

**Child Adoption in the United States:  
Historical Trends and the Determinants of Adoption Demand and Supply, 1951-2002**

**Raquel Bernal, Universidad de Los Andes  
Luoja Hu, Federal Reserve Bank of Chicago  
Chiaki Moriguchi, Northwestern University & NBER  
Eva Nagypal, Northwestern University**

Preliminary and Incomplete\*

December 26, 2007

**Abstract**

Adoption, as an alternative to child bearing, is a widely accepted means of forming a family in many modern societies. In this paper, we first provide a comprehensive overview of the U.S. adoption market and its historical development. We then document trends in adoptions in the U.S. by adoption type using aggregate-level data from 1951 to 2002 and explore possible reasons for the observed historical patterns. Finally, compiling two micro-level datasets covering the period between 1973 and 2002, we estimate individuals' propensities to adopt and to relinquish a child for adoption, and evaluate alternative hypotheses concerning adoption demand and supply, exploiting both across-time and across-group variation in the data.

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\* Work in progress: comments are welcome.

Corresponding author: Chiaki Moriguchi, Department of Economics, Northwestern University, 2001 Sheridan Road, Evanston, IL 60208-2600, E-mail: [chiaki@northwestern.edu](mailto:chiaki@northwestern.edu). We thank seminar participants at UC Irvine, UCLA, and Northwestern University for helpful discussions and Camilo Bohórquez, Pamela Giustinelli, Lance Kent, and Tuan Hwee Sng for excellent research assistance. Financial support from the National Science Foundation (grant SES-0721137) and Northwestern University (URGC grant) is gratefully acknowledged.

## 1. Introduction

Adoption, as an alternative to child bearing, is a widely accepted means of forming a family in many western societies. According to the 2000 Census, adopted children comprise roughly 2.5% of all children in the U.S. (U.S. Census Bureau (2000)), while unmet demand for adoption is reported to be far greater (NCFA (2007)). The number of foreign-born children adopted by U.S. citizens, in particular, has more than tripled in the last fifteen years (U.S. Department of Homeland Security (2005)), generating wide press coverage. Although there are no internationally comparable statistics, data indicate that the U.S. likely adopts more children per capita than any other country in the world (Selman (2002)). Who adopts children, and who places children for adoption? How does the market for child adoption function? In spite of rapidly declining demand for biological children in most industrial countries (measured by total fertility rates), what motivates people to adopt children who are not biologically related to them? Is the number of adoptions rising in the U.S.? If so, is the trend driven by economic and demographic factors, or is it more attributable to legal and institutional factors?

Despite its quantitative significance and potentially important welfare implications, unlike sociologists and demographers, economists have paid relatively little attention to child adoption due partly to the scarcity of data (Fisher (2003)).<sup>1</sup> Child adoption, however, is no less an economic issue than is child bearing in the classical Becker (1981) model. The objective of this paper is threefold. First, we provide an overview of the U.S. adoption market, its institutional features, and its historical development over the last 150 years. Second, we document adoption trends in the U.S. by adoption type from 1951 to 2002 using macro (aggregate-level) data compiled from several sources. To explore possible reasons for the observed historical patterns, we divide the adoption market into three submarkets and examine the demand- and supply-side factors in each segment. Third, we investigate the determinants of adoption demand and supply using two micro (individual-level) datasets, the Survey of Income and Program Participation (SIPP), 1984-2001, and the National Survey of Family Growth (NSFG), 1973-2002. By providing a comprehensive overview and new empirical evidence, we hope to advance the understanding of child adoption, an important yet thus far little understood subject in family economics.

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<sup>1</sup> Important exceptions are Landes and Posner (1978), Medoff (1993), Gennetian (1999), Bitler and Zavodny (2002), Hansen and Hansen (2006), and Buckles (2006b).

## 2. Institutional Background

Child adoption has a number of features distinct from child bearing that require careful investigation. Unlike in the case of child bearing, individuals on the demand side (i.e., adoptive parents) and on the supply side (i.e., relinquishing parents) do not coincide, giving rise to an “adoption market” in which the two sides are matched by intermediaries (i.e., adoption agencies) using primarily non-price mechanisms. As the adoption market deviates greatly from the standard competitive market, institutional factors, such as adoption laws and cultural norms, may play an important role in determining its outcomes. In addition, adoptive parents may incur monetary, time, and psychic costs that are specific to adoption (e.g., legal costs, long waiting time, great uncertainty over the quality of match between a prospective parent and a child, possible stigma associated with adoption), or they may be motivated by factors other than those driving child bearing, such as humanitarian considerations.

Moreover, there are several types of adoption that are *imperfect* substitutes for one another in the adoption market. Adoptions can be categorized as formal versus informal adoptions, related versus unrelated adoptions, domestic versus inter-country adoptions, and foster care adoption. Formal adoption refers to legally approved adoption that entails permanent transfer of parental rights and duties from biological to adoptive parents. In the U.S., state courts decide whether to grant or deny a petition for adoption. Related adoption includes adoptions by relatives as well as stepparents, while unrelated adoption refers to the rest. Unrelated adoption, especially of young infants, is considered to be a close substitute for child bearing, while it is less likely to be the case for related adoption, especially for stepparent adoption. As we show below, related adoption constitutes roughly 40% of all adoptions in the U.S. in recent years.

Furthermore, adoptions can be divided into domestic and inter-country adoptions. For jurisdictional reasons, most domestic adoption (i.e., adoption of U.S. children by U.S. citizens) takes place within state, and inter-state adoption is relatively rare. Inter-*country* adoption refers to adoption of foreign-born children by U.S. citizens. Almost all inter-country adoptions are unrelated adoptions. Finally, within domestic adoption, there is foster care adoption. Over the last two decades, the federal government has placed an increasing emphasis on finding adoptive homes for children in the public foster care system, especially for those children with “special needs.” The definition of special needs children varies from state to state, but it typically refers to children who are above a certain age, members of a sibling group to be adopted together, of minority race, or have physical, mental,

or emotional disabilities. Foster care adoption can be either related or unrelated adoption. Because the characteristics of adoptable children and adoptive parents differ systematically across adoption types, it is important to distinguish these types as much as data permit.

In the U.S., adoptions can be arranged through public child welfare agencies, private agencies, or without involving any agencies (i.e., “independent” adoption). Almost all foster care adoptions are arranged through public agencies. [Need more details.] Data suggest that a majority of independent adoptions are adoptions by stepparents and relatives. [Misleading statement: revise.] By contrast, almost all private agency adoptions and a majority of public agency adoptions are unrelated adoption (Flango and Flango (1995), Table 3). The primary functions of adoption agencies are to evaluate prospective applicants, conduct home studies, arrange suitable placements, and process court applications. A birthmother may relinquish all rights to her child to an agency. All private agencies are licensed and subject to state regulations. Most private agencies are non-profit organizations, but some states permit pro-profit agencies (O’Halloran (2006)). Monetary and time costs of adoption vary substantially by agency and by adoption type. Estimated monetary costs in 2004 range from \$0 to \$2,500 for adoption of foster care children through public agencies, \$5,000 to \$40,000 (with the average \$10,000-\$20,000) for domestic adoption through private agencies, and \$7,000 to \$30,000 for inter-country adoption through private agencies (CWIG (2004)). Expected waiting time for adopting healthy domestic infants through private agencies is between 2 and 4 years, reflecting high excess demand for these children (NCFA (1989)). Expected waiting time for adopting healthy infants from abroad is typically from ten months to two years.<sup>2</sup> By contrast, the market for foster care adoption is likely characterized by excess supply, as a large number of children in the foster care system are waiting to be adopted each year. [Obtain expected waiting time.]

### **3. History of Child Adoption in the U.S., 1850-2000**

To provide the historical background, we briefly describe the evolution of child adoption in the U.S. over the last 150 years.<sup>3</sup> The development unfolded roughly in three stages. During the initial stage (circa 1850-1920), starting with the Massachusetts statute in 1851, an increasing number of states enacted adoption laws that established judicial supervision for the adoption of minors and

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<sup>2</sup> Country-specific information on adoption cost and time can be found at the U.S. State Department website: [http://travel.state.gov/family/adoption/country/country\\_369.html](http://travel.state.gov/family/adoption/country/country_369.html).

<sup>3</sup> The following description is based mainly on Sokoloff (1993).

enabled permanent legal transfer of parental rights from biological to adoptive parents upon court approval.<sup>4</sup> Despite the efforts by charitable organizations to find adoptive homes for orphaned or abandoned children in large cities, adoptions had remained relatively few in number and informal in nature during the nineteenth century (Sokoloff (1993)). For example, in what is known as the “orphan train movement” in 1854-1904, about 100,000 homeless children in eastern cities were successfully placed on farm communities in the Midwest, but most of them were not formally adopted. The majority of homeless children in cities remained in the care of public or private institutions, where infants faced particularly high mortality rates due to infectious diseases and the lack of wet nurses.

During the next stage (circa 1920-1960), the demand for adoption rose rapidly due partly to the improvements in infant formula, which enabled adoption of new-born babies and infants, and the growing perception that nurture, not nature, was the main determinant of child development. According to Albanesi and Olivetti (2007), the price of infant formula dropped dramatically in the 1930s and 1940s with the introduction of Similac, a leading brand that successfully replicated the nutritional contents of breast milk. By the 1950s, the demand for healthy infants in the U.S. began to exceed the supply (Lovelock (2000), p.912), and adoption agencies matched adoptable children with adoptive parents who shared similar socio-demographic characteristics. Most agencies limited their adoption practice to healthy infants of known background, and children with physical and mental disabilities were considered “unadoptable” well into the 1960s (Hansen (2006a)).

During the third stage (circa 1960-2000), while the supply of adoptable infants within the U.S. declined rapidly, two additional sources of supply became available: foreign-born children and foster care children. First, responding to the large number of WWII orphans abroad, the federal government made the first endorsement of inter-country adoption in 1945 through special legislation, which was followed by similar one-time legislations (Lovelock (2000)). It was not until 1963, however, that Congress passed permanent legislation for inter-country adoption, establishing a special visa category for foreign children adopted by U.S. citizens. Since then, the federal government has gradually liberalized the criteria, increasing the age limit for children to be adoptable and allowing adoption by single parents (Weil (1984)). Second, as the number of children entering the foster care system increased substantially in the 1960s, there were concerns that these children were removed from their homes unnecessarily, and that once they entered the system, insufficient efforts were made to reunify them with their families or to find new adoptive

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<sup>4</sup> By contrast, in England, the first adoption statute was not enacted until 1926.

homes (Murray and Gesiriech (2004)). With the passage of the Adoption Assistance and Child Welfare Act of 1980, the federal government required all states to establish adoption subsidy programs to encourage the placement of foster care children. The act also established an adoption assistance program (“Title IV-E”) that provides states with federal matching funds to assist the adoption of special needs children.

#### **4. Trends in Child Adoption in the U.S., 1944-2001**

Our second goal is to survey available aggregate-level data and construct historical trends in U.S. adoption by type. As noted by NAIC (2004) and other adoption specialists, there is no single homogenous data source to estimate the number of children adopted in the U.S. each year. National estimates are made by Zarefsky (1946) and Maza (1984) based on state-level court data by the NCSS for the years 1944, 1951, 1955, 1957-1975. Flango and Flango (1995) combine special studies, court data, and vital records to estimate total adoption for the years 1987-1992. For more recent years, the National Council for Adoption (NCFA) conducted surveys in 1982, 1986, 1992, 1996, and 2002, and provide national estimates. Using similar but slightly different methods, NAIC (2004) also estimates total adoption for 2000 and 2001. Because these studies rely primarily on court records, the data include only formal adoption. The 2000 Census is the first census that asked the number of formally and informally adopted children residing in households, which provides the cumulative stock of adopted children in 2000 as opposed to the annual number of adoptions. No estimates for total adoption are available after 2002. As we discuss below, some micro surveys (e.g., NLSY, PSID, NSFG, and SIPP) do contain questions concerning adoption. Due to the low frequency of adoption, however, it is difficult to construct reliable time trends in adoption from these surveys.

In **Figure 1-a**, we plot total number of adoption in the U.S. from 1944 to 2002 based on the estimates by Maza (1984), Flango and Flango (1995), NAIC (2004), and NCFA (1985, 1989, 1999, 2007). Note that these four separate series are not necessarily comparable due to differences in data and methods. Most important, there is a large discrepancy between the NAIC estimate for 2001 and the NCFA estimate for 2002, making it difficult to establish a recent trend. To resolve this issue, we construct *upper* bound estimates for the NAIC series and *lower* bound estimates for the NCFA series, respectively, using additional data (see “NCFA lower bound” and “NAIC upper bound”

series in **Figure 1-a**).<sup>5</sup> The two sets of bounds overlap reasonably well, providing some assurance that the true values lie between these bounds. To control for changes in population and fertility over this period, in **Figure 1-b**, we present adoption rates, defined as the number of adoptions per 1,000 live births, from 1944 to 2002. Data limitations notwithstanding, the figure shows that adoption rates in the U.S. increased dramatically from less than 20 per 1,000 births in the early 1950s to over 45 per 1,000 births in 1968-1973. Adoption rates then declined sharply in the 1970s and possibly in the 1980s. As a result, adoption rates in 2002 (32.4 to 37.6 per 1,000 births) are still substantially lower than the historical peak reached in 1971 (47.5 per 1,000 births).

To document the trends in inter-country adoption, **Figure 2-a** presents the number of foreign-born children adopted by U.S. citizens, 1945-2006. U.S. Immigration and Naturalization Service (renamed Department of Homeland Security in 2002) has reported annual data on inter-country adoption since 1962 with the establishment of special visa categories for immigrant-orphans.<sup>6</sup> Before 1962, there were special one-time legislations in 1945, 1948, 1953, and 1957 that allowed a certain number of immigrant-orphans enter the U.S. and as such, these numbers do not represent annual inflows (Lovelock (2000); Weil (1984)). In **Figure 2-b**, we plot the inter-country adoption rate per 1,000 live births, 1962-2005. The figures show the rise and fall of inter-country adoption in three waves, first in the mid 1970s and second in the mid 1980s, seemingly uncorrelated with the trends in total adoption in **Figure 1-b**. Currently, we are in the midst of the third wave where the number of immigrant-orphans soared from 6,000 (or 1.6 per 1,000 births) in 1992 to over 20,000 (or 5.6 per 1,000 births) in 2004.

In **Figure 3**, we decompose total adoption into related and unrelated adoption from 1951 to 2002 based on Maza (1984) and NCFA (1985, 1989, 1999, 2007). We also plot the estimates for unrelated adoption in 1976-85 by Bachrach et al. (1990) based on National Health Interview

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<sup>5</sup> The difference between the 2001 NAIC estimate and the 2002 NCFA estimate stems largely from the fact that, while the former assume that all inter-country adoptions are included in court data and vital records, the latter assumes that none are included (NCFA (2007), p.79, editor's note). Foreign-born children adopted by U.S. citizens are included in these records only if they are adopted under U.S. state law. Those children who entered the U.S. under an IR4 visa are by federal law required to finalize their adoptions in a U.S. state court. Those who entered under an IR3 visa (whose adoption had been finalized in their birth countries) are not. Even so, government officials recommend IR3 children to be *readopted* in the U.S. to receive additional legal protection. Adoptive parents may incur nontrivial legal costs (\$2,000 or higher) in doing so (CWIG (2004, 2006)). The number of IR3 and IR4 visa entrants are reported in USINS (1982-2002). No data are available as to how many IR3 children are readopted. We obtain lower bounds for the NCFA estimates by subtracting inter-country adoptions from their estimated total. Upper bounds for the NAIC estimates are obtained by adding IR3 adoption to their estimated total.

<sup>6</sup> The 1962-2005 data do not include 2,911 children from Vietnam who were admitted to the U.S. in 1975 under a special refugee program (Weil (1984), p.289).

Survey (NHIS) data. Because the NHIS series match better with our NCFA lower bound series, we report the NCFA lower bound estimates in the figure. Assuming that all inter-country adoptions are unrelated adoption, we further divide unrelated adoption into domestic and inter-country unrelated adoption. **Table 1** reports the share of related, unrelated, and inter-country adoptions in total adoption for selected years. The percentage of unrelated adoption in total was relatively stable at around 53% in 1955-70, then dropped sharply from 51% in 1970 to 37% in 1975, and resurged recently from 36% in 1982 to 58% in 2002. The percentage of inter-country adoption in total increased steadily from 1.0% in 1965 to 4.4% in 1975, fluctuated between 4% and 9% in 1975-92, and then rose sharply from 5.1% in 1992 to 13.9% in 2002. This increase in inter-country adoption accounts for significant part of the recent surge in unrelated adoption, but not all of it.

How large is stepchildren adoption? Although data are scarce, a large majority of related adoption appears to be stepparent adoption. In 1951, 39% of all adoptions were by stepparents, 12% were by relatives, and 48% were unrelated; and in 1955, 35% of all adoptions were stepparent adoptions, 10% were by relatives, and 55% were unrelated (NCSS (1951, 1955)). In 1992, among 26 reporting states, stepparent adoptions constituted an average of 42% of all adoptions (Flango and Flango (1995)).

To assess the share of foster care adoption in domestic unrelated adoption, in **Figure 4**, we divide domestic unrelated adoption by agency type (Maza (1984); NSFA (1985, 1989, 1999, 2007)). Public agency adoption refers to adoptions arranged by public child welfare agency, while non-public agency adoption includes private agency adoption and independent adoption. We also plot annual estimates for public agency adoption reported by the U.S. Children's Bureau starting in 1990 (VCIS and AFCARS data in USBC (1990-2004)). The figure shows a significant rise in public agency adoption in the 1990s that coincides with the federal initiatives to encourage foster care adoption. In **Table 2**, we report the shares of public agency adoption and inter-country adoption in unrelated adoption for selected years.<sup>7</sup> In 2002, 44% of unrelated adoption is foster care adoption and 22% are inter-country adoption. Domestic adoption through private agency or individual arrangements accounts for the remaining 34% of unrelated adoption.

Within foster care adoption, limited data suggest that special needs children (i.e., children over a certain age, of a sibling group, of minority race, or with disabilities) comprise a majority in recent years. From 1991-94, the average share of special needs children in public agency adoptions

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<sup>7</sup> No inter-country adoption is arranged through public agency.

ranged from 63% to 82% among the reporting states (USCB (1991-94)). In 2004, 47 states reported that 80 to 100% of public agency adoptions were special needs adoptions (USCB (2004)).

In summary, we find that, in the U.S., (1) the adoption rate in 2002, for both related and unrelated adoption, is still below its historical peak in 1968-73 despite a recent resurgence; (2) the share of unrelated adoption in total adoptions had declined sharply in the 1970s, but has increased over the last decade; and (3) this recent increase in unrelated adoption seems to be driven by the rise in inter-country and foster care adoptions.

## **5. Understanding Historical Trends in Adoption, 1951-2002**

What explains the dramatic increase in the adoption rate for unrelated adoption in the 1960s and its equally dramatic decline in the 1970s? Why is the adoption rate today still substantially below the 1971 level? Why did inter-country adoption become a significant component of total adoptions only in the last decade despite its availability since the early 1960s? Can we attribute the rise in foster care adoption in the 1990s to the change in government policies? To what extent, are inter-country adoption and foster care adoption a substitute for domestic private agency adoption? To better understand the historical trends, we divide the U.S. adoption market into three segments, (1) domestic private agency adoption, (2) inter-country adoption, and (3) foster care adoption, and explore possible demand- and supply-side explanations using historical data.

### **5.1 Market for Domestic Private Agency Adoption**

We first consider the demand-side factors that affect the market for domestic private agency adoption that deals primarily with unrelated adoption of healthy infants. [Revise: also a substantial number of unrelated adoption of infants by public agency and independent arrangements.] A dramatic rise in women's educational attainment and labor force participation since the 1950s has been associated with delayed marriage and childbearing (Goldin and Katz (2002); Caucutt et al. (2002); Olivetti (2006)). **Figure 5** shows that the labor force participation rates for women aged 20-44 had increased sharply from the early 1960s to the late 1980s. **Figure 6** documents a concurrent increase in the age of women at first marriage and at first birth. The dramatic rise in women's educational and occupational attainment implies that interrupting work to bear a child incurs a higher opportunity cost. Indeed, recent studies have found substantial wage premium on delayed childbearing, especially for college educated women and women in highly skilled

professions (Ellwood et al. (2004); Miller (2006); Buckles (2006a)).<sup>8</sup> Delayed motherhood, however, is in turn associated with higher risk of facing infertility before achieving a desired number of children.<sup>9</sup> As more women seek both career and family in recent decades (Goldin (2004)), we expect a potentially large increase in the demand for adoptable infants as a substitute for childbearing. In fact, preceding studies have consistently found that women's inability or difficulty in bearing a child is positively related with their likelihood of adoption.<sup>10</sup>

At the same time, recent progress in infertility treatment has improved the probability of having biological children for women with fertility problems. Two major advancements are the 1967 FDA approval of fertility drugs, which induce ovulation, and the 1981 introduction of in vitro fertilization (IVF), the most common form of assisted reproductive technology (ART) today.<sup>11</sup> As the usage of fertility drugs correlates with the incidents of multiple births, the diffusion of fertility drugs can be inferred, albeit imperfectly, from the changes in multiple birth rates. **Figure 7** plots the ratio of triplet and higher-order multiple births per 100,000 live births in the U.S. from 1971 to 2002. The ratio was nearly constant in the 1970s despite the earlier approval of fertility drugs, and then dramatically increased from the early 1980s to the late 1990s.<sup>12</sup> **Figure 8** presents the number of ART cycles performed and the numbers of resulting live births and deliveries in the U.S. from 1985 to 2003 (note that one delivery may produce multiple births). The figure also plots the success rate, measured by the percentage of ART cycles resulting in live deliveries. The number of ART deliveries has increased dramatically from 3,951 in 1990 to 25,228 in 2000, and the success rate doubled from 13% to 25% during the same period. Improvements in ART led to both the reduction in the monetary cost per delivery and the decline in the risk of multiple births over the last decade

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<sup>8</sup> Miller (2006) finds that an additional year of fertility delay is associated with a 3% increase in hourly wage rates and a 10% increase in lifetime earnings for women.

