital fertility, but a woman may decide to have children nonmaritally when matched with a man she is not willing to marry, or who is not willing to marry her. In all of these models, nonmarital fertility is more likely for women with worse marital prospects—that is, poorer women—than for women with better prospects. In essence, these models depend upon a gain to marriage (and joint childrearing) that is sufficiently low for women with incomes that are high relative to their current marital opportunities. These approaches indicate that the deteriorating market prospects of less-educated men during the 1980s and 1990s may have played a role in increasing nonmarital childbearing, but none of the models seem to provide an adequate framework for analyzing the dramatic changes over time.

In an alternative approach, Akerlof, Yellen, and Katz (1996) attribute the increase in nonmarital childbearing in the United States to the legalization of abortion and the availability of oral contraceptives to unmarried women. They argue that the social norm requiring that young men marry their pregnant girlfriends eroded rapidly when women acquired more control over the outcome of premarital sex. With more women willing to engage in premarital sex without the expectation of marriage in the event of pregnancy, even women who were unwilling to abort or take the pill became unable to rely on the old norm. Thus, technological and legal changes weakened the old norm. Although a new norm has not yet replaced shotgun marriage, two contenders have emerged: one is “shotgun cohabitation,” while the other absolves the man of any responsibility and makes unwanted pregnancy the woman’s problem.

Changing social norms, in particular the decreasing stigma associated with cohabitation, nonmarital childbearing, and lone motherhood, have also reduced the incentive to marry, but recent evidence suggests some additional normative barriers to marriage. Many contemporary discussions of family change, and especially analyses of nonmarital childbearing, refer to increased conflict or lack of trust between men and women as a source of women’s decisions to forego marriage prior to childbearing. Furstenberg (2001) points to a breakdown in consensus regarding appropriate gender roles as a barrier to marriage, particularly for African-Americans. Edin and Kefalas (2005, p. 118) report that poor women fear that marriage “activates traditional gender roles” and so choose to maintain their independence by not marrying the fathers of their children. Ethnographic studies of unmarried mothers in the Fragile Families Study identify lack of trust and, in particular, female fear of male infidelity, as a major barrier to marriage (Gibson-Davis, Edin, and McLanahan, 2005). These reports suggest that, given community norms and peer effects on behavior, low-income unmarried parents are unable to negotiate agreements involving legal marriage that would make both parents better

off than remaining unmarried. Ellwood and Jencks (2004), in an exhaustive examination of alternative explanations for nonmarital childbearing, point to changing gender roles that facilitate female employment and changing sexual mores that reduced the social costs of nonmarital sex and cohabitation.

The increased heterogeneity of families may also have reduced community enforcement of marital obligations, and restricted contracting possibilities for potential partners. Posner (2000) argues that norms and nonlegal enforcement are more important than legal sanctions in enforcing marital obligations. Posner goes on to argue that community enforcement depends on a commonly accepted understanding of the behavior expected of spouses. Thus, he concludes, increasing heterogeneity is the enemy of community enforcement.

Falling marriage and fertility rates in Japan and parts of Europe may also be related to normative pressures on young men and women of a different sort. Sevilla-Sanz (2005) shows that very low fertility and marriage rates are particularly prevalent in countries with developed economies but less-egalitarian gender norms than the United States. The persistence of these social norms may have restricted the flexibility of marital arrangements, and thus reduced marriage and fertility rates. She argues that, as women's education levels and market wages have risen in Spain, Italy, and Japan, young men and women have been unable to commit to a nontraditional division of childrearing responsibilities and other household labor. In the absence of substantial changes in the norms governing marriage, marriage has become, at present, relatively unattractive to women in these countries. Consistent with the maintenance of traditional social standards, however, southern Europe and Japan have very low rates of nonmarital fertility. Of course norms may change. Weakening of the norms against nonmarital fertility or husband's participation in housework and childcare would presumably cause an increase in fertility. Economic theory makes no predictions about the likelihood of such changes in norms, but without substantial increase in fertility or immigration, the populations of these countries will shrink and grow older.

### **Parents and Children**

Analyses of parent-child relations usually focus on the beginning and the end of the life cycle. At the beginning, do parents have the socially optimal number of children and do they invest a socially optimal amount in the human capital of each one? At the end, do adult children provide socially optimal support for their disabled elderly parents? These questions are closely linked, because governments tax working-age adults to provide both education for children and support for the elderly. Folbre (1994) emphasizes that childbearing and childrearing generate externalities and that parents lack proper incentives to produce the optimal number of children and to invest optimally in them. The question of whether the number of children is optimal has been in the public eye because fertility rates in virtually all developed countries except the United States are below the level that will replace their current populations.