<sup>9</sup> For example, the probability of conceiving and delivering a healthy baby for non-contracepting women declines by half from age 25 to age 35 (Van Noord-Zaadstra et al. (1991)).

<sup>10</sup> See Bonham (1977), Bachrach (1983, 1986), Bachrach et al. (1990), Bachrach et al (1991), Chandra et al. (1999), and Hollingsworth (2000). Chandra et al. (1999), however, suggest that this relationship may be weakening over time.

<sup>11</sup> ART refers to procedures that involve retrieving eggs from ovaries, combining them with sperms in the laboratory, and transfer them into a woman's uterus or fallopian tube. Artificial insemination, which is not part of ART, has been used to treat infertility since the pre-WWII period with relatively minor technological improvements.

<sup>12</sup> The figure overstates the diffusion of fertility drugs because multiple births increase also with maternal ages and the use of ART (Martin and Park (1999)).

(Toner (2002)). Nevertheless, estimated costs of IVF per delivery in 2006 remain very high, ranging from \$30,000 to \$ 60,000 in 2006.<sup>13</sup>

To what extent, are advanced infertility treatment and adoption substitutes? The ratio of the number of women who delivered their biological children with ART to the number of women who adopted unrelated children domestically has increased from 15% in 1992, 34% in 1996, and to 60% in 2002 (based on the NSFA lower bound estimates for domestic unrelated adoption). In other words, ART likely had a sizable impact on the demand for domestic infants in recent years. To summarize, the continuing trend in delayed childbearing has likely increased the demand for adoptable infants from the 1960s to the 1990s. Starting in the 1980s, however, advancement in ART likely reduced the adoption demand particularly from those individuals with higher income or stronger preference for biological children.

If the adoption market for domestic infants has been characterized by “excess demand” since the 1950s as the historical narrative suggests, then the actual number of unrelated adoption is determined solely by the *supply* of adoptable children. The primary source of the domestic supply of infants has been unmarried (never-married, divorced, or widowed) mothers who relinquish their children for adoption. The number of children born to unmarried women has increased dramatically over the last fifty years (Ventura and Bachrach (2000)), suggesting potentially a large increase in the supply of adoptable infants within the U.S. **Figure 9** presents the number of nonmarital births by race from 1950 to 2000. Nonmarital births to white women in particular increased by a factor of 16 during this period, while that to nonwhite women increased by a factor of 5.5. **Figure 10** shows that the birth rates to unmarried women tripled from 15 per 1,000 unmarried women in 1950 to 45 per 1,000 unmarried women in 1990. The same figure also shows that the percentage of nonmarital births to total births rose steadily from 4% in 1950 to 33% in 1994. **Figure 11** presents birth rate to unmarried women by age groups. For women 15 to 19 years of age, the age group one may consider most likely to relinquish children for adoption, the likelihood of becoming unmarried mothers had increased steadily from 1950 to 1991. From the mid 1970s to the early 1990s, single motherhood has increased in all age groups.

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<sup>13</sup> One cycle of IVF costs \$10,000 to \$15,000 including medications, and, on average, three to four cycles of IVF are required for one live delivery (online information from several infertility clinics). In the U.S., IVF procedures were not covered by insurance except for 6 states as of 1999 (Buckles (2007)).

Clearly, not all unmarried mothers relinquish their children for adoption. To provide a rough proxy for relinquishment rate, **Figure 12** plots the ratio of domestic unrelated adoptions to nonmarital births, 1951-2002. It shows that the ratio was constant at around 25% in the 1950s and 1960s and then fell precipitously in the 1970s to 5%. Using NSFG data, Chandra et al. (1999) report that the percentage of children born to never-married women who were relinquished for adoption declined steadily from 8.7% in the late 1960s to 4.1% in the mid 1970s, 2.0% in the mid 1980s, and 0.9% in the mid 1990s.<sup>14</sup> What determines unmarried mothers' likelihood of relinquishing their children? Nonmarital births can be a result of unintended (i.e., unwanted or mistimed) or intended pregnancies.<sup>15</sup> One would expect much higher relinquishment rates for unwanted births, compared to mistimed or intended births. Therefore, if the diffusion of contraceptive pills among never-married women in the 1970s and the legalization of abortion in 1969-73 disproportionately reduced the number of *unwanted* pregnancies, then one would expect relinquishment rates to fall accordingly.<sup>16</sup> **Figure 13** shows that abortion rate per 1,000 live births increased sharply from 1973 to 1980 and declined steadily in 1980-2000. Brown and Eizenberg (1995) report that 75% of unintended pregnancies to never-married women in 1987 ended in abortion. Using state-level panel data from 1961 to 1975, Bitler and Zabodny (2002) find that, relative to other states, states that repealed abortion restrictions experienced 34% decline in the adoption rates for unrelated white children, concluding that the estimated effect of abortion legalization on adoption rates can account for much of the decline in adoptions during the early 1970s. In other words, the primary cause of the dramatic fall in unrelated adoption in the 1970s was most likely the decline in the domestic *supply* of adoptable infants in the U.S.<sup>17</sup>

What explains the continuing decline in relinquishment rates in the 1980s and 1990s? One hypothesis is that relinquishment rates for unwanted births are falling due to declining social stigma attached to single motherhood, improved economic status of women, or the availability of

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<sup>14</sup> Due to small sample sizes, these rates are not precisely estimated. White women are much more likely to relinquish than black women (3.2% versus 1.1% in 1982-88), but at the same time, black women are much more likely to give nonmarital births than white women.

<sup>15</sup> For example, Brien (1990) finds that 78% of white single mothers (and 26% of black single mothers) born in 1954 married the biological father of the child within three years of the birth, indicating the prevalence of mistimed, rather than unwanted, births in nonmarital births.

<sup>16</sup> Upon the 1960 FDA approval, oral contraceptives diffused rapidly among married women in the 1960s, but most young unmarried women did not have an access until the early 1970s (Goldin and Katz (2002)). Abortion bans were repealed in seven states in 1969-72 and were stuck down by the 1973 Supreme Court ruling (Bitler and Zabodny (2002)).

<sup>17</sup> By contrast, Medoff (1993), using the 1982 NCFR data, finds no statistically significant effect of the availability of abortion on adoption rates, while Gennetian (1999) finds that restrictive abortion laws reduced (as opposed to increased) relinquishment rates in the 1980s.

government support for single mothers in low income households through the Aid to Families with Dependent Children (AFDC) program.<sup>18</sup> In general, empirical studies have found a negative effect of welfare benefits on marriage and positive effect on fertility for white women, but the magnitude of these effects is heavily disputed (Moffitt (1997)). Using adoption rates as a proxy for relinquishment rates, Medoff (1993) finds a negative effect of AFDC payments on relinquishment rates, while Gennetian (1999) finds no effect. In **Figure 14**, we plot the average monthly AFDC payments per recipient and per family, both expressed in 2002 dollars.<sup>19</sup> The figure shows that, the AFDC payments per family and per recipient peaked in 1969 and 1977, respectively, and have declined in real terms over the last thirty years. Therefore, the changes in the AFDC payments are unlikely to explain the declining trends in relinquishment rates. Another hypothesis is that the share of *intended* births among nonmarital births is rising. The number of adults in nonmarital cohabitation in the U.S. has been increasing steadily since the 1970s (Stevenson and Wolfers (2007)). Unlike in Scandinavian countries, however, the share of nonmarital births to cohabitating couples is relatively small in the U.S., and most out-of-wedlock children live in female-headed single-parent households (Willis (1999)). We thus need further research to understand the recent trends in relinquishment rates.

In summary, the data suggest that the market for domestic private agency adoption has been constrained by the supply of healthy infants available for adoption in the U.S. in the last fifty years. The rise in domestic unrelated adoption in the 1960s may have been driven by the increase in nonmarital births especially to white women in the 1960s. The dramatic decline in adoption rates in the 1970s can be attributed to the fall in relinquishment rates among unmarried women due to the availability of abortion and contraceptive pills both of which reduced the number of unwanted births. The number of domestic private agency adoptions has remained roughly constant in the 1980s and 1990s presumably due to combined effects of rising nonmarital birth rates and falling relinquishment rates.

## **5.2 Market for Inter-country Adoption**

Initially, the demand for inter-country adoption was driven largely by humanitarian motives. After WWII, in addition to a large number of war orphans resulted from the war, U.S. occupational

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<sup>18</sup> The AFDC program provided monthly cash assistance to families with needy children who have been deprived of parental support or care due to the absence of their father or mother.

<sup>19</sup> The AFDC program was repealed in 1997 and replaced by the TANF program in 1998.

forces in Asian and European countries produced a significant number of out-of-wedlock mixed-race children in these countries who were placed in orphanages. Increasing public interest in foreign adoptions resulting from these two factors led Congress to pass temporary laws to permit immigration of foreign orphans, such as the 1948 Displaced Persons Act and the 1953 Refugee Act. With the permanent legislation in 1963, prospective adoptive parents who did not meet qualifications (e.g., marital status, age, religious affiliation) for domestic adoption increasingly turned to inter-country adoption. Inter-country adoption also had become increasingly interracial when domestically interracial adoption was not a common practice (Lovelock (2000)). In particular, South Korea became a major source country for foreign adoptions since the Korean War: among some 35,000 immigrant-orphans entering the U.S. in 1963-75, 65% were from South Korea (Weil (1984)).

With increasing acceptance of multiculturalism since the 1970s, inter-country adoption has become closer substitutes for domestic infant adoption over time. **Figure 15** shows that a large majority of inter-country adoption are children aged 0-4 in recent decades, although we have no data on their health or disability status. In particular, the share of infants (age 0 and 1) in total inter-country adoption has increased from 50% in the 1970s to 70% in the 1980s. As in the case of the demand for domestic infants, one may expect the demand for inter-country adoption to increase with delayed childbearing and decrease with the progress in infertility treatment. To see the relationships between inter-country adoption and the use of assisted reproductive technology (ART), in **Figure 16**, we compare the numbers of ART births and deliveries to the number of inter-country adoption in 1985-2003. The number of children born with ART has in fact exceeded the number of children adopted from abroad since 1992. In other words, the recent increase in inter-country adoption is *concurrent* with the even faster increase in ART births. This suggests that either advanced infertility treatment and inter-country adoption are not substitutes, or more plausibly, because the market for inter-country adoption is characterized by excess demand, the reduction in the demand due to ART does not affect the actual number of inter-country adoptions. Moreover, declining search costs through better communication and transportation technology, which likely reduced the monetary and time costs for inter-country adoption, should stimulate the demand for inter-country adoption in recent decades. As we have shown, however, inter-country adoption has grown unevenly over the last forty years. What explains the rise and fall of inter-country adoption documented in **Figure 2**? We now turn to the supply-side of inter-country adoption.

Historically, political and economic crises in sending countries, such as war, famine, and regime changes, appear to have been a major factor in determining the number of children available for (or in need of) foreign adoption. More recently, legal reforms or policy changes in sending countries also became an important factor (Selman (2002)). To examine this hypothesis, **Figure 17** presents the number of inter-country adoption by source country from 1990 to 2006. It shows that a sudden jump in inter-country adoption in 1991 is caused by an inflow of 2,600 children from Romania after the 1989 collapse of the communist regime that exposed the country's overcrowded orphanages. Similarly, the recent surge is almost entirely driven by policy changes in Russia, China, and Guatemala.<sup>20</sup> Most notably, the introduction of the one child policy in China in 1979 resulted in a large annual inflow of unwanted healthy infants, predominantly girls, to state orphanages. Since China allowed adoption by foreigners for the first time in 1992, it has become a major source of inter-country adoption for U.S. citizens. Russia, which permitted foreign adoption in 1990, became a major sending country as it experienced prolonged economic crisis after the 1991 dissolution of the Soviet Union. The decline in inter-country adoption in the U.S. in 2004-06 is also triggered by recent policy changes in Russia and China.<sup>21</sup>

To summarize, inter-country adoption in the U.S. has increasingly become a substitute for domestic adoption over the last forty years due likely to (1) growing acceptance of inter-racial adoption and (2) rising supply of healthy infants from source countries such as China. As the demand for inter-country adoption exceeds the supply, the recent changes in inter-country adoption can be accounted almost entirely by the supply-side factors.

### **5.3 Market for Foster Care Adoption**

Finally, we turn to the market for public agency adoption. We first examine the supply-side of foster care adoption. Children are placed in the public foster care system, temporarily or permanently, either by court order for the case of abuse or neglect (involuntary surrender) or when parents are unable to care for their children due to medical, emotional, or financial reasons and voluntarily surrender their parental rights. For this reason, in recent decades, children in foster care come disproportionately from disadvantaged families and may suffer from physical, mental,

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<sup>20</sup> Surprisingly, South Korea remains to be a major sender today despite the country's high income per capita and fertility rates that are below replacement rates. This is attributed to historical path-dependence (e.g., high quality orphanages, established procedures), persistent social stigma attached to single motherhood, and strong cultural preference for adopting biologically related children (Selman (2002); Lee (2007)).

<sup>21</sup> "China Tightens Adoption Rules for Foreigners," December 20, 2006, *New York Times*.

learning, or emotional disabilities or are considered to be at risk of developing these conditions. [This might not have been the case in earlier decades. In the 1960s and 1950s, public agency adoption and private agency adoptions seem to have been closer substitutes.]

The number of children in the public foster care system has grown from 193,000 in 1950, 234,000 in 1960, 303,000 in 1980, 406,000 in 1990, and to 552,000 in 2000 (Bar (1992); USCB (1990-2000)). **Table 3** compares the characteristics of children in foster care by their status in 2000, a representative year in 1998-2005. Among the 552,000 children in foster care, 38% were non-Hispanic white and 39% were non-Hispanic black; only 9% were infants aged 0-1; and 4% were placed in pre-adoptive homes, 25% in related foster homes (i.e., foster parents are relatives of the child), and 47% in unrelated foster homes. Not all foster care children are available for adoption. Among the 272,000 children who exited foster care in 2000, 57% were reunified with their birth parents, 17% were adopted, 10% lived with their relatives, and 7% were emancipated.

Foster care children are classified as “waiting to be adopted” (a proxy for the supply of adoptable foster care children) if parental rights of their birth parents are permanently terminated. In 2000, the number of such children was 131,000 with a mean age of 8.1. As **Table 3** shows, the waiting children were more likely to be non-Hispanic black, aged 2 to 12, and more likely to be placed in pre-adoptive or foster homes, compared to the entire foster care population. Although data are not available, a large majority of the waiting children are “special needs” children defined by states, i.e., children above a certain age, of ethnic or racial minority, of members of a sibling group, or with disabilities.

Who adopt children from the foster care system? **Table 3** shows that, among the 51,000 children adopted in 2000, 21% were adopted by relatives who were not foster parents prior to adoption, 18% by unrelated individuals who were not foster parents prior to adoption, and 61% by former foster parents. Assuming that 75% of foster parents are non-relatives (as in the case for children waiting to be adopted), 64% of foster care adoption was *unrelated* adoption. The adopted children are less likely to be non-Hispanic black and between age 2 and 8 compared to the waiting children. Importantly, 93% of the children shared the same race with at least one of their adoptive parents, suggesting that inter-racial adoption is still relatively rare in foster care adoption (USCB (2006)). Although the percentage of the adopted children to the waiting children has increased from 30% in 1998 to 46% in 2002, the supply of adoptable foster care children is still far greater than the demand.

Adoptive parents for special needs children are often described as having “a big heart and limited resources” (Bower and Law (2002), p.8), referring both to their humanitarian motives and financial constraints they face. As such, one may expect adoption subsidies to affect the demand for foster care adoption. Upon the passage of the 1980 Adoption Assistance and Child Welfare Act, the federal and state governments jointly established an adoption assistance program that would provide monthly subsidy to adoptive parents of special needs children until the child reaches age 18.<sup>22</sup> The act not only removed the disincentives for states to provide adoption assistance for children in foster homes who receive federal aid for foster care maintenance payments, but also destigmatized adoption assistance by basing the eligibility for subsidy mainly on the child’s characteristics as opposed to family income (Hansen (2006b)). **Figure 18** presents the average monthly number of the recipients of adoption assistant payments from 1981 to 2002, as well as the average monthly federal expenditure on the program. In 1990, the federal government monthly paid \$200 per family to match state grants, supporting total 44,000 adoptive families; the equivalent figures rose to \$300 and 286,000 families by 2002. States determine the amount of adoption assistant payments on case-by-case basis taking into account the needs of the child and the adoptive parents. **Table 4** presents the number of public agency adoption, the percentage of adoption eligible for adoption assistance payments, and the average monthly payments received by eligible families, from 1996 to 2002. In 2000, 75% of foster care adoptions were eligible for the payments, receiving on average \$460 of monthly subsidy. Does the adoption subsidy increase the number of foster care adoption? Using state-level data in 1996-97, Hansen and Hansen (2006) find positive correlations between adoption subsidies and the demand for public agency adoption, while Dalberth et al. (2005) find no correlations in the 2001 data.<sup>23</sup>

To what extent, is foster care adoption a substitute for infant adoptions domestically and internationally? Given the systematic difference in the characteristics of adoptable children in foster care and at domestic private agency, despite much lower monetary costs for foster care adoption, one may expect a low degree of substitutability between the two.<sup>24</sup> Depending on source

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<sup>22</sup> The 1997 Adoption and Safe Families Act further established an adoption incentive program where federal government provides states with incentive payments of \$4,000 (or \$6,000 for special needs) for each child adopted over the baseline number (NCFA (2007)).

<sup>23</sup> Buckles (2006b) questions the validity of these OLS estimates, pointing out that adoption subsidies are endogenous to the characteristics of adopted children, adoptive parents, and social workers.

<sup>24</sup> Prospective adoptive parents’ preferences may be flexible, however. According to the 1995 NSFG survey, among the women who seek to adopt, even though only 25% (or 5.5%) would prefer to adopt a child with mild (or severe) disabilities, 83% (or 33%) were willing to accept a child with mild (or severe) disabilities.

countries, inter-country adoption may be a closer substitute. Although empirical studies are scarce, using state-level data, Hansen and Hansen (2006) find that foster care adoption is strongly and negatively correlated with inter-country adoption, but only weakly and negatively correlated with private agency adoption.

## **6. Empirical Analysis of Adoption Demand and Supply using Micro Data**

The final objective of this paper is to analyze the demand for, and supply of, adoptable children in the U.S. using micro (individual-level) data. Preceding studies on adoption demand using micro data are relatively scarce and primarily in the field of sociology and demography. Most studies (e.g., Bonham (1977); Bachrach (1983, 1986); Poston and Cullen (1986, 1989); Bachrach et al. (1990); Bachrach et al. (1991); Chandra et al. (1999); Hollingsworth (2000)) use single-year cross-sectional data from the NSFG or the NHIS and compare the characteristics of adoptive and non-adoptive women (or adoption seeking and non-adoption seeking women). The common findings are that adoptive (or adoption seeking) women are on average more likely to be white, married, older, religious, fecundity impaired, better educated, and have higher income. Most of these results are descriptive, however, and only a handful of studies employ multivariate regression analysis (e.g., Poston and Cullen (1986, 1989); Bachrach et al. (1991); Hollingsworth (2000)). The empirical literature on adoption supply using micro data is even scarcer.<sup>25</sup> Two studies, Bachrach (1986) and Chandra et al. (1999), use single-year cross-sectional data from the NSFG. Their analyses are purely descriptive due to small sample sizes that preclude the use of multivariate analysis.

In other words, the previous studies have mostly used descriptive statistics instead of multivariate analysis, have focused on a single cross-section without exploiting across-time variation in the data, have examined unrelated adoption without distinguishing adoption types (i.e., domestic, inter-country, and foster care adoption), and have not explicitly formulated or tested hypotheses concerning the determinants of adoption demand and supply. To overcome these limitations, in this paper, we use more rigorous econometric analysis and two complementary micro datasets, the National Survey of Family Growth (NSFG) and the Survey of Income and Program Participation

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Similarly, while 58% of women expressed a preference for adopting an infant less than 2 years of age, 28% did the same for a child aged 2-5, and only 6.8% did the same for a child aged 6-12, 86% said they would accept a child aged 2-5 and 56% said they would accept a child aged 6-12 (Chandra et al. (1999)).

<sup>25</sup> As discussed in the previous section, several economists have used aggregate state-level data to study adoption supply (i.e., Bitler and Zavodny (2002); Medoff (1993); Genettian (1999)).

(SIPP), to estimate individuals' propensity to adopt a child and to relinquish a child for adoption.

### 6.1. Data and Empirical Methods

The National Survey of Family Growth (NSFG), conducted by the National Center for Health Statistics, consists of six cycles of repeated cross-sectional data in 1973, 1976, 1982, 1988, 1995 and 2002. Through personal interviews, the data were collected from a nationally representative sample of women of childbearing age (15 to 44 years old).<sup>26</sup> As we elaborate below, the sampling universe has expanded slightly over time, including 7,600 to 11,000 women in each cycle.

The primary strength of the NSFG is the availability of detailed information on marital and fertility history and reproductive and sexual health of women (e.g., pregnancy, miscarriage, abortion, contraceptive use, fecundity status, infertility treatment), in addition to basic socio-demographic characteristics. In particular, in all cycles, women are asked if they have ever adopted a child. In the last two cycles, women are also asked if they consider adopting a child, and if so, if they have taken any steps toward adopting a child, which enable us to study not only *fulfilled* demand but also *potential* demand for adoption. To the extent that fulfilled demand is constrained by the supply of adoptable children, the analysis of potential demand should provide better identification. Furthermore, in the last three cycles, we can distinguish different types of adoption, i.e., unrelated adoption, related adoption, stepchildren adoption, and foster care adoption.<sup>27</sup> Last but not least, starting in the second cycle, women are also asked if they have ever relinquished a child for adoption. To our knowledge, the NSFG is the only micro data source based on a national survey that provides information on child relinquishment.

The Survey of Income and Program Participation (SIPP), conducted by the U.S. Census Bureau, consists of 13 waves of panel data from 1984 to 2004, with a national sample of 12,000 to 44,000 households in each wave.<sup>28</sup> The SIPP provides rich information on individual household members, including spouses, partners, and cohabitating children. In addition to demographic characteristics, it also provides detailed information on individuals' labor market status (e.g. hours worked, wages, work history, occupation), sources of income and assets, and their participation in various welfare programs. Using the household relationship topical module, which elicits relationships between all

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<sup>26</sup> To protect privacy, part of the interview was conducted through audio-assisted self interview.

<sup>27</sup> We cannot identify inter-country adoption in NSFG data.

<sup>28</sup> The duration of each panel is short (one to four years).

household members, we can identify the relationship of each child (biological, step, foster, or adopted) to their mother and their father. The information on disability status of children is also available.<sup>29</sup>

Although it has never been exploited, the SIPP has a number of advantages for studying adoption demand. First, its large sample sizes and frequent waves provide us with a sufficient number of observations of adoptive parents to conduct multivariate analysis. Second, the data allow us to distinguish different types of adoption, i.e., unrelated adoption, related adoption, stepparent adoption, foster care adoption, and the adoption of disabled children.<sup>30</sup> Third, in contrast to the NSFG whose focus is women of childbearing age, the SIPP is more representative of the population, including single men as well as older women who are also part of adoptive parents. Fourth, while the NSFG has better data on women's reproductive health and fertility history, the SIPP contains better data on economic characteristics in general.

In short, the two datasets, NSFG and SIPP, complement each other in many important aspects. By using both sources to estimate adoption demand, we can address a wider set of questions, and to the extent that the two datasets overlap, we are able to cross-examine reliability of the data and robustness of our findings.

Due to low adoption and relinquishment rates in general, in both datasets, the sample size of adoptive or relinquishing mothers in any single-year sample is very small. By pooling data across all cycles or waves, however, we obtain 676 adoptive mothers and 208 relinquishing mothers in the NSFG, and 1,565 adoptive mothers in the SIPP. As a result, unlike previous work that used single-year NSFG data to study adoption demand or supply, we can implement a multivariate regression to estimate individual's propensity to adopt a child or relinquish a child for adoption. To guide the choice of explanatory variables included in a regression, we consider competing hypotheses that can explain why individuals adopt, rather than bear, children, or why individuals give up their biological children for adoption rather than keeping them.

For the demand analysis, we consider (1) the *infertility hypothesis* that points to individuals' difficulty in producing their own biological children (proxy variables: sterility status, use of infertility treatment, the absence of biological children), (2) the *opportunity cost hypothesis* that

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<sup>29</sup> The SIPP contains some limited information on child relinquishment which should be explored.

<sup>30</sup> We can only partially identify inter-country adoption in SIPP data.

emphasizes the high opportunity cost of childbearing for women pursuing a career as the primary reason for adoption (proxy variables: employment status, occupation, work experience), (3) the *humanitarian hypothesis* that highlights altruistic motives, particularly in adopting children with special needs (proxy variables: religious affiliation, charity donation), and (4) the *resource constraint hypothesis* that emphasizes time, financial resources, and psychological support to undertake costly adoption (proxy variables: woman's work status, family income, assets, marital status).

Clearly, these hypotheses are not mutually exclusive and can jointly impact individuals' decision to adopt. With the multivariate analysis, we can estimate the marginal effects of each proxy variable and evaluate the relative importance of different motivations in determining adoption. It also enables us to examine interactive effects of certain variables. In particular, we use two empirical strategies exploiting both across-time and across-group variations in the data. First, we include dummies for adoption types and their interactions with certain explanatory variables in order to examine variations in the relative importance of the chosen variables across adoption types. For example, under the humanitarian hypothesis, the religion variables would be more important (relative to other socio-economic characteristics) for foster care adoption or the adoption of disabled children than for other types of adoption. Second, we include time dummies and their interactions with certain variables to examine differential time changes in the coefficients associated with those variables. For example, under the opportunity cost hypothesis, increasing returns to education and work experience for women in the last thirty years would increase the opportunity cost of childbearing, thus the importance of the labor market attachment variables (relative to other socio-demographic characteristics) would increase over time.

[To be completed.]

## **6.2 Preliminary Results from NSFG Data**

**Table 5** presents sample definition, sample size, and the numbers of adoptive mothers and adopted children by type of adoption in each cycle of the NSFG. The 1973 and 1976 samples include only ever-married women of childbearing age, in contrast to all women of childbearing age in the subsequent cycles. Due to changes in the wording of survey questions, types of adopted children available in the sample are different across years. Most importantly, for the 1973-1988 samples, adoption may include not only formal but also informal (not legally approved) adoption, while for

the 1995 and 2002 samples women are explicitly asked to exclude informal adoption. Similarly, for the 1973 sample women are asked to exclude stepchild adoption.<sup>31</sup> From 1982 and on, we have information on related and unrelated adoption, and from 1988 and on, we have information on public agency adoption. In the pooled sample, we have a total of 677 adoptive mothers and 903 adopted children. On average, 68% of adoptions in the sample are unrelated adoption, 12% are stepparent adoption,<sup>32</sup> and 35% are public agency adoption. 54% of adoptive mothers have both biological and adopted children, while 46% have only adopted children.

**Table 6** reports descriptive statistics comparing the observed characteristics of mothers by type of mother (i.e., biological, adoptive, and relinquishing mothers) for 1973, 1988, and 2002.<sup>33</sup> (The observed characteristics of adoptive and relinquishing mothers for all years are reported in **Tables 7 and 8**.) Compared to all women who have given birth to at least one child (i.e., biological mothers), women who have adopted at least one child (i.e., adoptive mothers) are more likely to be white, married or cohabitating with a partner, have received some college education, and have higher household income, all at the time of the interview. Adoptive mothers are also more likely to be (surgically or non-surgically) sterile at the time of the interview, have experienced a miscarriage, have received help to get pregnant, have given first birth at higher age, and have been a foster parent. In addition, adoptive mothers are more likely to work full time in 1988 and 2002 and less likely to participate in welfare programs at the time of the interview. Compared to all biological mothers, women who have given up at least one child for adoption (i.e., relinquishing mothers) are more likely to be white, have lower educational attainment, either unmarried or married more than once, have lower household income, and have fewer children living in the household, all at the time of the interview. Relinquishing mothers are also more likely to have had an (induced) abortion, had first intercourse at lower age, given first birth at lower age, and had at least one child out of wedlock.

We now present preliminary results from the logit regression analysis using NSFG data. The results on adoption demand are presented in **Tables 9-15**, and the results on adoption supply are presented in **Tables 16 and 17**.

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<sup>31</sup> [Provide the exact wording of the questions here.]

<sup>32</sup> The share of stepparent adoption is small in our sample because women adopt far less stepchildren than men.

<sup>33</sup> Due to changes in sampling methods and definitions, these statistics are not perfectly comparable across years.

In **Table 9**, we perform a basic regression for single-year samples and a pooled sample, including a set of explanatory variables available across all years. The numbers reported in the table are marginal effects of different variables on the propensity to adopt evaluated at mean values. In the pooled regression presented in the last column, the mean propensity to adopt is 0.0134 or 1.34%. Controlling for the age of respondent, the propensity to adopt increases by 0.52 percentage point to 1.86% if a women is sterile, by 0.27 percentage point if she is married or cohabitating with a partner, by 0.27 percentage point if she has experienced a spontaneous pregnancy loss, by 0.30 percentage point if she is Catholic, and by 0.21 percentage point if she is Protestant. The effects of education and the number of marriages are also positive but small. By contrast, the propensity to adopt decreases by 0.34 percentage point with an additional number of births and by 0.26 percentage point if a women is working full-time.<sup>34</sup> It is interesting to note that the coefficient for full-time work becomes less negative and significant over time, eventually turning to positive (albeit not significant) in the 2002 sample. This is at least consistent with the opportunity cost hypothesis. Similarly, both the magnitude and significance of the coefficients for education and sterility fall over time, possibly indicating increasing diversity among adoptive mothers.

Immediate caveats are in order in interpreting the results. First, given the excess demand in the market for adoptable infants, the results may be capturing supply-side, rather than demand-side, factors, most notably, preferences of private agencies who selects adoptive parents among many applicants. Namely, it could be that sterile, married, or religiously affiliated women are more likely to be matched with adoptable children due to agency preferences. Second, even if the results are identifying demand-side factors, because we are pooling different types of adoption, as our discussion in the previous section suggests, the results likely mask heterogeneity of adoption demand across types. For example, it may be that income has no significance because the effect of higher income women adopting healthy infants and the effect of lower income women adopting foster care children with state subsidies are confounded.

In **Table 10**, we present regression results with richer explanatory variables. (For comparison, the pooled regression from the previous table is reproduced in the first column.) By including additional controls for fertility history and foster parent, the fitness of the model, measured by the pseudo R-squared, improves substantially from the first to second column. In the second column,

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<sup>34</sup> In contrast to previous studies, we find that race and household income have no significant effects on the propensity to adopt. This may be due to the fact that race, income, and marital status are highly collinear.

we find that the propensity to adopt also increases with age at first birth, having no biological children (parity=0), and a shorter interval between the first and last births. In the third column using the pooled 1988-2002 sample, having been a foster parent has by far the largest effect on the likelihood of adoption, increasing the mean propensity of 0.96% by 7.02 percentage points to 7.98%. The same regression also shows that having had an abortion would reduce the propensity to adopt by 0.12 percentage point, while having received infertility treatment would increase the propensity by 0.87 percentage point even after controlling for sterility status. If we believe that infertility treatment is a substitute for adoption, then we should expect a negative coefficient. But if we take into consideration that receiving infertility treatment is a proxy for fecundity status that is only imperfectly captured by sterility status and that the success rate of infertility treatment is not necessarily high, then the results are not surprising. In the last column using the pooled 1995-2002 sample, the “importance of religion” is positive and statistically significant, while none of the religious affiliations has a significant effect on the propensity to adopt.<sup>35</sup> As we show later, the importance of religion is likely a better proxy for humanitarian motives.

Next, to examine whether adoption demand differs systematically by adoption type, we classify adoptive mothers into those who adopted at least one *related* child and those who adopted at least one *unrelated* child (note that the two groups are not mutually exclusive). Recall that related adoption includes stepparent adoption, adoptions by relatives without involving agencies, and adoptions of foster care children by relatives. Unrelated adoption includes domestic private agency and independent adoptions, inter-country adoption, and foster care adoption. **Table 11** presents the regression results for related and unrelated adoptions using the pooled 1982-2002 and 1988-2002 samples. The table shows systematic qualitative (and quantitative) differences between the two types of adoption. For example, a negative effect of working full-time on the propensity to adopt is present only for unrelated adoption, indicating either women’s binding time constraints or private agency’s preference for non-working women. We also find a positive effect of household income on the propensity to adopt only for unrelated adoption, lending some support to the resource constraint hypothesis. The number of marriages has a positive and significant effect only for related adoption, presumably capturing the effect on stepchild adoption. Being Protestant or Catholic has a positive effect only for unrelated adoption, which is consistent with both the humanitarian hypothesis and the agency preference hypothesis. Furthermore, we find that both delayed motherhood (higher age at first birth) and having no biological children (parity=0) have *positive*

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<sup>35</sup> [Provide the definition of importance of religion here.]

effects on unrelated adoption and *negative* or no effects on related adoption. It seems to confirm the infertility hypothesis for unrelated adoption, but reject the same hypothesis for related adoption. Having received help to get pregnant increases the propensity to adopt for both related and unrelated adoption, however, suggesting that infertility also motivates related adoption (but the magnitude of the effect is smaller). Finally, having been a foster mother is the single most important determinant for both related and unrelated adoption, but the magnitude of the effect is much larger for unrelated adoption.

To study the demand for foster care adoption, in **Table 12**, we divide adoptive mothers between “foster” adoptive mothers (i.e., adoptive mothers who have even been a foster mother) and “non-foster” adoptive mothers (i.e., the rest of adoptive mothers) and compare regression results.<sup>36</sup> Due to the extremely small number of foster adoptive mothers in the pooled 1988-2002 sample, much of our results are not statistically significant. Nonetheless, the table shows that the coefficient for sterility is very small for foster adoptive mothers (while remaining positive for non-foster adoptive mothers), and that the coefficient for infertility treatment is positive but far smaller for these mothers. Although not statistically significant, the coefficients for both household income and religious affiliation are positive only for non-foster adoptive mothers.

To further examine the heterogeneity of demand across types, we divide adoptive mothers between those who have *both* adopted and biological children and those who have *only* adopted children. The former group is more likely to include adoptive mothers who are motivated by reasons other than infertility. **Table 13** compares the regression results between the two groups using the pooled 1973-2002 and 1988-2002 samples. It shows that, compared to adoptive mothers who have no biological children, adoptive mothers with both biological and adopted children are more likely to have been a foster mother and less likely to work full-time, have lower household income, and to have received infertility treatment.

In **Table 14**, to explore differences in the propensity to adopt by race, we interact our base line models with the white indicator variable. The coefficients reported in the first column (labeled “level”) show the marginal effects of the corresponding variables for *nonwhite* women in the pooled 1973-2002 sample, and the coefficients in the second column show the additional marginal effects of the same variables if a women is *white*. That is, the marginal effects for white women are

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<sup>36</sup> Because women can adopt foster care children without becoming a foster mother, “non-foster” adoptive mothers may have a child adopted from foster care.

the sum of the coefficients in the first and second columns. (The third and fourth columns report the results using the pooled 1988-2002 sample.) The results reveal systematic differences across race. Most notably, having low household income increases the propensity to adopt for nonwhite women but decreases that for white women; being Protestant or Catholic has a strong positive effect for white women, but a negative effect for nonwhite women; and working full time has a strong negative effect only for white women.

To address the concerns that the results we obtained so far may be reflecting supply-side factors, we also estimate the determinants of *potential* demand as opposed to fulfilled demand. Potential demand for adoption is measured by two variables: (1) women who are *considering* to adopt a child at the time of the interview, and, among those who are considering to adopt, (2) women who have *taken steps* (e.g., contact an adoption agency, doctor, or lawyer) to adopt a child at the time of interview. These variables are available only in the 1995 and 2002 NSFG cycles. **Table 15** compares the regression results for potential and fulfilled demands. In the pooled 1995-2002 regressions, the mean propensities for women to consider to adopt, to take steps to adopt, and to actually adopt are 27.4%, 3.17%, and 0.88% respectively. The variables whose coefficients remain significant and the same sign across the regressions are: age of respondent, age at last child, sterility status, use of infertility treatment, importance of religion, and being a foster mother. We thus place greater confidence in these variables as identifying demand-side effects. In particular, in our view, the significance of both infertility status and importance of religion in predicting the propensity to adopt is not a reflection of agency preferences, but instead provides some support to the infertility and humanitarian hypotheses. By contrast, the coefficients for full-time work, marital status, and religious affiliation vary widely across the regressions. It is likely that the significance of full-time work and marital status in predicting the fulfilled adoption is either a result of agency preferences or binding resource constraints, while that of religious affiliation can be attributed to the fact that many private adoption agencies are operated by religious organizations.

Finally, we turn to the analysis of adoption supply using relinquishment data.<sup>37</sup> **Table 16** presents the results where we use the sample of biological mothers (i.e., women who gave birth to at least one child). In the pooled 1976-2002 regression, the propensity to relinquish a child for adoption is positively correlated with being white, having low-level household income, the number of

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<sup>37</sup> Our analysis is limited, because our data cover only the supply for domestic infant adoption, leaving out the supply for foster care adoption and inter-country adoption which is quantitatively more important in recent years.

marriages, and the number of births. It is negatively correlated with being married or cohabitating with a partner, being Hispanic, being Protestant, working full or part time, participating in welfare, and age at first birth. The results from the pooled 1988-2002 regression are qualitatively similar. Because we observe many of the women's characteristics only at the time of the interview, however, we cannot establish the direction of causality. That is, women's current marital status, household income, employment status, or welfare participation is likely affected by their relinquishment decision in the past. Even more problematic, it is likely that these variables and relinquishment decisions are both correlated with women's unobserved characteristics.

To better control for women's unobserved characteristics, in **Table 16**, we restrict our sample to single mothers (i.e., women who gave births to at least one child out-of-wedlock). In the pooled 1982-2002 sample, conditional on being a single mother, the mean propensity to relinquish a child for adoption is 1.57%. Controlling for the age of respondent, the propensity to relinquish increases by 2.53 percentage point if a woman is white, by 0.31 percentage point if her current household income moves from medium to high level, and by 0.05 percentage point with an additional year of education. By contrast, the propensity to relinquish decreases by 0.43 percentage points if a woman is currently receiving welfare, by 0.37 percentage point if currently married or cohabitating with a partner, by 0.36 percentage point if Hispanic, and by 0.12 percentage point with age at first birth. In contrast to the results in the previous table, conditional on a being single mother, being Protestant or Catholic is no longer negatively correlated with the propensity to relinquish. But even among single mothers, we find that both current marital/cohabitating status and welfare participation are negatively correlated with the propensity to relinquish. Our results likely indicate that single mothers without a stable partner are more likely to relinquished a child, while those single mothers who have relinquished a child is less likely to receive welfare benefits subsequently because they have fewer dependent children. Finally, we find no significant correlations between the propensity to relinquish and ever having an abortion. One may expect negative correlations between the two if they are considered substitutes.

### **6.3 Preliminary Results from SIPP Data**

[To be added.]

## **7. Concluding Remarks**

In this paper, we present adoption trends in the U.S. and empirically investigate the determinants of adoption demand and supply, using various macro and micro data sources and exploiting both historical and cross-sectional variation in these data. In future work, we plan to develop a theoretical model of adoption-seeking and child relinquishment, based on the empirical findings from this paper, and conduct counterfactual experiments to evaluate the effects of possible adoption-related policies on adoption outcomes.