In post-agrarian societies, families do not need children to provide farm labor,



and financial and government infrastructure provide alternative sources of old-age support. In a world with readily-available contraception and abortion, relatively few children are unintended consequences of sex. Economic theories of fertility usually interpret women's wage rates as a measure of the value of time, and thus predict a negative correlation between women's education or wage rates, and their fertility. In Becker's model of fertility, children (and their "quality") yield parental utility, but that rather begs the question, "Why have children at all?" Taking preferences as given, the future course of fertility depends on the race between increasing incomes and the increasing opportunity cost of children. As the narrowly economic motives for childbearing and childrearing decline in importance, from the parents' standpoint, children look less like investments and more like expensive consumer durables. Thus, the future course of the demand for children depends on the evolution of preferences as well as on income and substitution effects.<sup>9</sup>

The "wealth model" of Becker and Tomes (1976, 1979)—the standard model in which parents invest in their children's human capital—predicts that parents who are rich enough and altruistic enough will provide each of their children with the wealth-maximizing level of education. The argument is straightforward: altruistic parents provide children who have different abilities with different but efficient amounts of human capital, equating the marginal returns to investments in schooling with the returns to financial assets. Hence, siblings generally have different earnings, but parents with "equal concern" for their children use *inter vivos* gifts and postmortem bequests to equalize their children's wealth. This argument implies different investments in the human capital of siblings with different abilities. It also implies a pattern of unequal transfers that is not supported by the data. McGarry (forthcoming) surveys the evidence and concludes that "examinations of both actual bequests and existing wills find that equal division among children is the norm." Using questions in the National Longitudinal Survey about bequest intentions, Light and McGarry (2004) found that about 80 percent of respondents intended to divide their estates equally among their children. The motives expressed by the 20 percent of respondents who intended unequal division revealed no clear pattern, with approximately equal numbers expressing reasons that could be classified as exchange motives, altruistic motives, and evolutionary-psychology motives (that is, wanting to leave money to biological children rather than stepchildren). Parents typically distribute the gifts made during their lifetimes unequally among their children and these gifts are responsive to need, but the magnitude of gifts given during the parents' lifetimes is too small to come close to equalizing the wealth of the children.

Inadequate investments in children can arise for two reasons. First, investment in children generates externalities in the sense that much of the benefit may accrue to society as a whole. Second, children and parents have a limited ability to form contracts obligating children to repay parents for investments in the children's

<sup>9</sup> Evolutionary theory predicts that rising real incomes would lead to a baby boom, and thus finds below-replacement fertility in developed countries a puzzle. See Bergstrom (2006).



human capital. Becker and Murphy (1988) emphasize that poor families will not provide their children with the wealth-maximizing level of human capital, and argue that government intervention to provide schooling for such children is efficiency-enhancing for society as a whole.

Cigno (1993) shows that a self-enforcing “family constitution” can, in some economic and institutional environments, maintain efficient intergenerational transfers, but that it is vulnerable to the presence of market and state alternatives. The family constitution specifies that working-age individuals who support their elderly parents will be supported in old age by their working-age children. As Cigno points out, however, changes in market opportunities or government programs may cause these arrangements to break down. For example, the opening of capital markets offering a sufficiently high rate of return will create incentives for working-age adults to renege on supporting their parents, to save for their own old age and, in the absence of direct utility from children, to have no children themselves. Similarly, a government social insurance program which provides an alternative to children as a source of old-age support can undermine Cigno’s family constitution. Becker and Murphy (1988) argue that state expenditures on the elderly can be viewed as part of an intergenerational “social compact” in which taxes on working-age adults pay for education for the young and pensions for the old.

Recent changes in the family, such as increased divorce and remarriage and the prevalence of nonmarital childbearing, may have implications for intergenerational transfers. Stepparents and noncustodial parents may be less motivated to provide resources to children, and children less willing to support elderly stepparents or noncustodial parents, especially those with whom they resided only briefly or not at all. As noted earlier, an increase in the heterogeneity of family patterns may also reduce the effectiveness of community norms in enforcing intergenerational obligations.