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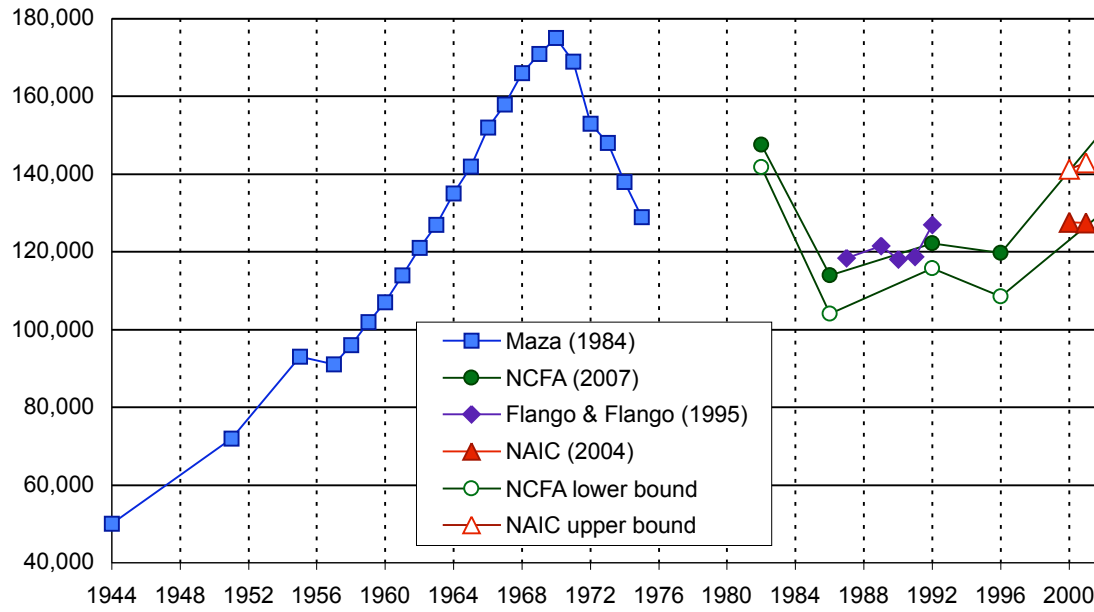
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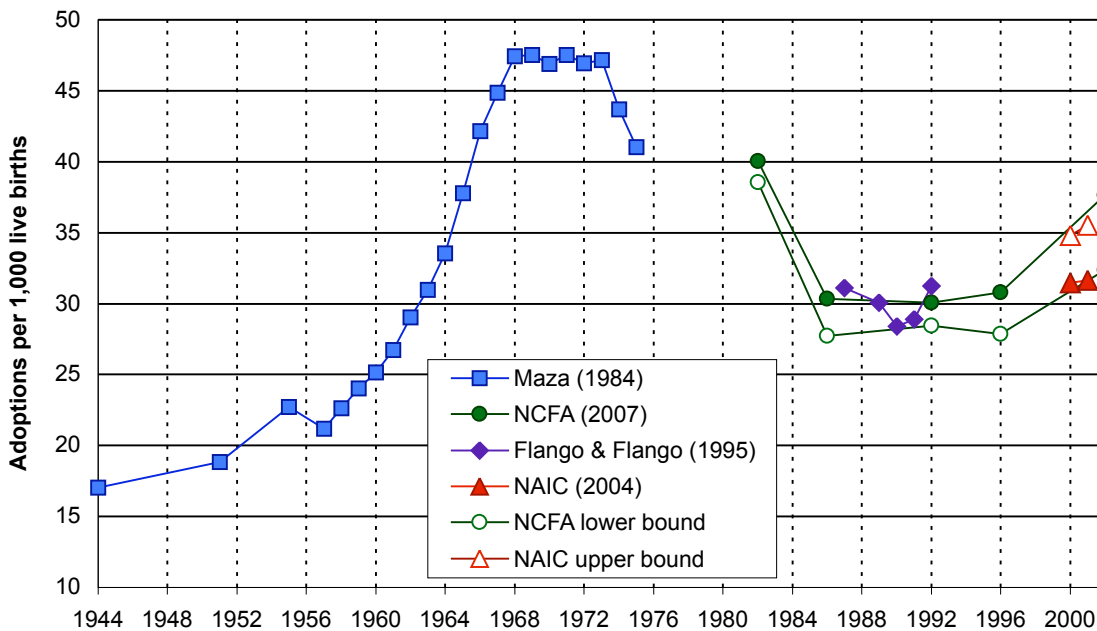
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**Figure 1-a: Total Number of Adoptions in the U.S., 1944-2002**

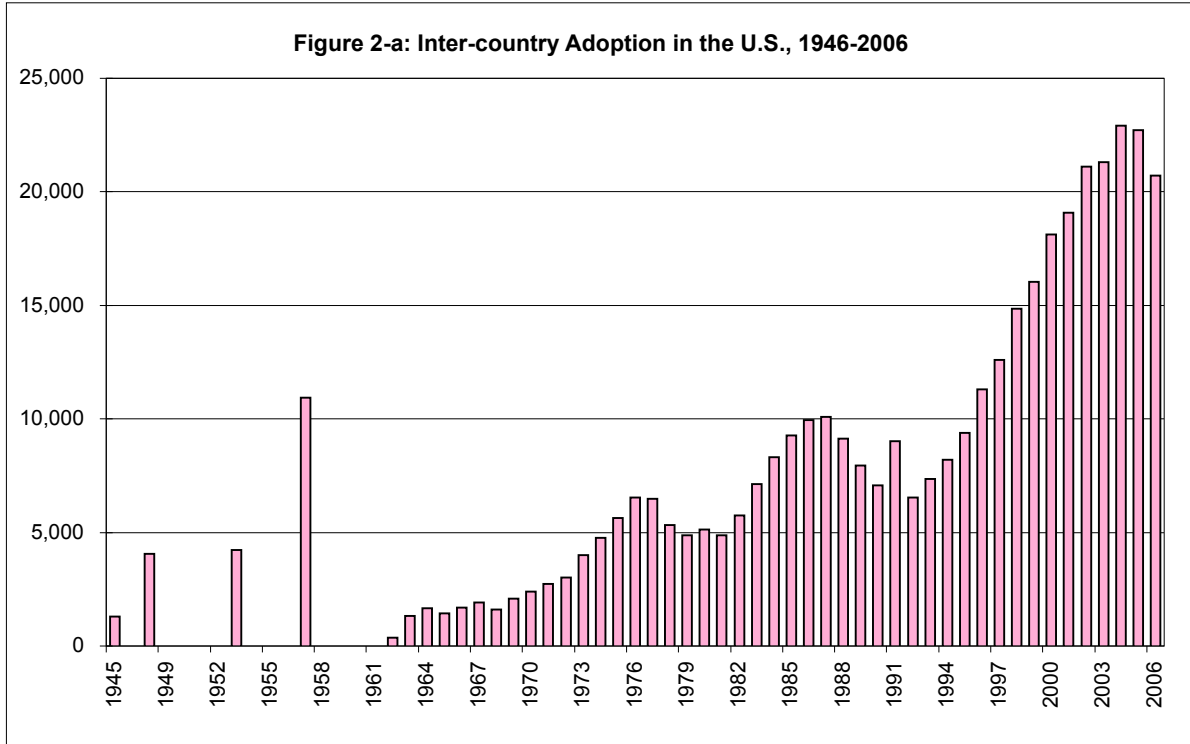


**Figure 1-b: Adoption Rate in the U.S., 1944-2002**

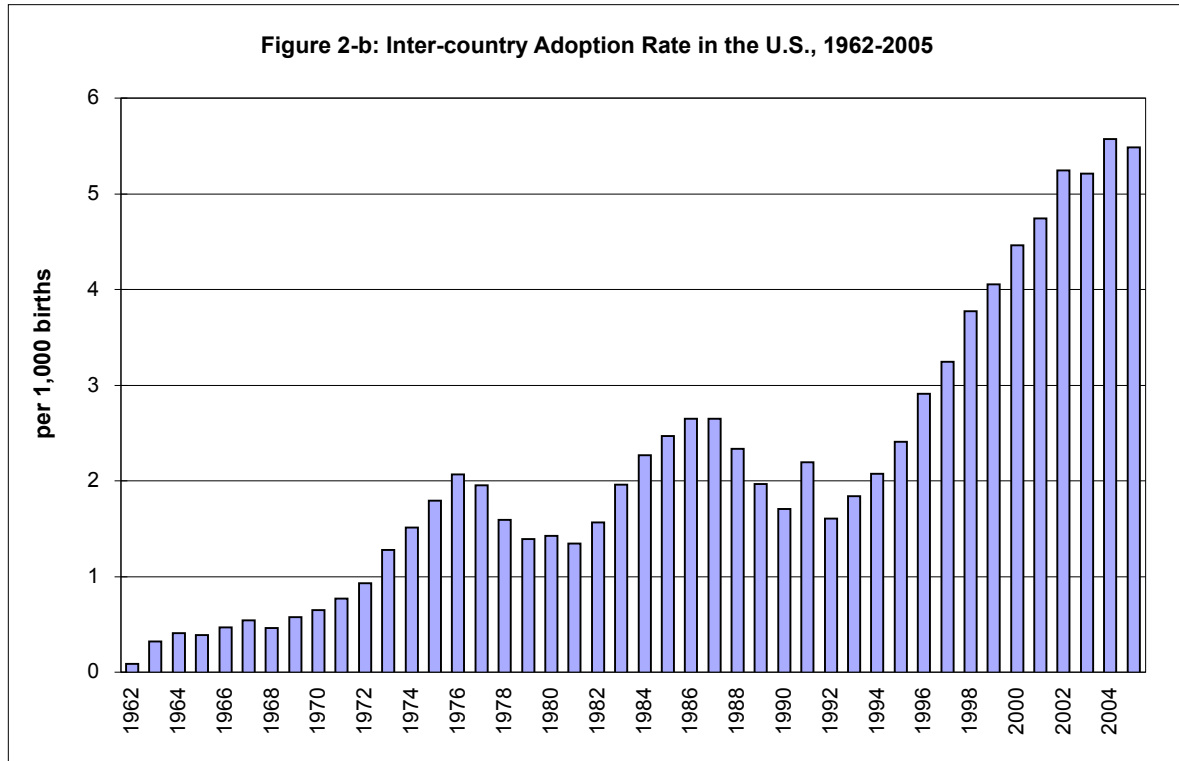


Sources: Maza (1984), NCFA (1985, 1989, 1999, 2007), Flango & Flango (1995), NAIC (2004); USNCHS (1991-2002).

Notes: "NCFA lower bound" is NCFA total minus foreign-born children adopted by U.S. citizens, and "NAIC lower bound" is NAIC total plus foreign-born children adopted by U.S. citizens with IR3 visa (see footnote 4).

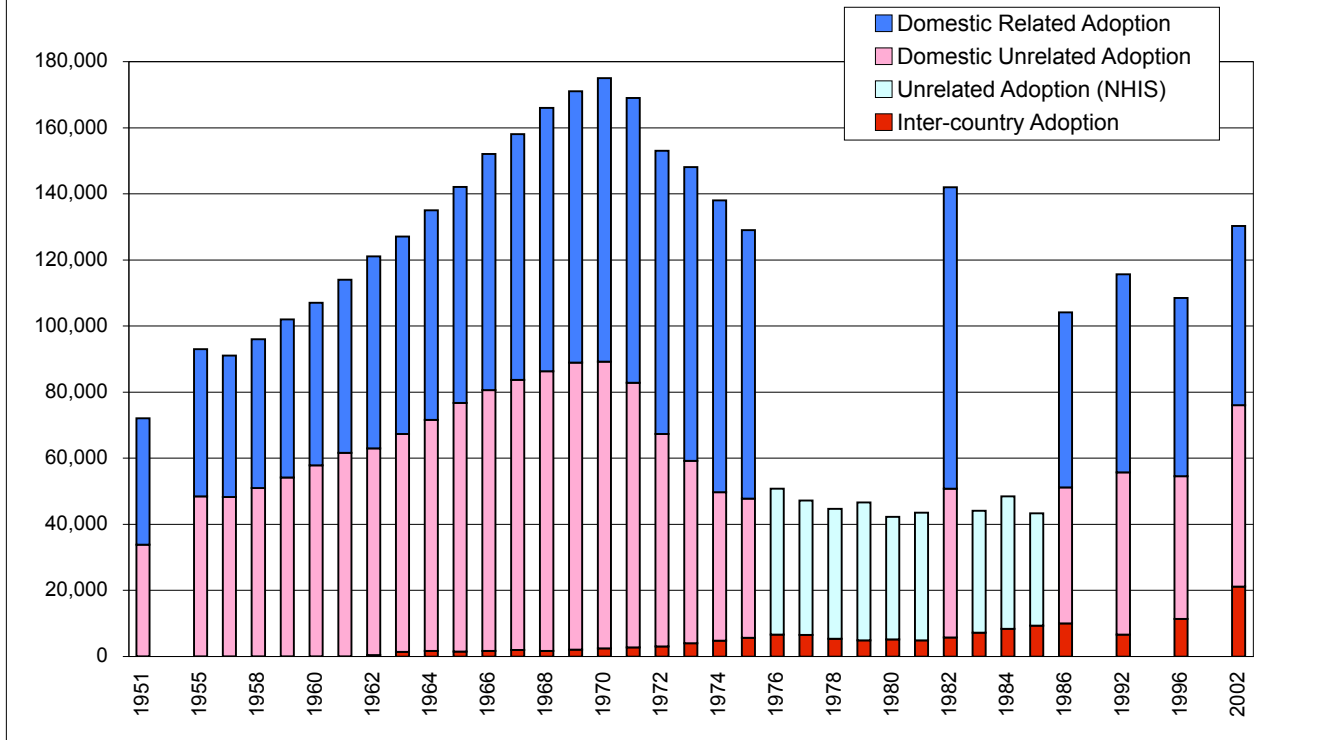


Sources: Lovelock (2000); Weil (1984); Carter et al. (2006), series Ad976; USINS (1998-2001); USDHS (2002-6).  
 Notes: All immigrant-orphans admitted to the U.S., including U.S. possessions and army services.  
 For 1945, 1948, 1953, and 1957, the numbers are not annualized.



Sources: Carter et al. (2006), series Ad976; USINS (1998-2001); USDHS (2002-5); USNCHS (1991-2005).

**Figure 3: Related, Unrelated, and Inter-country Adoptions in the U.S., 1951-2002**



**Table 1: Shares of Related, Unrelated, and Inter-country Adoption in Total Adoption**

Year	Related Adoption	Unrelated Adoption	Inter-country Adoption
1955	53%	47%	n/a
1960	46%	54%	n/a
1965	46%	54%	1.0%
1970	49%	51%	1.4%
1975	63%	37%	4.4%
1982	64%	36%	3.8%
1986	51%	49%	8.7%
1992	52%	48%	5.1%
1996	50%	50%	9.4%
2000	n/a	n/a	14.2%
2002	42%	58%	13.9%

Sources: Maza (1984) for 1951-75; Bachrach et al. (1990) for 1976-84; NCFR (1985, 1989, 1999, 2007) for 1982-2002; USINS (1972-2001); USDHS (2002).

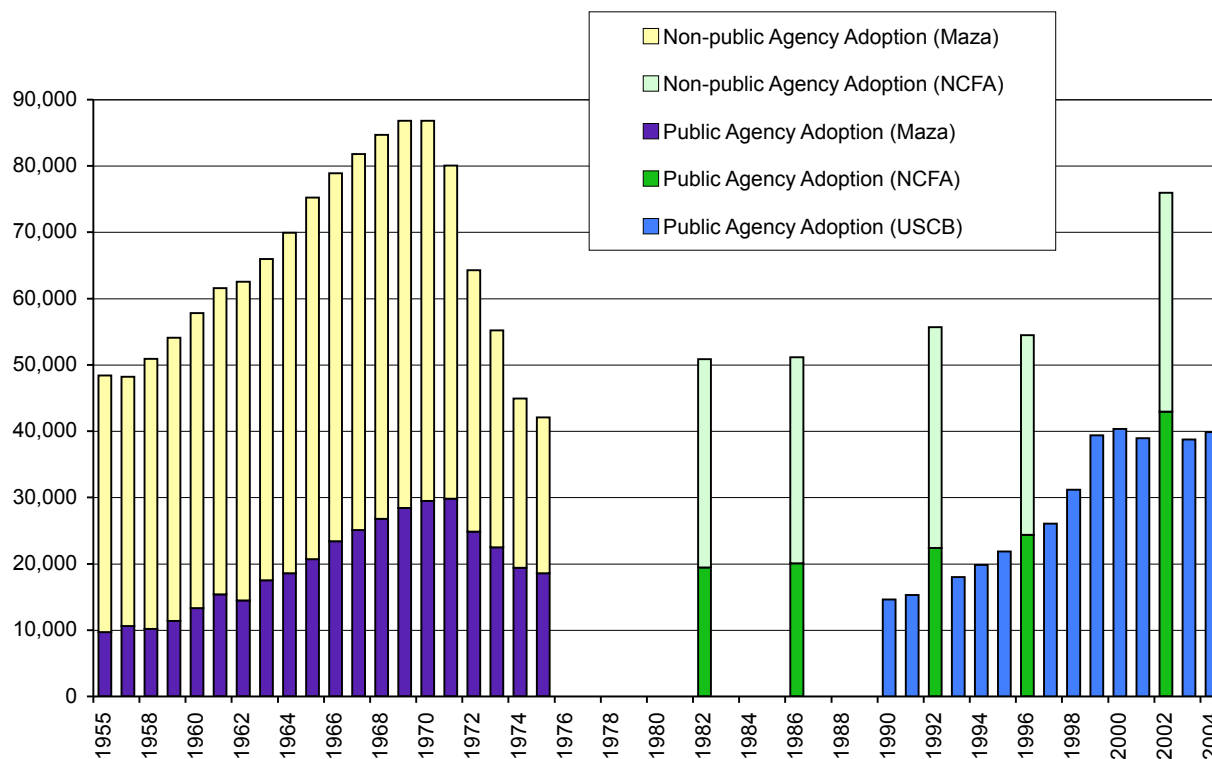
Note: Related adoption include adoptions by relatives and stepparents.

Almost all inter-country adoption are unrelated adoption.

Domestic unrelated adoption in 1982 and 1986-2002 are the lower bound estimates based on the NCFR data.

Unrelated adoption in 1976-85 are three-year average estimates based on the 1987 NHIS survey.

**Figure 4: Domestic Unrelated Adoptions by Agency Type in the U.S., 1955-2004**



**Table 2: Shares of Public Agency Adoption and Inter-country Adoption in Unrelated Adoptions**

Year	Public Agency Adoption	Inter-country Adoption	Others	Unrelated Adoption
1955	20.0%	n/a	80.0%	100%
1960	23.0%	n/a	77.0%	100%
1965	27.0%	1.9%	71.1%	100%
1970	33.1%	2.7%	64.2%	100%
1975	39.0%	11.8%	49.2%	100%
1982	34.4%	9.9%	55.7%	100%
1986	32.8%	16.3%	50.9%	100%
1992	36.0%	10.5%	53.5%	100%
1996	37.0%	17.2%	45.8%	100%
2002	44.2%	21.7%	34.1%	100%

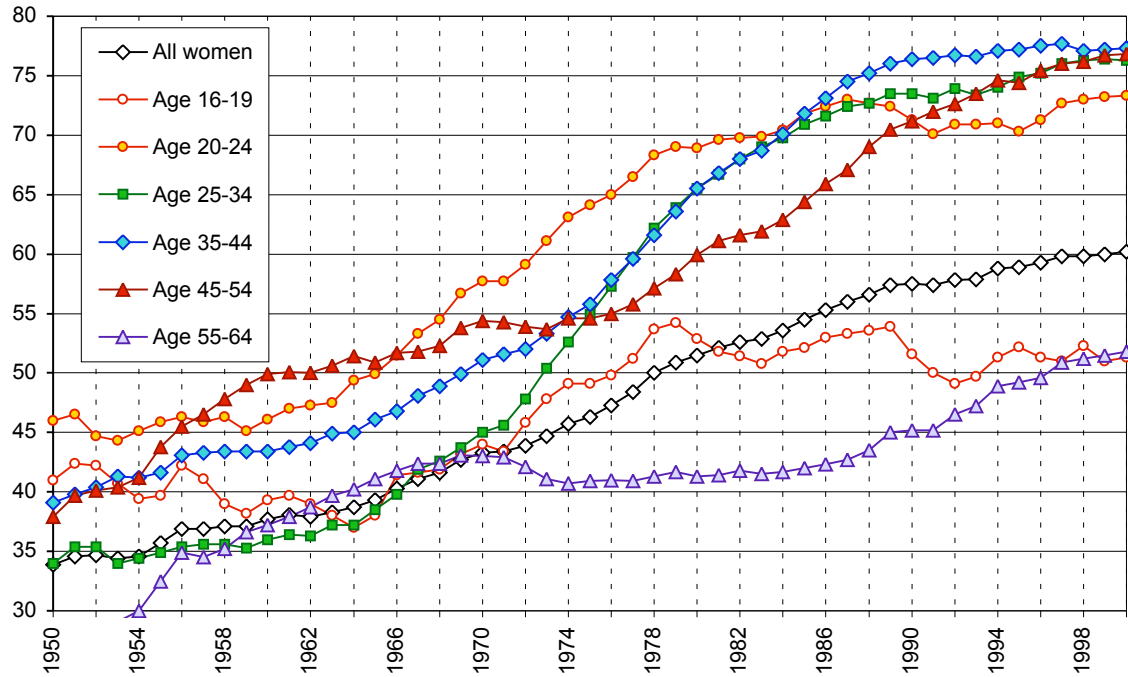
Sources: Maza (1984), NCFA (1985, 1989, 1999, 2007), USCB (1990-94, 1995-2004), USINS (1972-2000).

Notes: Public agencies are not involved in inter-country adoption.

"Others" are domestic adoption through private agencies or without involving any agencies.

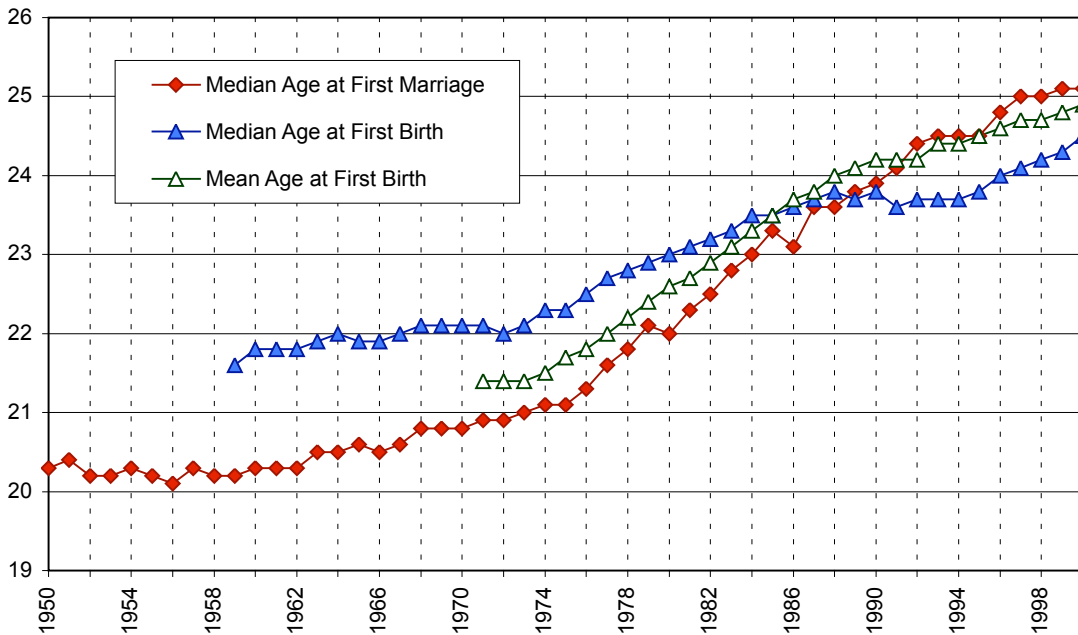
Non-public agency adoption is the upper bound estimates originally provided by the NCFA.

Figure 5: Female Labor Force Participation Rates by Age, 1950-2000



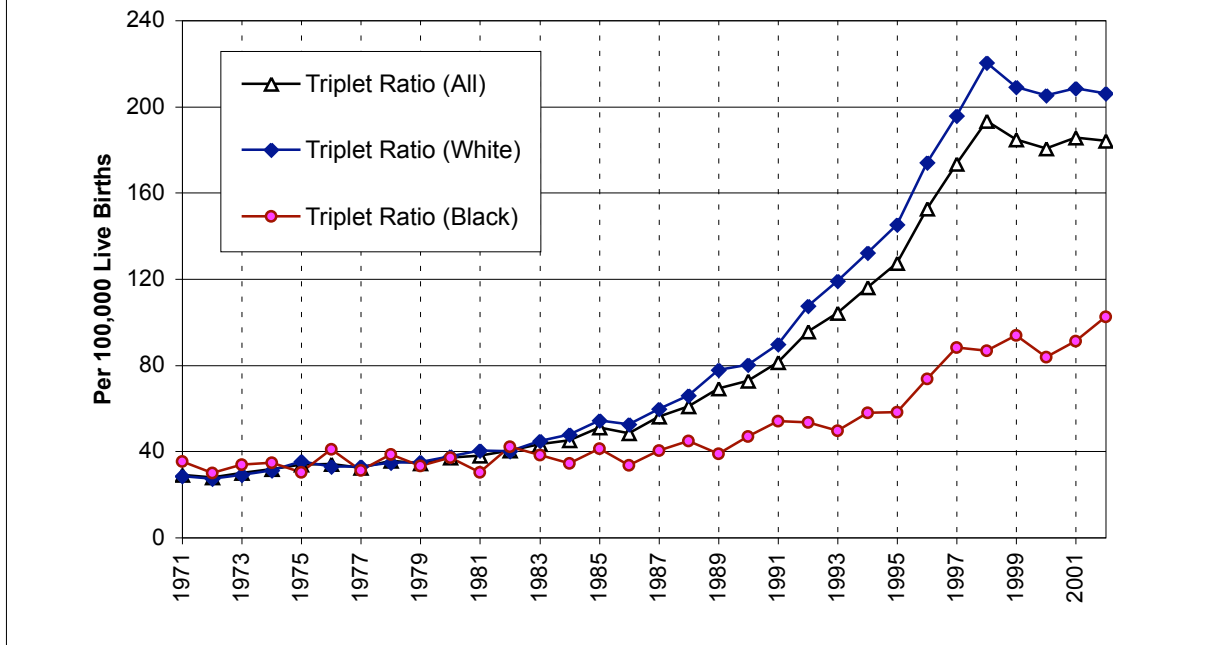
Source: Carter et al. (2006), series Ba543-50.

Figure 6: Age of Women at First Marriage and Birth in the U.S., 1950-2000



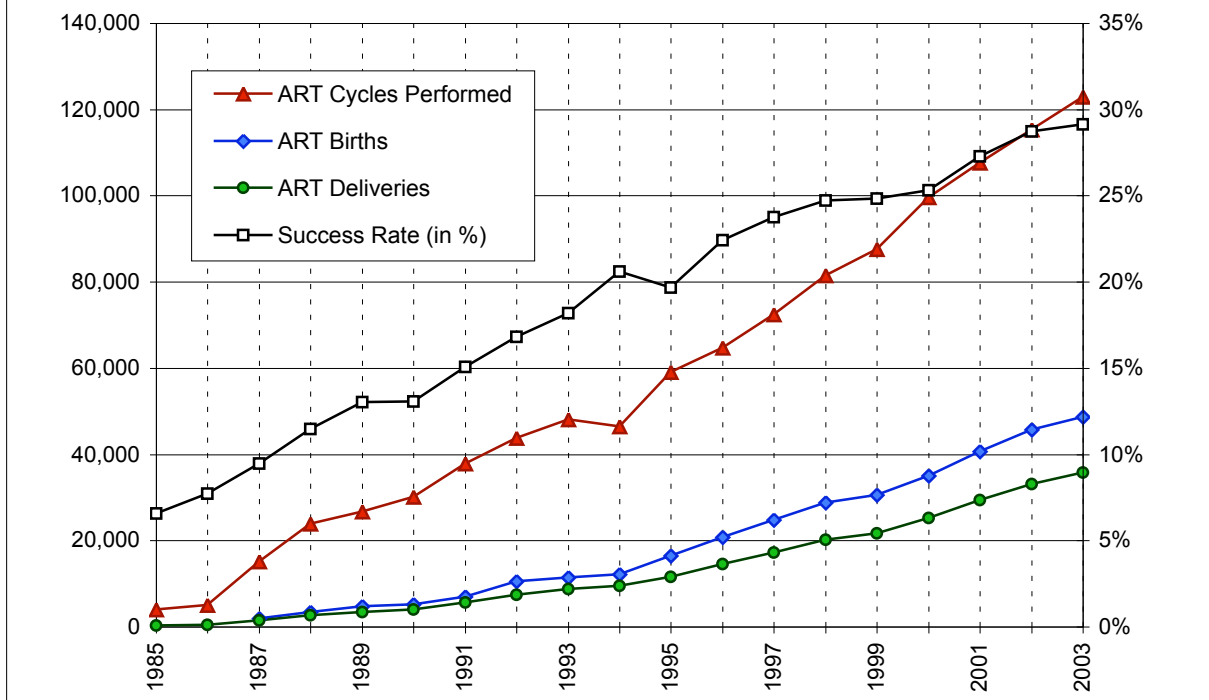
Source: Carter et al. (2006), series Ae482; USNCHS (2001).

**Figure 7: Triplet and Higher-order Multiple Birth Ratio by Race in the U.S., 1971-2002**



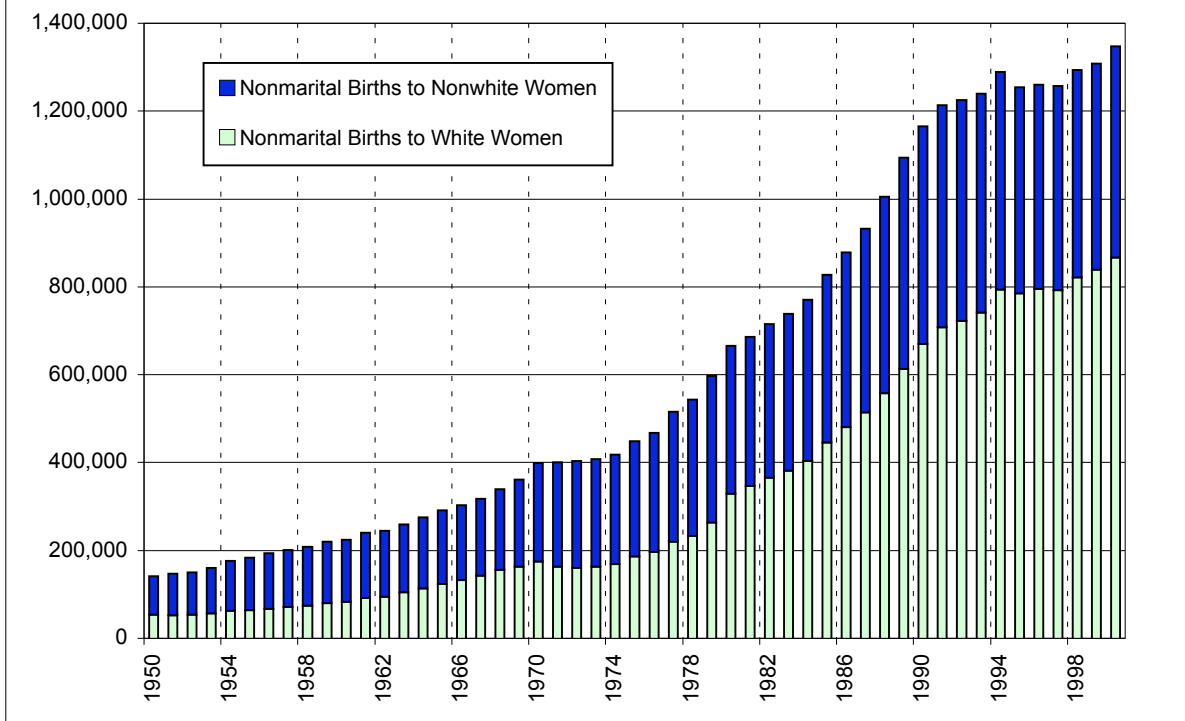
Source: Martin et al. (1997); Martin and Park (1999); NCHS (1998-2002).

**Figure 8: The Use of Assisted Reproduction Technology (ART), 1985-2003**



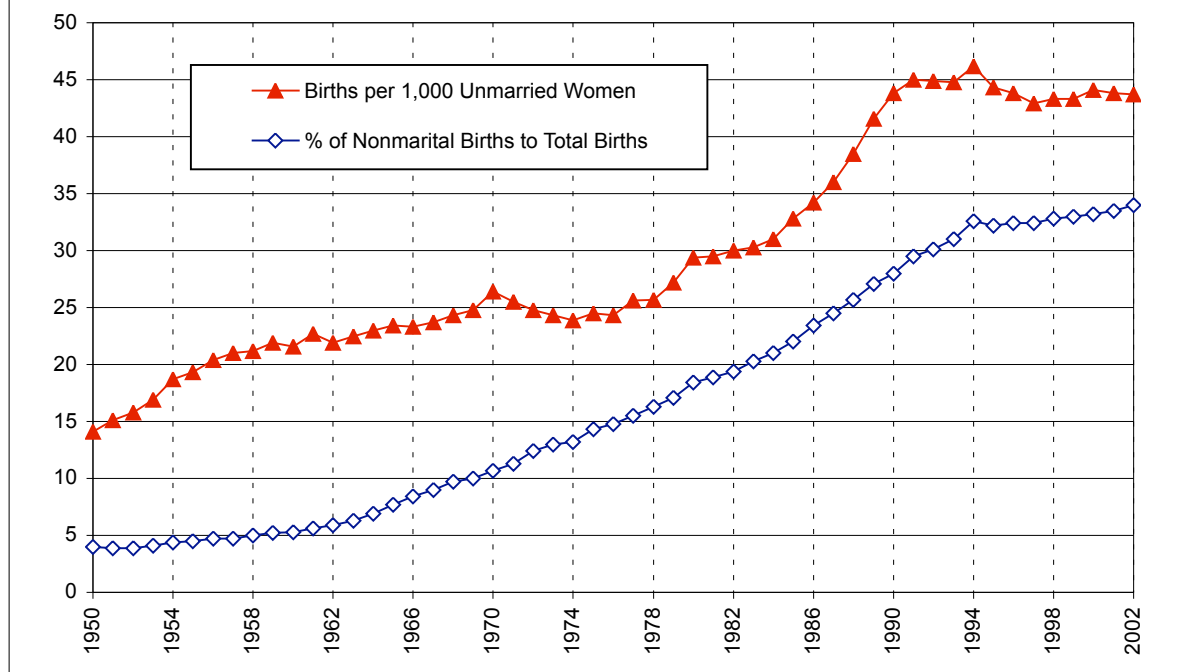
Sources: START (1985-1995); CDC (2004).

**Figure 9: Nonmarital Births by Race in the U.S., 1950-2000**



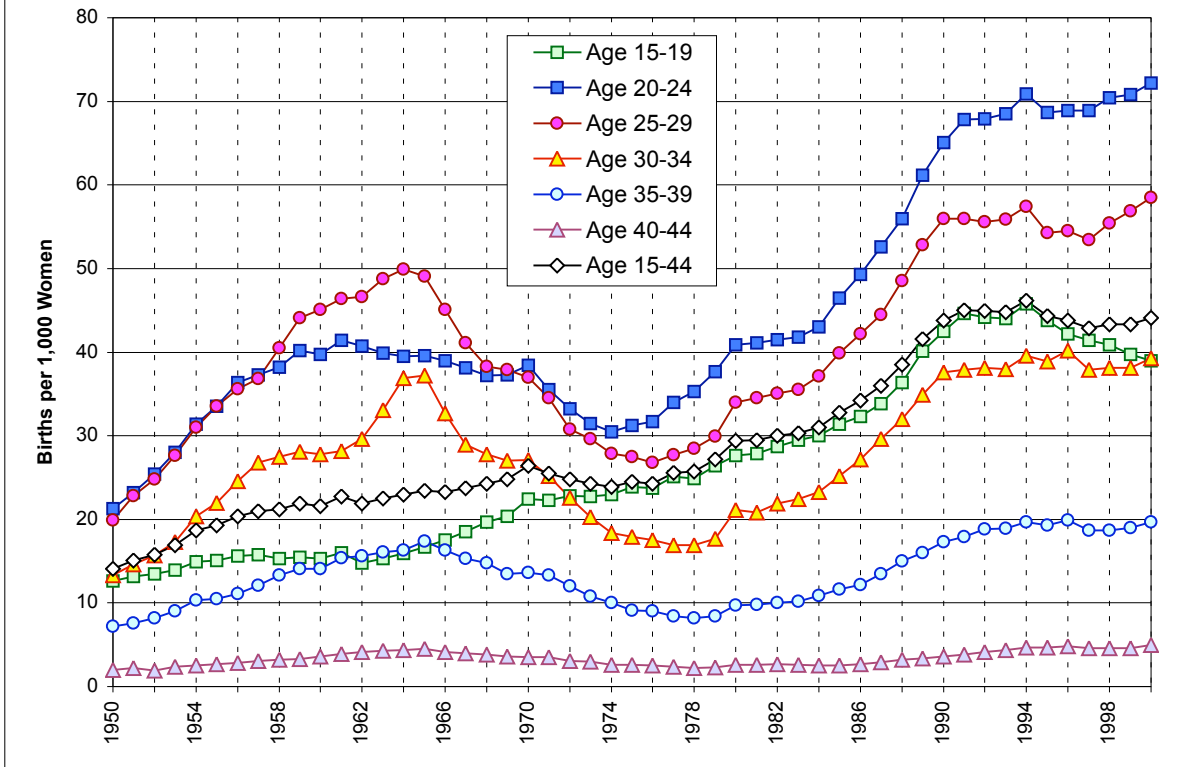
Source: Carter et al. (2006), series Ab274 and Ab285; USNCHS (2002).

**Figure 10: Birth Rate and % of Births to Unmarried Women, 1950-2002**



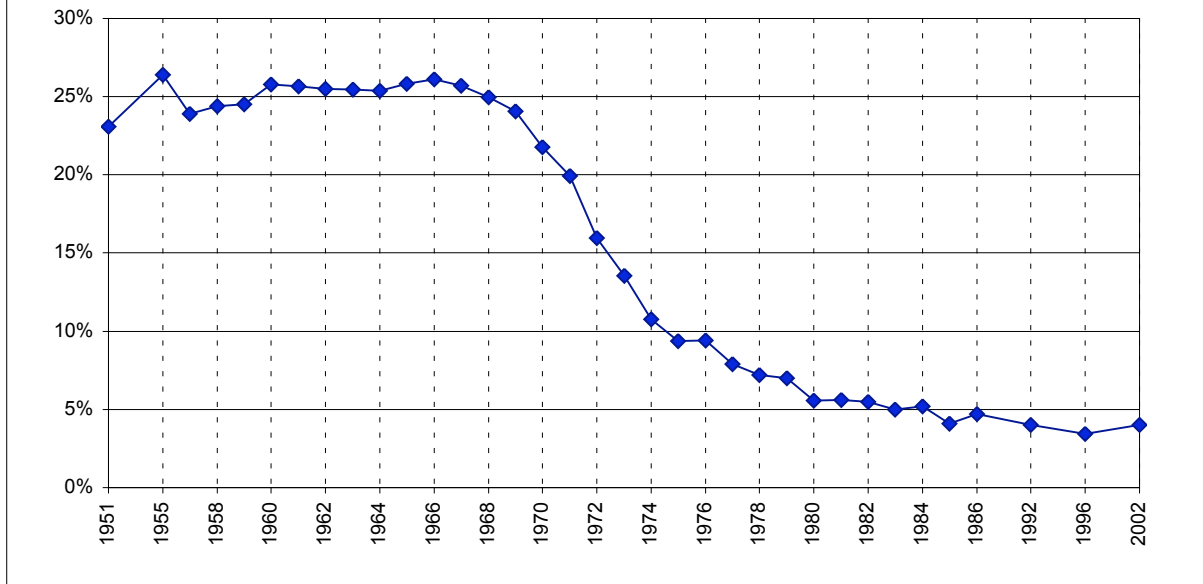
Source: Ventura and Bachrach (2000); USNCHS (2002).

**Figure 11: Birth Rate to Unmarried Women by Age in the U.S., 1950-2000**

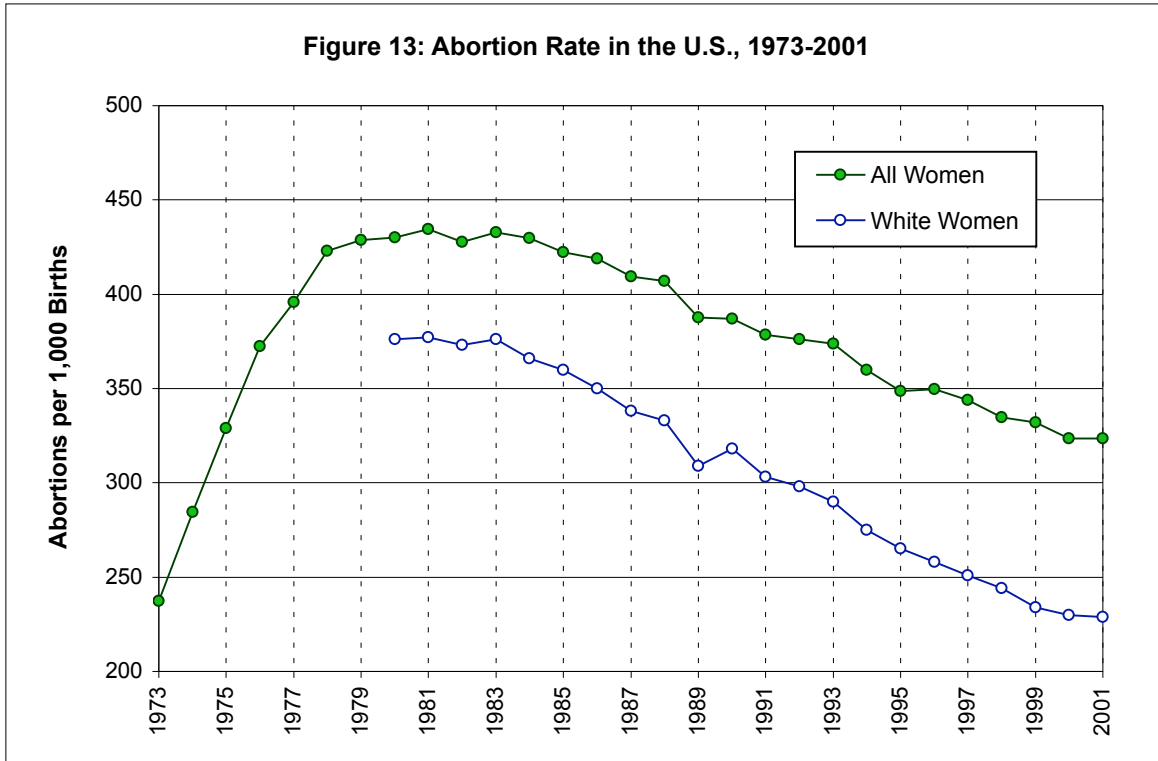


Sources: Carter et al. (2006), series Ab265-273; USNCHS (2002).