Children reared in traditional nuclear families tend to fare better (for example, in the sense of receiving more education) than those who do not. Because family structure is intertwined with other parental characteristics that affect children, a causal relationship between family structure and child outcomes is difficult to establish. McLanahan and Sandefur (1994) compare outcomes of children reared by both biological parents, by a single parent, and by a stepparent. They find that, on average, children reared with both biological parents do substantially better than those reared in other family structures. Ginther and Pollak (2004) and Gennetian (2005) argue that, at least for educational outcomes, the crucial distinction is between children reared in traditional nuclear families and those reared in other family structures. They do this by comparing the educational outcomes of the two types of children within “blended” families: the stepchildren, and their half-siblings who are the joint children of the parents. They find that within a blended family, educational outcomes for the stepchildren and the joint children are similar to each other and substantially worse than outcomes for children reared in traditional nuclear families. Cherlin (1978) attributed the poor functioning of stepfam-

lies to “incomplete institutionalization”: that is, society lacks well-established social norms concerning appropriate parental and spousal behavior.

Care of the disabled elderly is the critical issue at the end of the life cycle. Nearly two-thirds of the 5.5 million elderly with chronic disabilities rely, often exclusively, on family members for help with basic activities of daily living. The demand for long-term care will depend on changes in life expectancy and age-specific disability patterns. The supply of family members willing and able to act as caregivers will depend on labor force participation, family size, and family structure. Given current trends, it appears that an increasing fraction of adults will enter old age without adult children from whom they can expect support (Plotnick, 2006), and many more will be divorced from their co-parent. Pezzin and Schone (1999) find that marital disruption reduces transfers by adult children to their disabled elderly parents, especially to fathers.

Economic analysis sheds some light on the care that family members provide for one another and helps explain why these caregiving relationships become more tenuous as family structure changes as the result of divorce and nonmarital fertility. Coordination of care between siblings has a strategic element because the well-being of the parent is a “family public good.” If we model the provision of care as a one-shot voluntary contribution game, we conclude that the public good will be underprovided. But if we model it as a repeated voluntary contribution game, any individually rational solution may be an equilibrium (as suggested by the folk theorem). Engers and Stern (2002) develop and estimate a bargaining model of family long-term care decisions that can have both efficient and inefficient equilibria. Pezzin, Pollak, and Schone (2007) model family long-term care decisions as a two-stage game in which the first stage determines living arrangements—like living with one of the children; living in a nursing home; or living independently in the community—and the second stage determines assistance provided to the parent by adult children. The stages are related because first-stage decisions affect second-stage bargaining power; the stages are distinct, however, because they assume that family members cannot or will not make binding commitments regarding their future behavior. They show that even if the second stage is conditionally efficient (that is, efficient given the living arrangements determined in the first stage), the equilibrium of the two-stage game may be inefficient.

## **Family Policy**

Many government programs and policies likely to affect family structure and fertility are not generally regarded as elements of “family policy.” Immigration policy, for example, has both direct effects and indirect effects on the state of American families. The direct effects include the fertility of adult immigrants: those who arrive with partners/spouses may have children, those who arrive without partners or spouses may enter the marriage/mating market and then have children. Immigrants who arrived as children will grow up and have children of their own. As we have seen,

without the fertility of immigrants, the U.S. population would be declining. The indirect effects of immigration policy operate through wages and employment which, in turn, affect marriage prospects and fertility. These indirect effects affect not only the marriage market prospects and fertility of immigrants, but also those of native-born men and women who compete with immigrants in the labor market.

A review of empirical evidence on family-relevant policies here is not feasible, but we can make two general points. First, because transfers to particular family members are not completely offset by countervailing transfers within the family, policies that target transfers to particular individuals within the family can have substantial effects. Second, government attempts to encourage marriage and child-bearing with financial incentives have been relatively unsuccessful.

### **Targeting**

In a highly influential paper entitled “Are Government Bonds Net Worth?” Barro (1974) argued that if the government finances its current expenditures by borrowing rather than by taxes, then the current generation will recognize that their future tax liabilities or those of their children and grandchildren will increase, and will respond by increasing their saving by enough to offset fully these future tax liabilities. This reasoning implies that fiscal policy is impotent because it is offset fully by countervailing family transfers. The crucial step in the argument is the claim that the current generation will increase inter vivos transfers and bequests to the next generation by enough to offset fully their descendants’ increased tax liabilities. Analogous to this macro application of Ricardian equivalence is a micro application that focuses on specific government programs intended to benefit particular family members, like children. As in the macro application, the analytical issue is whether government transfers targeted to particular individuals within a family will be fully offset by reallocation within that family.