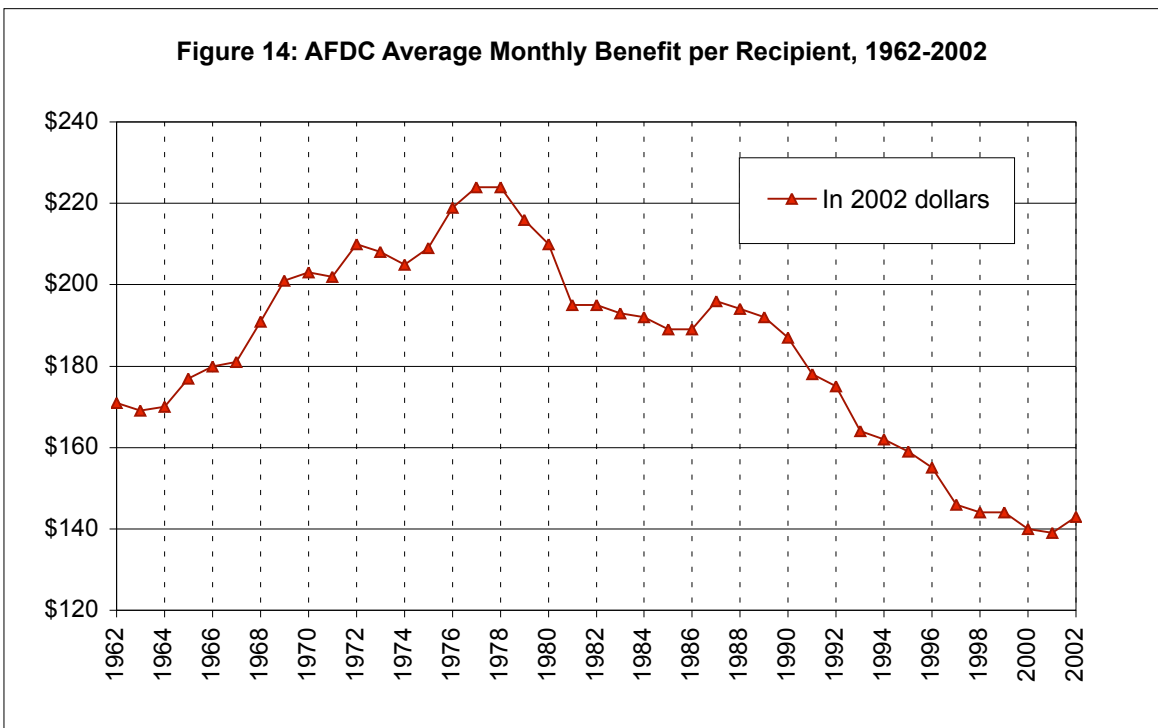
**Figure 12: Ratio of Domestic Unrelated Adoptions to Nonmarital Births, 1951-2002**



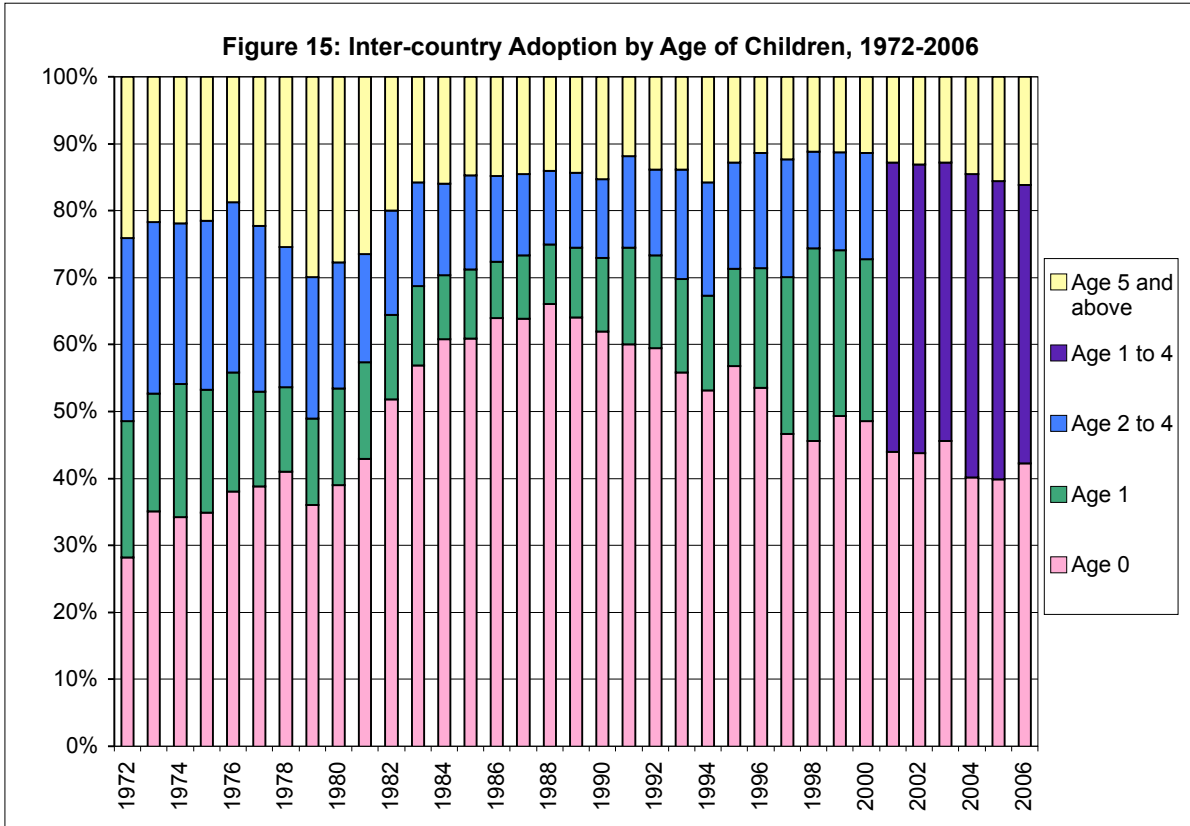
Sources: Maza (1984) for 1951-75; Bachrach et al. (1990) for 1976-84; NCFA (1985, 1989, 1999, 2007) for 1982-2002; USNCHS (2002).



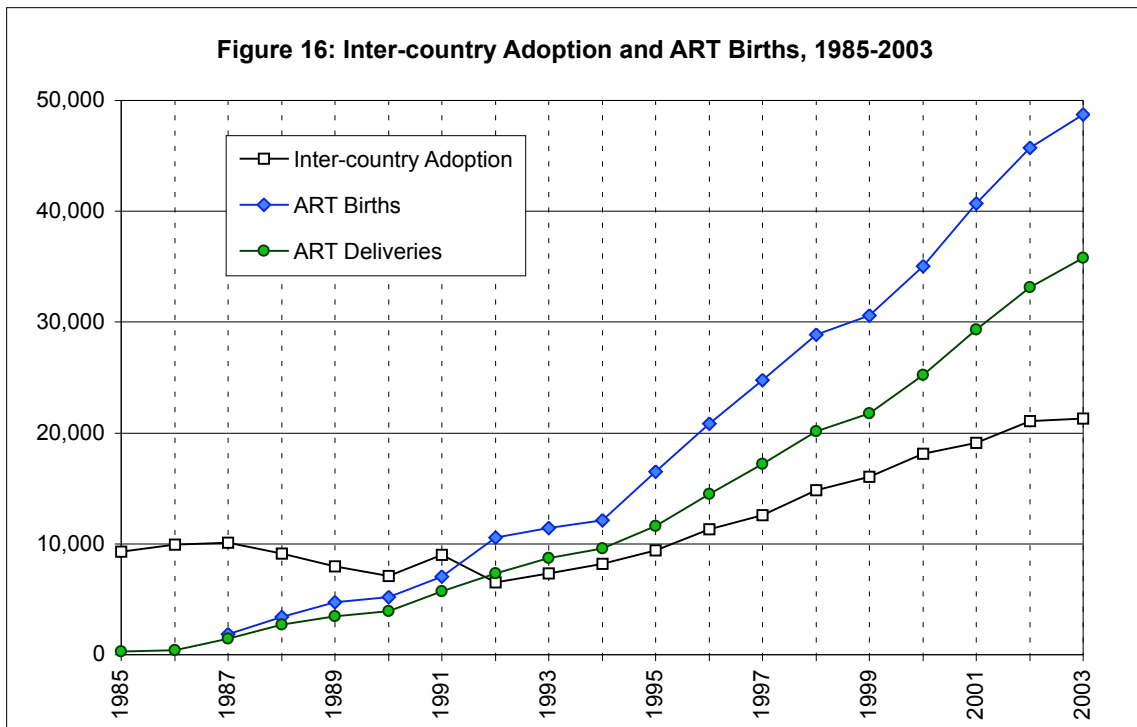
Source: Finer and Henshaw (2003).



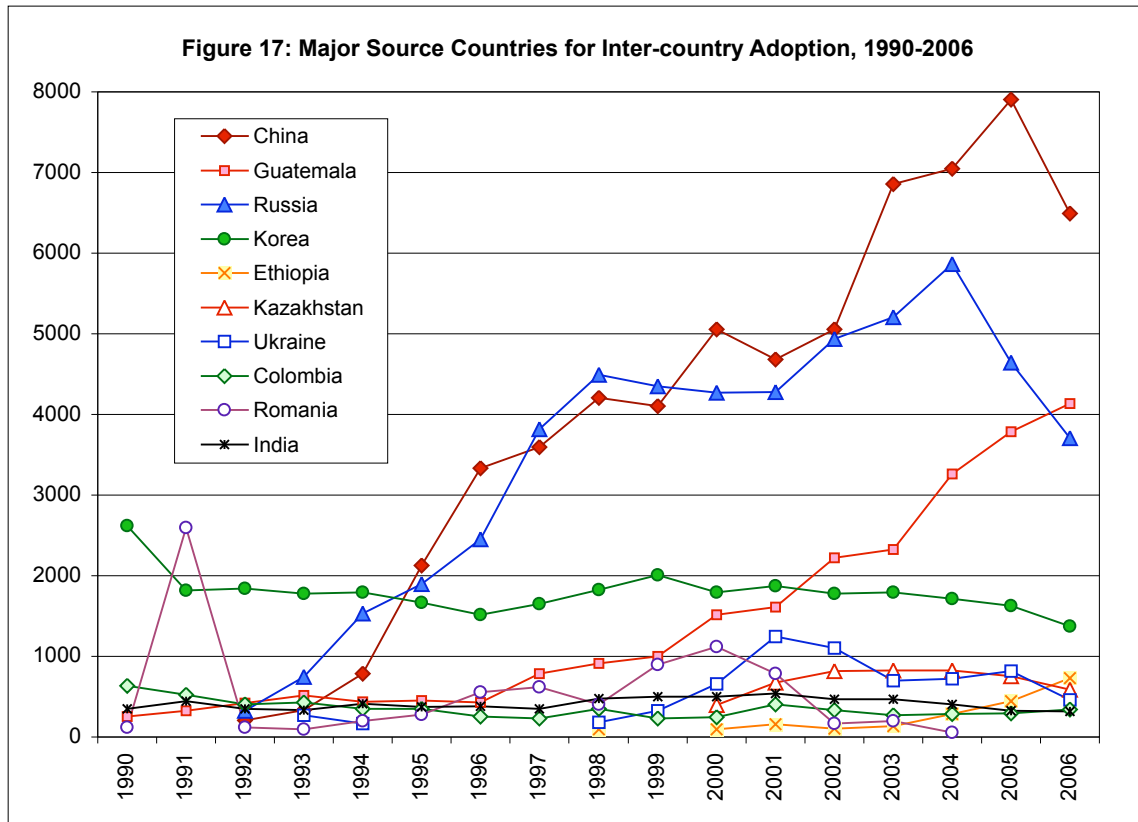
Source: U.S. Department of Health and Human Services (2004)



Source: USINS (1972-2000), USINS (2001), USDHS (2002-6).



Sources: START (1985-1995); CDC (2004); USINS (1985-2001), USDHS (2002-3).



Source: U.S. Department of State, Orphan Visa Statistics, at: [http://travel.state.gov/family/adoption/stats/stats\\_451.html](http://travel.state.gov/family/adoption/stats/stats_451.html)

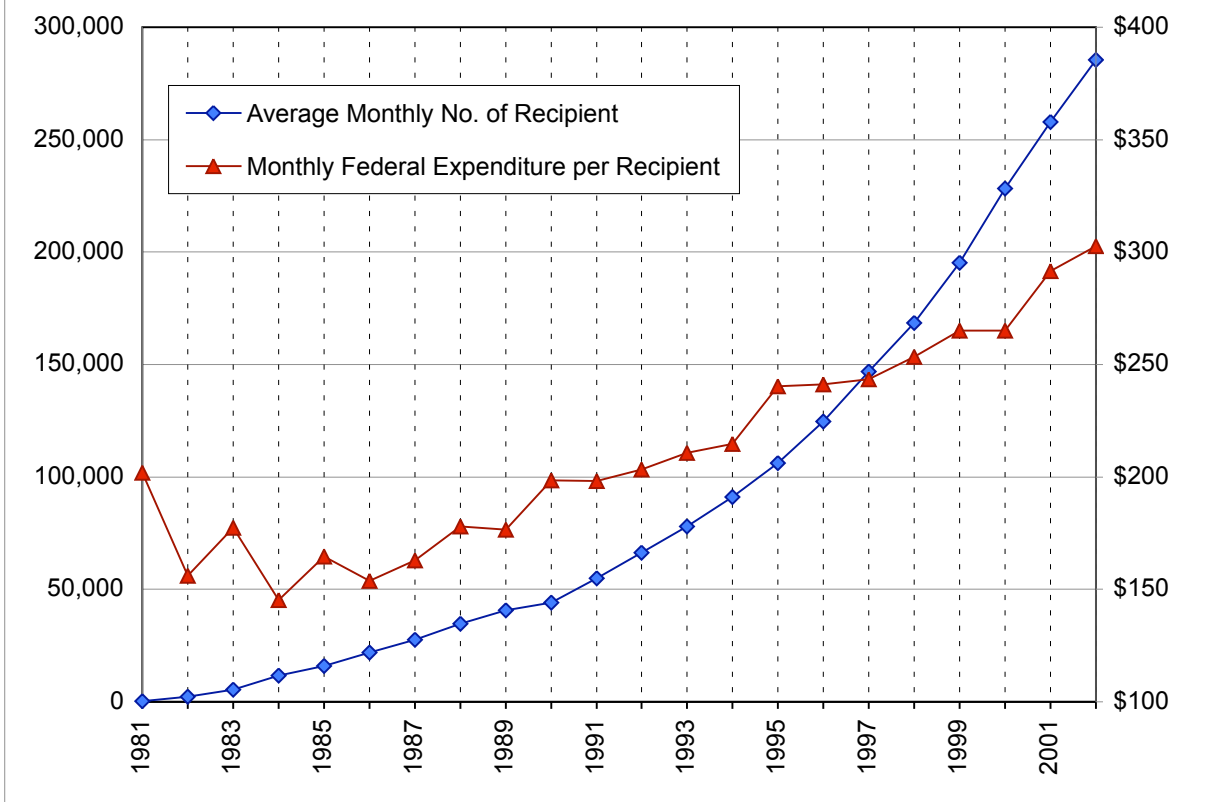
**Table 3: Characteristics of Foster Care Children by Status in FY 2000**

	Children in Foster Care	Children Waiting to be Adopted	Children Adopted
<b>No. of Children</b>	552,000	131,000	51,000
<b>Race and Ethnicity</b>			
Non-hispanic White	38%	34%	38%
Non-hispanic Black	39%	44%	38%
Hispanic	15%	13%	15%
Other	8%	9%	9%
<b>Age</b>			
Age 0	4%	3%	2%
Age 1	5%	6%	7%
Age 2-4	15%	21%	29%
Age 5-8	20%	28%	32%
Age 9-12	20%	26%	22%
Age 12-18	36%	16%	8%
<b>Placement Settings*</b>			
Pre-adoptive home	4%	13%	39%
Related	n.a.	n.a.	21%
Unrelated	n.a.	n.a.	18%
Foster family home	72%	77%	61%
Related	25%	19%	n.a.
Unrelated	47%	58%	n.a.
Group home and institutic	18%	9%	0%
Other	6%	1%	0%

Source: USCB (2006), *The AFCARS Report: Final Estimates for FY 1998 through FY 2002*.

Note: \* For children adopted, placement settings refer to the relations with adoptive parents prior to adoption.

**Figure 18: Federal Expenditure per Recipient on Adoption Assistance Program, 1981-2002**



Source: U.S. House of Representatives, Committee on Ways and Means (1992, 1996, 2004).

**Table 4: Recipient and Amount of Adoption Assistant Payments, 1998-2003**

Year	Public Agency Adoption	% Eligible for Adoption Assistant Payments	Average Monthly Payments
1998	36,650	71.4%	\$413
1999	46,586	74.9%	\$434
2000	50,600	75.0%	\$460
2001	50,863	74.0%	\$488
2002	52,546	73.4%	\$495
2003	50,362	68.6%	\$532

Source: Hansen (2006b), Tables 1 and 6.

**Table 5: Adoption in NSFG (all years)**

Year	1973	1976	1982	1988	1995	2002	Total
Sample	ever-married women age 15-44	ever-married women age 15-44	all women age 15-44	all women age 15-44	all women age 15-44	all women age 15-44	
No. of women in sample	9797	8611	7969	8450	10847	7643	53317
<b>Adoption</b>							
Adoptive mothers (% of total women)	191 (1.95)	156 (1.81)	94 (1.18)	87 (1.03)	91 (0.84)	58 (0.76)	677 (1.27)
Adopted children	269	200	118	112	124	80	903
<b>Adopted Children by Type</b>							
Unrelated adoption (% of adopted children)	n/a	n/a	92 (78.0)	86 (76.8)	71 (57.3)	46 (57.5)	295 (68.0)
Related adoption (% of adopted children)	n/a	n/a	26 (22.0)	26 (23.2)	53 (42.7)	34 (42.5)	139 (32.0)
by stepparents (% of adopted children)	n/a	n/a	5 (5.3)	2 (2.3)	31 (34.1)	14 (24.1)	52 (12.0)
by relatives (% of adopted children)	n/a	n/a	21 (16.7)	24 (20.9)	22 (8.7)	20 (18.4)	87 (20.0)
Public agency adoption (% of adopted children)	n/a	n/a	n/a	50 (44.6)	37 (29.8)	22 (27.5)	109 (34.5)
<b>Adoptive Mothers by Type</b>							
Has at least one unrelated adoption (% of total women)	n/a	n/a	73 (0.92)	66 (0.78)	50 (0.46)	33 (0.43)	222 (0.64)
Has at least one related adoption (% of total women)	n/a	n/a	23 (0.29)	22 (0.26)	44 (0.41)	26 (0.34)	115 (0.33)
Has at least one stepchild adoption (% of total women)	n/a	n/a	4 (0.05)	2 (0.02)	25 (0.23)	10 (0.13)	41 (0.12)
Has only adopted children (% of adoptive mothers)	83 (43.5)	69 (44.2)	46 (48.9)	38 (43.7)	45 (49.5)	30 (51.7)	311 (45.9)
Has both adopted and biological children (% of adoptive mothers)	108 (56.5)	87 (55.8)	48 (51.1)	49 (56.3)	46 (50.5)	28 (48.3)	366 (54.1)
<b>Seek or Plan to Adopt</b>							
Has ever considered adopting a child (% of total women)	n/a	n/a	n/a	n/a	2380 (21.9)	2227 (29.1)	4607 (24.9)
Has ever taken steps to adopt a child (% of total women)	n/a	n/a	n/a	n/a	334 (3.1)	199 (2.6)	533 (2.9)

Source: NSFG (Cycles I to VI)

Notes: The 1973 data exclude stepchild adoption. The data for 1976-1988 may include informal adoption. The data for 1995 and 2002 include only formal (legally approved) adoption.