The growing empirical literature linking women’s resources to child well-being has provided a rationale for targeting transfers to women and provides much of the motivation for studying intrafamily allocation. A number of studies have found that children do better when their mothers control a larger fraction of family resources. For example, Lundberg, Pollak, and Wales (1997), using the natural experiment provided by changes in the British child allowance, found that the increase in mother’s control over resources led to a large and statistically significant increase in expenditures on children’s clothing relative to men’s clothing. Much of the relevant evidence comes from developing countries. For example, Duflo (2000, 2003) studied the effect of the South African Old Age Pension on grandchildren’s weight for height and their height for age. She found that payments to grandmothers, especially maternal grandmothers, had a substantial effect on these outcomes for grandchildren, while payments to grandfathers had no effect. This finding, of course, is also further evidence that families do not pool resources.

Most studies that reject household pooling of targeted transfers have explained the rejection by invoking bargaining considerations. That is, the person within a household who actually receives the transfer has greater bargaining power

over how that money will be spent. However, the nonfungibility of money within families may have other sources. For example, inertia may prevent households from adjusting their spending plans in response to government programs aimed at particular family members and mental accounting categories may limit their willingness to reallocate away from particular types of expenditure. Kooreman (2000) finds that the marginal propensity to consume child goods from Dutch child allowance payments was very large compared to expenditures out of other income, and interprets this as a “labeling” effect of policy on intrahousehold allocation.

### **Promoting Marriage and Fertility**

Falling fertility rates in most of the developed world have led many countries to institute deliberate pro-natalist policies, including direct cash subsidies for children, childcare subsidies, and generous parental leave policies. Many countries provide subsidies to parents through their tax systems, although such tax-expenditures are usually not part of an articulated pro-natalist policy. In the United States, both the federal income tax and the Earned Income Tax Credit (EITC) contain such provisions. However, in the United States, which is virtually the only developed country with fertility at the replacement level, explicit policy has focused on discouraging nonmarital childbearing and promoting marriage, particularly among low-income parents. Restrictions on the eligibility of unmarried mothers for long-term welfare receipt and stringent enforcement of parental child support obligations were expected to lead to decreases in nonmarital childbearing, both by encouraging marriage and discouraging nonmarital fertility.

Kohler, Billari, and Ortega (2006) review studies of population policies in low-fertility countries, including family cash benefits and work–family reconciliation policies such as parental leave and childcare subsidies. They report that the effects of such policies are at best only modestly positive and have more influence on the timing of births than on completed family size. They conclude that policy measures tend to affect reproduction only in the long-term, so that consistent and credible application of policy over time may be a precondition to effectiveness. They also suggest that policies reducing economic uncertainty in early adulthood—for example, reducing high unemployment—may have stronger pro-natalist effects than subsidizing births or childcare. Children imply very high costs, both in money and time—particularly mother’s time—over many years. Hence, governments can only influence fertility decisions with very large subsidies, or with credible long-term commitments to support childrearing.

The potential effectiveness of policies to promote marriage is also questionable. In the United States, state and federal welfare reforms that imposed time limits and work requirements dramatically reduced welfare rolls and promoted employment among low-income women. These policies, however, do not appear to have had significant effects on marriage or the living arrangements of children. Bitler, Gelbach, Hoynes, and Zayodny (2004) report that welfare reform reduced both marriages and divorces; Bitler, Gelbach, and Hoynes (2006) find that state welfare waivers had complex and inconsistent effects on children’s living arrangements.

Nor is it clear what the long-term effects of successful marriage promotion policies would be on child well-being. The correlates of the “diverging destinies” of children born to parents near the top of the income/education distribution and those near the bottom are well documented (McLanahan, 2004)—differences in family structure, parents’ incomes, and parents’ education—but the causal pathways are not clear. Thus, a “marriage bonus” that induced unmarried mothers to marry the unmarried fathers of their children might or might not improve children’s test scores, completed education, or labor market success.

## Conclusion

In the tradition of Becker’s *Treatise on the Family*, economists and other social scientists have continued to analyze partnering, parenting, and care of the elderly as results of maximizing choices made by individuals. These individual choices, and the outcomes they imply, are constrained at the family level by the requirements of equilibrium in bargaining and at the societal level by the requirements of equilibrium in marriage/mating markets.

As families have become more heterogeneous and less stable, economists’ models of the family have become more complex, attempting to account for a widening range of family arrangements and life-cycle trajectories. Two factors are primarily responsible for this increased heterogeneity and instability: 1) a decline in the value of marriage compared to its alternatives and 2) a decline in individuals’ ability and willingness to make credible long-term commitments to partners/spouses, children, and parents. But these two factors, together with the foundational assumptions of maximizing behavior and equilibrium, do not fully explain the current state of the American family nor enable us to predict whether recent trends are likely to continue or reverse.

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