**Table 6 Biological, Adoptive and Relinquishing Mothers by Observed Characteristics, NSFG (selected years)**  
 (% distribution of mothers by mother type)

Type of Mother <sup>1</sup> -->	1973 (Total Sample: 9,797)		1988 (Total Sample: 8,450)			2002 (Total Sample: 7,643)		
	Biological	Adoptive	Biological	Adoptive	Relinquishing	Biological	Adoptive	Relinquishing
<b>No. of Observations</b>	8,390	191	5,328	87	55	4,413	58	33
<b>Educational Attainment</b>								
9th grade or less	14.1	8.9	9.3	2.3	12.7	13.9	5.2	15.2
10th to 12th grade	66.1	61.8	52.7	50.6	49.1	40.0	31.0	48.5
1 year of College or higher	19.8	29.3	37.6	47.1	38.2	46.2	63.8	36.4
<b>Race</b>								
White	57.6	66.5	60.1	71.3	78.2	65.6	67.2	78.8
Black	41.7	32.5	36.5	26.4	20.0	24.8	24.1	9.1
Other	0.7	1.1	3.5	2.3	1.8	8.6	8.6	12.1
<b>Hispanic Origin</b>								
Hispanic	5.0	2.6	7.8	3.5	1.8	24.5	8.6	15.2
Non-Hispanic	95.0	97.4	92.2	96.6	98.2	75.5	91.4	84.9
<b>Total Household Income</b>								
Under \$10,000	50.2	35.6	17.8	4.6	23.6	11.9	6.9	12.1
\$10,000 - \$24,999	42.7	52.9	16.7	17.2	25.5	29.4	17.8	33.3
\$25,000 or higher	7.2	11.5	55.5	78.2	50.9	58.8	79.3	54.6
<b>No. of Live Births (=Parity)</b>								
No Births	-	43.5	-	43.7	-	-	51.7	-
1 Birth	25.5	25.1	29.3	18.4	27.3	34.4	8.6	21.2
2 Births	29.0	14.1	39.6	16.1	27.3	36.3	31.0	39.4
3 Births or more	45.5	17.3	31.2	21.8	45.5	29.3	8.6	39.4
<b>No. of Children in Household</b>								
No Children	18.0	60.2	49.9	49.4	74.6	10.6	12.1	33.3
1 Child	35.3	22.0	26.2	32.2	16.4	35.0	43.1	39.4
2 Children	27.7	13.6	17.6	12.6	9.1	33.3	17.2	15.2
3 Children or more	19.0	4.2	6.3	5.8	-	21.1	27.6	12.1
<b>Miscarriages &amp; Abortions History</b>								
At least 1 miscarriage/ pregnancy loss	24.7	50.0	32.9	40.2	29.1	28.7	48.6	36.4
At least 1 abortion			14.3	9.2	21.8	20.5	21.6	27.3
<b>R is Sterile</b>	61.0	70.2	55.6	85.1	51.7	30.4	37.9	45.4
<b>R Has Received Help to Get Pregnant</b>	n/a	n/a	10.1	54.0	5.5	8.7	44.8	3.0
<b>R Has Received Help to Avoid Miscarriage</b>	n/a	n/a	3.6	6.1	3.6	7.3	19.0	3.0
<b>Age at First Intercourse</b>								
15 years old or less	n/a	n/a	21.3	8.1	32.7	29.8	21.1	66.7
16 to 20 years old	n/a	n/a	65.6	69.8	63.6	56.7	59.7	33.3
More than 20 years old	n/a	n/a	13.0	22.1	3.6	13.5	19.3	-
<b>Age at First Live Birth</b>								
15 years old or less	5.5	3.7	4.2	2.0	7.3	4.1	6.9	12.5
16 to 20 years old	52.6	34.3	45.0	42.9	74.6	38.6	27.6	65.6
More than 20 years old	41.9	62.0	50.8	55.1	18.2	57.4	65.5	21.9
<b>Age at Last Live Birth</b>								
18 years old or less	9.5	7.4	7.8	6.1	18.2	7.4	6.9	6.3
19 to 24 years old	39.0	28.7	36.9	26.5	36.4	32.3	20.7	56.3
25 years old or more	51.5	63.9	55.3	61.2	45.5	60.3	72.4	37.5
<b>Marital Status</b>								
Married/ Informal Union	75.0	85.9	63.4	81.6	34.6	56.2	67.2	42.4
Other (widowed, divorced, separated, single)	25.0	14.1	36.6	18.4	65.4	43.8	32.8	57.6
<b>No. of Marriages</b>								
Never Married	7.7	1.1	16.5	4.6	34.6	24.6	22.4	15.2
Once	79.4	80.6	67.7	70.1	34.6	61.5	60.3	51.5
More than Once	12.9	18.3	15.8	25.3	30.9	13.8	17.3	33.3
<b>Age at First Marriage</b>								
18 years old or less	30.5	20.1	18.4	21.4	5.3	19.4	17.8	14.3
19 to 24 years old	53.5	54.3	54.5	51.4	47.4	50.5	48.9	64.3
25 years old or more	16.0	25.7	27.2	27.1	42.1	30.1	33.3	21.5
<b>R Has Ever Had Child Out of Wedlock</b>	n/a	n/a	31.6	16.7	85.5	51.6	17.2	81.8
<b>Employment Status</b>								
Working full time	29.7	23.0	46.0	51.7	47.3	43.9	55.2	42.4
Working part time	9.3	11.0	15.2	17.2	9.1	14.8	17.2	12.1
Other (unemployed, keeping house, in school, temp. illness, etc.)	61.0	66.0	38.7	31.0	43.6	41.3	27.6	45.5
<b>Religious Affiliation</b>								
No religion	3.2	1.6	5.0	4.6	5.5	12.5	8.6	24.2
Catholic	21.4	21.5	23.1	16.1	23.6	31.0	24.1	27.3
Protestant	73.0	74.4	69.2	74.7	67.3	51.9	62.1	39.4
Other	2.4	2.6	2.7	4.6	3.6	4.7	5.2	9.1
<b>Welfare Participation</b>	32.3	15.6	14.1	3.5	13.0	37.1	17.2	27.3
<b>R Has Ever Been a Foster Parent</b>	n/a	n/a	0.02	2.3	-	0.7	27.6	-

Source: NSFG (Cycles I to VI)

Notes: R refers to respondent.

<sup>1</sup>(1) Biological mothers: all women who report giving birth to at least one child.

(2) Adoptive mothers: all women who report to have ever adopted at least one non-biological child.

(3) Relinquishing mothers: all women who report to have ever given up a biological child for adoption.

**Table 7: Adoptive Mothers by Observed Characteristics, NSFG (all years)**  
 (% distribution of adoptive mothers)

No. of Adoptive Mothers -->	1973 191	1976 156	1982 94	1988 87	1995 91	2002 58
<b>Educational Attainment</b>						
9th grade or less	8.9	10.3	7.5	2.3	2.2	5.2
10th to 12th grade	61.8	55.5	48.9	50.6	40.7	31.0
1 year of College or higher	29.3	34.2	43.6	47.1	57.1	63.8
<b>Race</b>						
White	66.5	75.6	62.8	71.3	76.9	67.2
Black	32.5	23.7	34.0	26.4	19.8	24.1
Other	1.1	0.6	3.2	2.3	3.3	8.6
<b>Hispanic Origin</b>						
Hispanic	2.6	4.5	6.4	3.5	8.8	8.6
Non-Hispanic	97.4	95.5	93.6	96.6	91.2	91.4
<b>Total Household Income</b>						
Under \$10,000	35.6	18.6	7.5	4.6	1.1	6.9
\$10,000 - \$24,999	52.9	54.5	34.0	17.2	9.9	17.8
\$25,000 or higher	11.5	26.9	58.5	78.2	89.0	79.3
<b>No. of Live Births (=Parity)</b>						
No Births	43.5	44.2	48.9	43.7	49.5	51.7
1 Birth	25.1	21.2	20.2	18.4	15.4	8.6
2 Births	14.1	18.6	19.2	16.1	26.4	31.0
3 Births or more	17.3	16.0	11.7	21.8	8.8	8.6
<b>No. of Children in Household</b>						
No Children	60.2	69.2	71.3	49.4	15.4	12.1
1 Child	22.0	19.9	16.0	32.2	41.8	43.1
2 Children	13.6	8.3	8.5	12.6	24.2	17.2
3 Children or more	4.2	2.5	4.3	5.8	18.7	27.6
<b>Miscarriages &amp; Abortions History</b>						
At least 1 miscarriage/ pregnancy loss	50.0	45.5	38.3	40.2	34.1	48.6
At least 1 abortion	n/a	n/a	5.3	9.2	9.9	21.6
<b>R is Sterile</b>	70.2	55.1	57.5	85.1	63.2	37.9
<b>R Has Received Help to Get Pregnant</b>	n/a	n/a	n/a	54.0	25.3	44.8
<b>R Has Received Help to Avoid Miscarriage</b>	n/a	n/a	n/a	6.1	13.2	19.0
<b>Age at First Intercourse</b>						
15 years old or less	n/a	n/a	n/a	8.1	12.1	21.1
16 to 20 years old	n/a	n/a	n/a	69.8	63.7	59.7
More than 20 years old	n/a	n/a	n/a	22.1	24.2	19.3
<b>Age at First Live Birth</b>						
15 years old or less	3.7	3.5	4.2	2.0	4.2	6.9
16 to 20 years old	34.3	29.1	37.5	42.9	33.3	27.6
More than 20 years old	62.0	67.5	58.3	55.1	62.5	65.5
<b>Age at Last Live Birth</b>						
18 years old or less	7.4	4.7	8.3	6.1	2.1	6.9
19 to 24 years old	28.7	26.8	35.4	26.5	35.4	20.7
25 years old or more	63.9	68.6	56.3	61.2	62.5	72.4
<b>Marital Status</b>						
Married/ Informal Union	85.9	91.0	84.0	81.6	76.9	67.2
Other (widowed, divorced, separated, single)	14.1	8.97	16.0	18.4	23.08	32.8
<b>No. of Marriages</b>						
Never Married	1.1	1.9	-	4.6	2.2	22.4
Once	80.6	76.3	80.9	70.1	80.2	60.3
More than Once	18.3	21.8	19.2	25.3	17.6	17.3
<b>Age at First Marriage</b>						
18 years old or less	20.1	22.2	13.9	21.4	25.8	17.8
19 to 24 years old	54.3	53.6	64.6	51.4	56.2	48.9
25 years old or more	25.7	24.2	21.5	27.1	18.0	33.3
<b>R Has Ever Had Child Out of Wedlock</b>	n/a	n/a	9.6	16.7	12.1	17.2
<b>Employment Status</b>						
Working full time	23.0	24.4	39.4	51.7	49.5	55.2
Working part time	11.0	14.7	16.0	17.2	15.4	17.2
Other (unemployed, keeping house, etc.)	66.0	60.9	44.7	31.0	35.2	27.6
<b>Religious Affiliation</b>						
No religion	1.6	3.9	1.1	4.6	7.7	8.6
Catholic	21.5	21.8	31.9	16.1	31.9	24.1
Protestant	74.4	69.9	61.7	74.7	53.9	62.1
Other	2.6	4.5	5.3	4.6	6.6	5.2
<b>Welfare Participation</b>	15.6	7.69	7.5	3.5	3.3	17.2
<b>R Has Ever Been a Foster Parent</b>	n/a	n/a	n/a	2.3	15.4	27.6

Source: NSFG (Cycles I to VI)

**Table 8: Relinquishing Mothers by Observed Characteristics, NSFG (all years)**  
 (% distribution of relinquishing mothers)

No. of Relinquishing Mothers -->	1976	1982	1988	1995	2002
	62	18	55	40	33
<b>Educational Attainment</b>					
9th grade or less	22.6	11.1	12.7	17.5	15.2
10th to 12th grade	54.9	72.2	49.1	52.5	48.5
1 year of College or higher	22.5	16.7	38.2	30.0	36.4
<b>Race</b>					
White	79.0	84.4	78.2	87.5	78.8
Black	17.7	16.7	20.0	7.5	9.1
Other	3.2	-	1.8	5.0	12.1
<b>Hispanic Origin</b>					
Hispanic	1.6	-	1.8	17.5	15.2
Non-Hispanic	98.4	100.0	98.2	82.5	84.9
<b>Total Household Income</b>					
Under \$10,000	48.4	16.7	23.6	22.5	12.1
\$10,000 - \$24,999	32.3	22.2	25.5	17.5	33.3
\$25,000 or higher	19.4	61.1	50.9	60.0	54.6
<b>No. of Live Births (=Parity)</b>					
No Births	-	-	-	-	-
1 Birth	19.4	50.0	27.3	17.5	18.2
2 Births	24.2	16.7	27.3	32.5	39.4
3 Births or more	56.5	33.3	45.5	50.0	39.4
<b>No. of Children in Household</b>					
No Children	40.3	66.7	74.6	25.0	33.3
1 Child	32.3	22.2	16.4	40.0	39.4
2 Children	19.4	11.1	9.1	17.5	15.2
3 Children or more	8.1	-	-	17.5	12.1
<b>Miscarriages &amp; Abortions History</b>					
At least 1 miscarriage/ pregnancy loss	25.3	22.2	29.1	32.5	36.4
At least 1 abortion	n/a	16.7	21.8	25.0	27.3
<b>R is Sterile</b>	27.4	33.3	51.7	37.5	45.4
<b>R Has Received Help to Get Pregnant</b>	n/a	n/a	5.5	5.0	3.0
<b>R Has Received Help to Avoid Miscarriage</b>	n/a	n/a	3.6	20.0	3.0
<b>Age at First Intercourse</b>					
15 years old or less	n/a	n/a	32.7	67.5	66.7
16 to 20 years old	n/a	n/a	63.6	30.0	33.3
More than 20 years old	n/a	n/a	3.6	2.5	-
<b>Age at First Live Birth</b>					
15 years old or less	14.5	16.7	7.3	22.5	12.5
16 to 20 years old	58.1	66.7	74.6	67.5	65.6
More than 20 years old	27.4	16.7	18.2	10.0	21.9
<b>Age at Last Live Birth</b>					
18 years old or less	14.5	44.4	18.2	15.0	6.3
19 to 24 years old	48.4	33.3	36.4	40.0	56.3
25 years old or more	37.1	22.2	45.5	45.0	37.5
<b>Marital Status</b>					
Married/ Informal Union	61.3	38.9	34.6	47.5	42.4
Other (widowed, divorced, separated, single)	38.7	61.1	65.4	52.5	57.6
<b>No. of Marriages</b>					
Never Married	4.8	50.0	34.6	20.0	15.2
Once	61.3	33.3	34.6	45.0	51.5
More than Once	33.9	16.7	30.9	35.0	33.3
<b>Age at First Marriage</b>					
18 years old or less	17.5	14.3	5.3	31.3	14.3
19 to 24 years old	52.6	42.9	47.4	56.3	64.3
25 years old or more	29.8	42.9	42.1	12.5	21.5
<b>R Has Ever Had Child Out of Wedlock</b>	n/a	94.4	85.5	95.0	81.8
<b>Employment Status</b>					
Working full time	38.7	38.9	47.3	30.0	42.4
Working part time	1.6	11.1	9.1	5.0	12.1
Other (unemployed, keeping house, etc.)	59.7	50.0	43.6	65.0	45.5
<b>Religious Affiliation</b>					
No religion	14.5	11.1	5.5	5.0	24.2
Catholic	17.7	16.7	23.6	35.0	27.3
Protestant	59.7	66.7	67.3	55.0	39.4
Other	8.1	5.6	3.6	5.0	9.1
<b>Welfare Participation</b>	27.4	11.8	13.0	22.5	27.3
<b>R Has Ever Been a Foster Parent</b>	n/a	n/a	-	-	-

Source: NSFG (Cycles II to VI)

**Table 9: Logit for the Propensity to Adopt by Year (Actual Adoption)**  
(Marginal Effects - Calculated on mean values)

	1973	1976	1982	1988	1995	2002	Pool 1973 to 2002
I[Hispanic Origin]	-0.0019 (0.0029)	-0.0004 (0.0020)	0.0003 (0.0017)	-0.0007 (0.0013)	-0.0003 (0.0009)	-0.0018 (0.0013)	-0.0009 (0.0007)
I[White]	-0.0007 (0.0014)	0.0004 (0.0011)	-0.0014 (0.0009)	-0.0002 (0.0007)	-0.0004 (0.0007)	-0.0014 (0.0012)	-0.0005 (0.0004)
Age of respondent	0.0009 *** (0.0001)	0.0008 *** (0.0001)	0.0005 *** (0.0001)	0.0005 *** (0.0001)	0.0004 *** (0.0001)	0.0004 *** (0.0001)	0.0006 *** (0.0000)
I[Full-time work]	-0.0062 *** (0.0013)	-0.0049 *** (0.0011)	-0.0015 * (0.0008)	-0.0017 ** (0.0008)	-0.0009 (0.0006)	0.0005 (0.0011)	-0.0026 *** (0.0004)
I[Part-time work]	-0.0016 (0.0016)	0.0004 (0.0013)	-0.0003 (0.0010)	-0.0005 (0.0008)	-0.0003 (0.0007)	0.0012 (0.0017)	-0.0005 (0.0005)
Income (low level)	-0.0008 (0.0015)	-0.0003 (0.0013)	-0.0006 (0.0013)	-0.0010 (0.0012)	-0.0017 (0.0013)	0.0014 (0.0029)	-0.0004 (0.0005)
Income (high level) <sup>#</sup>	-0.0012 (0.0017)	-0.0011 (0.0009)	-0.0009 (0.0008)	0.0004 (0.0008)	0.0013 (0.0008)	0.0012 (0.0013)	0.0000 (0.0004)
Years of education	0.0007 ** (0.0003)	0.0002 (0.0002)	0.0002 (0.0002)	0.0000 (0.0001)	0.0001 (0.0001)	0.0002 (0.0002)	0.0002 *** (0.0001)
I[Married/ Union]	0.0011 (0.0018)	0.0036 *** (0.0012)	0.0040 *** (0.0013)	0.0017 (0.0018)	0.0005 (0.0008)	0.0034 ** (0.0016)	0.0027 *** (0.0005)
# of Marriages	0.0004 (0.0013)	0.0001 (0.0009)	0.0015 ** (0.0005)	0.0005 (0.0005)	0.0003 (0.0004)	-0.0002 (0.0009)	0.0007 ** (0.0003)
Parity (# of births)	-0.0056 *** (0.0006)	-0.0048 *** (0.0006)	-0.0029 *** (0.0006)	-0.0020 *** (0.0005)	-0.0020 *** (0.0005)	-0.0019 *** (0.0005)	-0.0034 *** (0.0002)
I[Sterile]	0.0096 *** (0.0020)	0.0065 *** (0.0018)	0.0043 *** (0.0016)	0.0044 ** (0.0020)	0.0033 ** (0.0014)	0.0030 * (0.0018)	0.0052 *** (0.0007)
I[Spontaneous losses]	0.0027 * (0.0015)	0.0054 *** (0.0015)	0.0026 ** (0.0012)	0.0018 ** (0.0009)	0.0016 * (0.0009)	0.0012 (0.0013)	0.0027 *** (0.0005)
I[Protestant]	0.0057 * (0.0034)	0.0010 (0.0023)	0.0036 (0.0025)	0.0009 (0.0013)	0.0006 (0.0010)	0.0022 (0.0018)	0.0021 ** (0.0008)
I[Catholic]	0.0090 (0.0082)	0.0018 (0.0032)	0.0134 (0.0123)	-0.0006 (0.0014)	0.0015 (0.0014)	0.0021 (0.0024)	0.0030 ** (0.0013)
I[Other religion] <sup>&amp;</sup>	0.0056 (0.0098)	0.0022 (0.0044)	0.0151 (0.0191)	0.0008 (0.0025)	0.0011 (0.0020)	0.0010 (0.0032)	0.0027 (0.0019)
# of Observations	9,797	8,597	7,969	8,450	10,847	7,643	53,303
# of Adoptive Mothers	191	155	94	87	91	58	676
Year Effects	No	No	No	No	No	No	Yes
Mean Propensity to Adopt	0.0195	0.0180	0.0118	0.0167	0.0084	0.0076	0.0134
Max Likelihood Function	-767.09	-586.13	-392.69	-381.84	-428.94	-299.50	-2902.31
Pseudo-R2	0.1850	0.2447	0.2312	0.2122	0.1840	0.1214	0.1992

I[.] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion

**Table 10: Propensity to Adopt with Richer Controls (Actual Adoption)**  
(Marginal Effects - Calculated on mean values)

	Pool 1973 to 2002	Pool 1973 to 2002	Pool 1988 to 2002	Pool 1995 & 2002
I[Hispanic Origin]	-0.0009 (0.0007)	-0.0007 (0.0007)	-0.0005 (0.0007)	-0.0003 (0.0008)
I[White]	-0.0005 (0.0004)	-0.0006 (0.0004)	-0.0006 (0.0005)	-0.0006 (0.0006)
I[Born outside USA]				-0.0012 (0.0007)
Age of respondent	0.0006 *** (0.0000)	0.0006 *** (0.0000)	0.0004 *** (0.0001)	0.0003 *** (0.0001)
I[Full-time work]	-0.0026 *** (0.0004)	-0.0028 *** (0.0004)	-0.0010 (0.0006)	-0.0006 (0.0006)
I[Part-time work]	-0.0005 (0.0005)	-0.0006 (0.0005)	-0.0002 (0.0006)	0.0000 (0.0007)
Income (low level)	-0.0004 (0.0005)	-0.0004 (0.0005)	-0.0006 (0.0010)	-0.0005 (0.0012)
Income (high level) <sup>#</sup>	0.0000 (0.0004)	0.0000 (0.0005)	0.0010 * (0.0006)	0.0012 * (0.0007)
Years of education	0.0002 *** (0.0001)	0.0002 *** (0.0001)	0.0001 (0.0001)	0.0002 (0.0001)
I[Married/ Union]	0.0027 *** (0.0005)	0.0030 *** (0.0005)	0.0010 * (0.0006)	0.0010 (0.0007)
# of Marriages	0.0007 ** (0.0003)	0.0008 *** (0.0003)	0.0003 (0.0003)	0.0003 (0.0004)
Age at first intercourse			0.0000 (0.0001)	0.0000 (0.0001)
Age at first birth		0.0003 *** (0.0001)	0.0000 (0.0001)	-0.0001 (0.0001)
Age at last birth		-0.0003 *** (0.0001)	-0.0002 ** (0.0001)	-0.0001 (0.0001)
I[Parity=0]		0.0081 *** (0.0028)	0.0002 (0.0018)	-0.0007 (0.0019)
I[Sterile]	0.0052 *** (0.0007)	0.0030 *** (0.0006)	0.0009 (0.0005)	0.0007 (0.0006)
I[Spontaneous losses]	0.0027 *** (0.0005)	0.0024 *** (0.0008)	0.0011 (0.0008)	-0.0003 (0.0010)
I[Protestant]	0.0021 ** (0.0008)	0.0024 *** (0.0008)	0.0011 (0.0008)	-0.0003 (0.0010)
I[Catholic]	0.0030 ** (0.0013)	0.0034 ** (0.0014)	0.0009 (0.0010)	0.0005 (0.0011)
I[Other religion] <sup>&amp;</sup>	0.0027 (0.0019)	0.0031 (0.0020)	0.0010 (0.0015)	0.0000 (0.0013)
Importance of religion (not=0, some=1, very=2)				0.0011 ** (0.0004)
I[Abortion]			-0.0012 ** (0.0005)	-0.0012 ** (0.0005)
I[Received help to get pregnant]			0.0087 *** (0.0019)	0.0083 *** (0.0024)
I[Received help to avoid miscarriage]			0.0013 (0.0009)	0.0001 (0.0008)
I[Foster mother]			0.0702 *** (0.0179)	0.0663 *** (0.0176)
# of Observations	49,296	53,303	24,266	16,626
# of Adoptive Mothers	664	664	236	148
Year effects	Yes	Yes	Yes	Yes
Mean Value	0.0134	0.0127	0.0096	0.0088
Max Likelihood Function	-2902.31	-2860.77	-978.25	-621.95
Pseudo-R2	0.1992	0.2106	0.2583	0.2608

I[.] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion

**Table 11: Propensity to Adopt: Related vs Unrelated Adoption**  
(Marginal Effects - Calculated on mean values)

	Pool 1982 to 2002		Pool 1988 to 2002	
	Pr(Related Adoption=1)	Pr(Unrelated Adoption=1)	Pr(Related Adoption=1)	Pr(Unrelated Adoption=1)
I[Hispanic Origin]	0.0004 (0.0006)	-0.0005 * (0.0003)	0.0000 (0.0007)	-0.0003 (0.0003)
I[White]	-0.0013 *** (0.0005)	0.0001 (0.0002)	-0.0011 ** (0.0005)	0.0001 (0.0002)
Age of respondent	0.0002 *** (0.0000)	0.0002 *** (0.0000)	0.0002 *** (0.0000)	0.0002 *** (0.0000)
I[Full-time work]	-0.0003 (0.0003)	-0.0007 *** (0.0002)	0.0000 (0.0005)	-0.0005 ** (0.0002)
I[Part-time work]	-0.0004 (0.0004)	0.0000 (0.0003)	-0.0003 (0.0006)	-0.0001 (0.0002)
Income (low level)	-0.0004 (0.0005)	-0.0004 (0.0004)	0.0000 (0.0009)	-0.0005 *** (0.0004)
Income (high level) <sup>#</sup>	0.0000 (0.0004)	0.0002 (0.0002)	0.0002 (0.0005)	0.0005 ** (0.0003)
Years of education	0.0000 (0.0001)	0.0001 ** (0.0000)	0.0000 (0.0001)	0.0001 * (0.0000)
I[Married / Union]	0.0008 * (0.0004)	0.0013 *** (0.0004)	0.0006 (0.0006)	0.0004 (0.0003)
# of Marriages	0.0006 *** (0.0002)	0.0002 (0.0001)	0.0005 * (0.0003)	-0.0001 (0.0001)
Age at first intercourse			0.0001 (0.0001)	-0.0001 ** (0.0000)
Age at first birth	0.0000 (0.0001)	0.0002 *** (0.0001)	-0.0001 (0.0001)	0.0001 ** (0.0000)
Age at last birth	-0.0002 *** (0.0001)	-0.0001 *** (0.0000)	-0.0002 *** (0.0001)	-0.0001 ** (0.0000)
I[Parity=0]	-0.0021 ** (0.0011)	0.0066 ** (0.0026)	-0.0038 *** (0.0013)	0.0037 (0.0023)
I[Sterile]	0.0006 (0.0004)	0.0018 *** (0.0005)	0.0006 (0.0006)	0.0009 ** (0.0003)
I[Spontaneous losses]	0.0011 ** (0.0005)	0.0011 *** (0.0003)	0.0007 (0.0005)	0.0003 (0.0002)
I[Protestant]	0.0002 (0.0006)	0.0008 ** (0.0004)	0.0000 (0.0007)	0.0005 (0.0004)
I[Catholic]	0.0001 (0.0007)	0.0015 * (0.0008)	-0.0001 (0.0007)	0.0005 (0.0005)
I[Other religion] <sup>&amp;</sup>	0.0000 (0.0009)	0.0016 (0.0012)	-0.0004 (0.0009)	0.0006 (0.0008)
I[Abortion]	-0.0005 (0.0004)	-0.0008 *** (0.0002)	-0.0005 (0.0005)	-0.0005 ** (0.0002)
I[Received help to get pregnant]			0.0021 * (0.0011)	0.0039 *** (0.0011)
I[Received help to avoid miscarriage]			0.0011 (0.0009)	0.0002 (0.0003)
I[Foster mother]			0.0161 ** (0.0068)	0.0351 *** (0.0114)
# of Observations	34,909	34,909	24,266	24,266
# of Adoptive Mothers in Regression	115	222	92	149
Year Effects	Yes	Yes	Yes	Yes
Mean Propensity to Adopt	0.0033	0.0064	0.0038	0.0061
Max Likelihood Function	-685.06	-1007	-520.80	-593
Pseudo-R2	0.1127	0.2508	0.1388	0.3392

I[.] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion

**Table 12: Propensity to Adopt by Type of Mother  
Foster vs. Non-foster Adoptive Mothers**  
(Marginal Effects - Calculated on Mean Values)

	Pool 1988 & 2002	
	Foster Adoptive Mothers	Non-foster Adoptive Mothers
I[Hispanic origin]	-0.0002 (0.0002)	-0.0013 (0.0009)
I[White]	-0.0001 (0.0002)	-0.0006 (0.0008)
Age of respondent	0.00003 *** (0.00001)	0.0004 *** (0.0001)
I[Full-time work]	0.0000 (0.0002)	0.0001 (0.0007)
I[Part-time work]	0.0003 (0.0003)	-0.0006 (0.0008)
Income (low level)	0.0001 (0.0006)	-0.0016 (0.0014)
Income (high level) <sup>#</sup>	0.0004 (0.0002)	0.0011 (0.0008)
Years of education	0.0000 (0.0000)	0.0001 (0.0001)
I[Married / Union]	0.0001 (0.0002)	-0.0002 (0.0009)
# of Marriages	0.0001 (0.0001)	-0.0002 (0.0005)
I[Sterile]	0.0004 ** (0.0002)	0.0029 *** (0.0010)
I[Spontaneous losses]	0.0002 (0.0002)	0.0002 (0.0007)
I[Protestant]	-0.0001 (0.0002)	0.0012 (0.0013)
I[Catholic]	-0.0002 (0.0002)	0.0010 (0.0016)
I[Other religion] <sup>&amp;</sup>	-0.0002 (0.0002)	0.0027 (0.0028)
I[Abortion]	-0.0003 * (0.0002)	-0.0013 * (0.0008)
I[Received help to get pregnant]	0.0017 ** (0.0009)	0.0123 *** (0.0026)
I[Received help to avoid miscarriage]	0.0002 (0.0003)	0.0007 (0.0010)
Age at first intercourse	0.0000 (0.0000)	0.0001 (0.0001)
# of Observations	20,898	21,056
# of Foster/ Non-foster Adoptive Mothers	32	191
Year Effects	Yes	Yes
Mean Propensity to Adopt	0.0015	0.0090
Max Likelihood Function	-192.40	-932.00
Pseudo-R2	0.2268	0.1399

I[.] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion

**Table 13: Propensity to Adopt by Type of Mother: Adoptive Mothers with & without Biological Children**  
(Marginal Effects - Calculated on mean values)

	Pool 1973 to 2002		Pool 1988 to 2002	
	Mothers with Biological & Adopted Children	Mothers with Adopted Children Only	Mothers with Biological & Adopted Children	Mothers with Adopted Children Only
I[Hispanic Origin]	0.0000 (0.0008)	-0.0016 *** (0.0005)	-0.0001 (0.0006)	-0.0007 * (0.0004)
I[White]	-0.0003 (0.0004)	0.0001 (0.0004)	-0.0001 (0.0004)	-0.0002 (0.0003)
Age of respondent	0.0003 *** (0.0000)	0.0002 *** (0.0000)	0.0002 *** (0.0000)	0.0001 *** (0.0000)
I[Full-time work]	-0.0013 *** (0.0004)	-0.0006 * (0.0003)	-0.0005 (0.0004)	0.0003 (0.0003)
I[Part-time work]	-0.0004 (0.0005)	0.0000 (0.0004)	-0.0001 (0.0004)	0.0000 (0.0004)
Income (low level)	-0.0004 (0.0005)	-0.0007 (0.0005)	-0.0003 (0.0007)	-0.0011 ** (0.0006)
Income (high level) <sup>#</sup>	-0.0002 (0.0004)	0.0001 (0.0004)	0.0003 (0.0004)	0.0008 ** (0.0004)
Years of education	0.0003 *** (0.0001)	0.0004 *** (0.0001)	0.0001 (0.0001)	0.0001 * (0.0001)
I[Married / Union]	0.0013 *** (0.0005)	0.0016 *** (0.0005)	0.0001 (0.0005)	-0.0002 (0.0004)
# of Marriages	0.0006 ** (0.0003)	0.0001 (0.0003)	0.0001 (0.0003)	0.0000 (0.0003)
Age at first intercourse			-0.0001 (0.0001)	0.0001 (0.0000)
I[Sterile]	0.0023 *** (0.0005)	0.0032 *** (0.0006)	0.0011 ** (0.0005)	0.0011 ** (0.0005)
I[Spontaneous losses]	0.0027 *** (0.0005)	0.0001 (0.0003)	0.0009 * (0.0005)	-0.0004 (0.0003)
I[Protestant]	0.0009 (0.0009)	0.0003 (0.0008)	0.0000 (0.0006)	-0.0001 (0.0005)
I[Catholic]	0.0002 (0.0010)	0.0014 (0.0011)	-0.0007 (0.0006)	0.0004 (0.0006)
I[Other religion] <sup>&amp;</sup>	0.0003 (0.0014)	0.0016 (0.0016)	-0.0009 (0.0006)	0.0009 (0.0011)
I[Abortion]			-0.0002 (0.0004)	-0.0010 *** (0.0003)
I[Received help to get pregnant]			0.0041 *** (0.0012)	0.0074 *** (0.0020)
I[Received help to avoid miscarriage]			0.0006 (0.0006)	-0.0001 (0.0004)
I[Foster mother]			0.0510 *** (0.0154)	0.0278 ** (0.0110)
# of Observations	52,993	52,937	24,155	24,143
# of Adoptive Mothers	366	311	123	113
Year Effects	Yes	Yes	Yes	Yes
Mean Propensity to Adopt	0.0069	0.0059	0.0051	0.0046
Max Likelihood Function	-1947.22	-1691.35	-620.83	-560.56
Pseudo-R2	0.1091	0.1110	0.1960	0.2084

I[.] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion

**Table 14: Propensity to Adopt: Differences by Race**  
(Marginal Effects - Calculated on mean values)

	Pool 1973 to 2002		Pool 1988 to 2002	
	Level	Interaction I[White]	Level	Interaction I[White]
I[Hispanic Origin]	0.0009 (0.0018)	-0.0017 (0.0012)	-0.0005 (0.0013)	0.0001 (0.0007)
Age of respondent	0.0005 *** (0.0001)	0.0002 *** (0.0001)	0.0003 *** (0.0001)	0.0001 (0.0001)
I[Full-time work]	-0.0003 (0.0007)	-0.0031 *** (0.0006)	0.0013 (0.0010)	-0.0026 *** (0.0008)
I[Part-time work]	0.0002 (0.0011)	-0.0010 (0.0010)	0.0007 (0.0015)	-0.0010 (0.0010)
Income (low level)	0.0017 * (0.0010)	-0.0023 *** (0.0006)	0.0001 (0.0014)	-0.0011 (0.0014)
Income (high level) <sup>#</sup>	0.0005 (0.0008)	-0.0007 (0.0008)	-0.0002 (0.0009)	0.0019 (0.0013)
Years of education	0.0004 *** (0.0001)	-0.0002 (0.0002)	0.0005 *** (0.0002)	-0.0005 *** (0.0002)
I[Married / Union]	0.0030 *** (0.0008)	-0.0003 (0.0010)	0.0003 (0.0010)	0.0008 (0.0012)
# of Marriages	0.0016 *** (0.0006)	-0.0012 * (0.0007)	0.0005 (0.0006)	-0.0003 (0.0007)
Parity (# of births)	-0.0009 *** (0.0003)	-0.0010 * (0.0005)	-0.0004 (0.0005)	0.0001 (0.0007)
Age at first intercourse			-0.0002 (0.0001)	0.0002 (0.0001)
Age at first birth	0.0002 (0.0001)	0.0002 (0.0002)	-0.0001 (0.0001)	0.0002 (0.0002)
Age at last birth	-0.0001 (0.0001)	-0.0003 * (0.0002)	0.0000 (0.0001)	-0.0003 * (0.0002)
I[Parity=0]	0.0115 ** (0.0053)	-0.0022 (0.0019)	0.0015 (0.0033)	-0.0014 (0.0023)
I[Sterile]	0.0027 *** (0.0009)	0.0028 ** (0.0012)	0.0024 * (0.0013)	-0.0004 (0.0009)
I[Spontaneous losses]	0.0016 ** (0.0008)	0.0020 * (0.0011)	0.0005 (0.0009)	0.0004 (0.0010)
I[Protestant]	-0.0003 (0.0014)	0.0047 ** (0.0024)	-0.0010 (0.0013)	0.0033 (0.0022)
I[Catholic]	-0.0011 (0.0015)	0.0080 * (0.0044)	-0.0015 (0.0012)	0.0049 (0.0041)
I[Other religion] <sup>&amp;</sup>	-0.0012 (0.0016)	0.0107 (0.0088)	-0.0010 (0.0012)	0.0054 (0.0065)
I[Abortion]			-0.0015 ** (0.0007)	0.0009 (0.0016)
I[Received help to get pregnant]			0.0034 * (0.0019)	0.0029 (0.0020)
I[Received help to avoid miscarriage]			0.0034 (0.0022)	-0.0013 * (0.0007)
I[Foster mother]			0.0283 * (0.0151)	0.0064 (0.0053)
# of Observations		53,303		24,266
# Adoptive Mothers in Regression		664		236
Year Effects		Yes		Yes
Mean Propensity to Adopt		0.0127		0.0096
Max Likelihood Function		-2820.12		-958.78
Pseudo-R2		0.2219		0.2731

I[,] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion

**Table 15: Propensity to Adopt: Potential Demand vs. Fulfilled Demand**  
**Pool 1995 & 2002**  
(Marginal Effects - Calculated on mean values)

	Considering to Adopt	Taken Steps to Adopt	Have Adopted
I[Hispanic origin]	0.0496 *** (0.0119)	0.0010 (0.0034)	-0.0003 (0.0009)
I[White]	-0.0306 *** (0.0087)	-0.0039 (0.0024)	-0.0007 (0.0007)
I[Born outside USA]	-0.0267 ** (0.0111)	-0.0142 *** (0.0023)	-0.0012 (0.0007)
Age of respondent	0.0044 *** (0.0006)	0.0013 *** (0.0002)	0.0003 *** (0.0001)
I[Full-time work]	0.0027 (0.0084)	0.0010 (0.0023)	-0.0006 (0.0006)
I[Part-time work]	0.0272 *** (0.0103)	0.0032 (0.0029)	0.0000 (0.0007)
Income (low level)	-0.0056 (0.0132)	0.0010 (0.0042)	-0.0004 (0.0013)
Income (high level) <sup>#</sup>	0.0156 * (0.0089)	0.0003 (0.0026)	0.0013 * (0.0007)
Years of education	0.0094 *** (0.0016)	0.0014 *** (0.0004)	0.0002 (0.0001)
I[Married/ Union]	-0.0053 (0.0095)	0.0039 (0.0025)	0.0011 (0.0007)
# of Marriages	0.0331 *** (0.0068)	0.0049 *** (0.0015)	0.0003 (0.0004)
Age at first birth	0.0050 *** (0.0013)	0.0001 (0.0003)	0.0001 (0.0001)
Age at last birth	-0.0082 *** (0.0012)	-0.0009 *** (0.0003)	-0.0002 ** (0.0001)
I[Parity=0]	0.0180 (0.0273)	-0.0095 (0.0061)	0.0009 (0.0023)
I[Sterile]	0.0315 *** (0.0095)	0.0080 *** (0.0026)	0.0021 ** (0.0008)
I[Spontaneous losses]	0.0590 *** (0.0094)	0.0073 *** (0.0025)	0.0009 (0.0007)
I[Protestant]	-0.0184 (0.0135)	-0.0019 (0.0039)	-0.0003 (0.0011)
I[Catholic]	-0.0569 *** (0.0132)	-0.0042 (0.0037)	0.0005 (0.0012)
I[Other religion] <sup>&amp;</sup>	-0.0109 (0.0182)	0.0018 (0.0054)	0.0000 (0.0014)
Importance of religion not=0, some=1, very=2	0.0477 *** (0.0062)	0.0057 *** (0.0017)	0.0011 ** (0.0005)
I[Abortion]	0.0450 *** (0.0096)	-0.0014 (0.0023)	-0.0012 ** (0.0006)
I[Received help to get pregnant]	0.1890 *** (0.0171)	0.0503 *** (0.0074)	0.0087 *** (0.0025)
I[Received help to avoid miscarriage]	0.1018 *** (0.0146)	0.0097 *** (0.0037)	0.0001 (0.0008)
I[Foster mother]	0.1652 *** (0.0442)	0.0501 *** (0.0166)	0.0637 *** (0.0170)
# of Observations	16,818	16,818	16,626
# of Women Considering/ Taken/ Adopted	4607	533	148
Year Effects	Yes	Yes	Yes
Mean Propensity	0.2737	0.0317	0.0088
Max L kelihood Function	-9358.80	-2094	-624.51
Pseudo-R2	0.0518	0.1145	0.2578

I[.] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion

**Table 16: Logit for the Propensity to Relinquish a Child**  
 Sample of Women Who Gave Birth to at least One Child  
 (Marginal Effects - Calculated on mean values)

	Pool 1976 to 2002	Pool 1988 to 2002
I[Hispanic Origin]	-0.0025 *** (0.0006)	-0.0017 *** (0.0005)
I[White]	0.0055 *** (0.0007)	0.0039 *** (0.0007)
Age of respondent	-0.0001 (0.0001)	0.00007 * (0.0000)
I[Full-time work]	-0.0006 (0.0006)	-0.0011 ** (0.0006)
I[Part-time work]	-0.0014 ** (0.0007)	-0.0009 (0.0006)
Income (low level)	0.0016 * (0.0009)	0.0011 (0.0010)
Income (high level) <sup>#</sup>	0.0010 (0.0006)	0.0007 (0.0006)
Years of education	0.0002 (0.0001)	0.0003 ** (0.0001)
I[Married / Union]	-0.0050 *** (0.0010)	-0.0033 *** (0.0009)
# of Marriages	0.0011 *** (0.0004)	0.0003 (0.0003)
Parity (# of births)	0.0005 ** (0.0002)	0.0001 (0.0002)
Age at first intercourse		-0.0003 ** (0.0001)
Age at first birth	-0.0007 *** (0.0001)	-0.0008 *** (0.0001)
Age at last birth	0.0001 (0.0001)	0.0001 (0.0001)
I[Spontaneous losses]	-0.0004 (0.0005)	-0.0004 (0.0005)
I[Protestant]	-0.0016 * (0.0010)	-0.0002 (0.0008)
I[Catholic]	-0.0009 (0.0008)	0.0005 (0.0010)
I[Other religion] <sup>&amp;</sup>	0.0029 (0.0022)	0.0025 (0.0024)
I[Abortion]		0.0008 (0.0007)
I[Received help to get pregnant]		-0.0006 (0.0009)
I[Welfare participation]	-0.0012 ** (0.0006)	-0.0013 ** (0.0006)
# of Biological Mothers	28,589	16,523
# of Relinquishing Mothers	208	128
Year Effects	Yes	Yes
Mean propensity to relinquish	0.0072	0.0077
Max Likelihood Function	-1084	-628
Pseudo-R2	0.1159	0.1567

I[.] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion

**Table 17: Propensity to Relinquish a Child among Single Mothers**  
 Sample of Women Who Ever Had a Child Out-of-Wedlock  
 (Marginal Effects - Calculated on mean values)

	Pool 1982 to 2002	Pool 1988 to 2002
I[Hispanic Origin]	-0.0036 *** (0.0011)	-0.0033 *** (0.0012)
I[White]	0.0253 *** (0.0037)	0.0211 *** (0.0034)
Age of respondent	0.0002 *** (0.0001)	0.0003 *** (0.0001)
I[Full-time work]	-0.0016 (0.0011)	-0.0020 (0.0012)
I[Part-time work]	-0.0010 (0.0013)	-0.0012 (0.0014)
Income (low level)	0.0025 (0.0019)	0.0032 (0.0022)
Income (high level) <sup>#</sup>	0.0031 ** (0.0014)	0.0029 * (0.0016)
Years of education	0.0005 ** (0.0003)	0.0007 ** (0.0003)
I[Married / Union]	-0.0037 *** (0.0011)	-0.0035 *** (0.0012)
# of Marriages	0.0010 (0.0007)	0.0013 * (0.0008)
Parity (# of births)	0.0004 (0.0005)	0.0004 (0.0005)
Age at first intercourse		-0.0004 (0.0003)
Age at first birth	-0.0012 *** (0.0002)	-0.0012 *** (0.0003)
Age at last birth	0.0000 (0.0001)	0.0001 (0.0001)
I[Spontaneous losses]	-0.0007 (0.0010)	-0.0010 (0.0011)
I[Protestant]	0.0007 (0.0016)	0.0010 (0.0018)
I[Catholic]	0.0013 (0.0021)	0.0021 (0.0025)
I[Other religion] <sup>&amp;</sup>	0.0124 (0.0083)	0.0134 (0.0095)
I[Abortion]		-0.0001 (0.0013)
I[Received help to get pregnant]		0.0009 (0.0028)
I[Welfare participation]	-0.0043 *** (0.0013)	-0.0043 *** (0.0015)
# of Single Mothers	8,242	6,652
# of Relinquishing Mothers	129	112
Year effects	Yes	Yes
Mean propensity to relinquish	0.0157	0.0168
Max Likelihood Function	-531.98	-451.88
Pseudo-R2	0.1991	0.2051

I[.] is an indicator equals to 1 if condition [.] holds.

\* significance at 10%, \*\* significance at 5%, \*\*\* significance at 1%

<sup>#</sup> Excluded category: Income (medium level)

<sup>&</sup> Excluded category: No religion