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Child Adoption in Japan, 1948-2008

—A Comparative Historical Analysis—

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Adopting children, as an alternative to childbearing, is a widely accepted means of forming a family in the U.S., but is relatively rare in Japan. Why is child adoption uncommon in Japan and yet widespread in the U.S.? By compiling historical statistics from government records, I first document trends in child adoption in Japan since WWII. The data indicate that child adoption rates in Japan and the U.S. were comparable in the early 1950s, but that the rate in Japan declined continuously over the ensuing five decades. To investigate the reasons for this persistent decline, I then explore the demand-side factors and examine what motivated parents to adopt children in Japan.
JEL Classifications: D10, J13, N30

1. Motivations and Significance

Adopting children, as an alternative to childbearing, is a widely accepted means of forming a family in many Western societies. For example, in the U.S., adopted children currently comprise approximately 2.5% of children under age 18. Moreover, in 2002 alone, U.S. families legally adopted 76,000 children unrelated by blood or marriage, including 21,000 foreign-born children[1]. Although there are no internationally comparable statistics, the U.S. likely exhibits the highest number of adopted children per capita in the world.

By contrast, it is relatively uncommon for married couples in Japan to adopt an unrelated infant and raise the child "as their own." Despite the introduction of a modern adoption law in 1988 that allowed the permanent and complete transfer of parental rights from the birth parents to the adoptive parents, the number of legally adopted children in Japan has been at roughly 1,200 per year throughout the past ten years[2]. This is not to say that adoption (*yôshi*) itself is uncommon, as Japan is well known for its unique tradition of *adult* adoption since medieval times that remains popular to the present day[3]. It is the adoption of children that is relatively rare in Japan.

Why is child adoption so uncommon in Japan yet so widespread in the U.S.? One may argue that it is a Confucian tradition of placing a high premium on blood relations that results in low parental demand for unrelated children. In fact, in historical China and Korea, adoption was strictly restricted to blood relatives. In Japan, however, in defiance of the Confucian spirit, it has been a long-established practice to adopt an unrelated (but often talented) adult male as a family heir in the absence (or even in the presence) of a biological son (Mehrotra *et al.* 2010). In other words, the concept of family in Japan has long been extended to embrace fictitious kin. Moreover, it is difficult to invoke cultural norms as a cause of today's behavioral outcomes, as the norms themselves evolve over time in response to changing economic and technological conditions. Even in the U.S., adopted children were associated with social stigma in the early 20th century, and it was only in the 1940s that child adoption began to gain social acceptance and moral legitimacy (Berebitsky 2000; Herman 2008).

The primary purpose of this article is to study the adoption of children in Japan from a

comparative historical perspective, motivated by my earlier work on child adoption in the U.S. (Bernal *et al.* 2007; Moriguchi 2009). To pursue this goal, I first compile data from heretofore underutilized government records and document historical trends in child adoption from 1948 to 2008. To my best knowledge, no study has compiled consistent and detailed historical statistics on child adoption in Japan. Second, I provide an analytical framework to study parental motivations for adoption and investigate demand-side factors using time-series and across-group variations in the data. Although I am unable to provide a statistical analysis because the available data are highly aggregated, the article provides the first economic analysis of child adoption in Japan using quantitative data. Due to space limitations, however, I focus on the demand side in this article, leaving the supply-side analysis to future exploration.

Why is the study of child adoption in Japan important? In contrast to the small number of child adoptions taking place, a substantial number of children in need of a family are placed in state welfare institutions in Japan (Goodman 2000, Ch. 7; Hayes and Habu 2006, Ch. 9). In recent years, over 3,000 infants and 30,000 children have been cared in infant homes (*nyûjiin*) and children's homes (*jidô yôgo shisetsu*), respectively[4]. In other words, even in a society with declining fertility, there is an ironic and unfortunate mismatch between parents and children across households. Because adoption is the primary method through which children in need of parents are matched with parents wanting a child, it has potentially important welfare implications for institutionalized children. Furthermore, by examining the parental motives for child adoption, we gain a better understanding of the parental demand for children in general. As declining fertility has become a major social concern in Japan, child adoption provides a unique angle to investigate why (or why not) parents want children.

Child adoption in Japan, however, has so far received very limited scholarly attention, and existing research lies exclusively in the fields of family law and sociology (e.g., Yonekura 1998; Goodman 2000; Hayes and Habu 2006; Yuzawa 2001, 2007; Yoshida 2009). Among these, Hayes and Habu (2006) provide the most comprehensive overview of child adoption in contemporary Japan. In particular, using interviews and case studies, they offer rich and detailed descriptions of the cultural, legal, and institutional environments surrounding the process of child adoption. This article complements their work and contributes to the literature in two main ways. First, it combines an analytical framework from family economics (e.g., Becker 1981) and quantitative data to provide new empirical evidence. Second, by comparing historical developments in Japan and the U.S., it not only provides a long-run perspective but also illuminates the uniqueness of contemporary Japanese practice.

2. Historical Trends in Child Adoption

2.1 Historical Trends in Japan, 1948-2008

The revision of the Japanese Civil Code in 1948 mandated that the adoption of a child younger than the age of majority (age 20) was to be approved by the family court[5]. Accordingly, the data for child adoption (*miseinen yôshi*) have been published in the Annual Report of Judicial Statistics since 1952 (Japanese Supreme Court 1952-2008). These judicial statistics include the number of child adoption cases approved by the court in most years, providing a consistent and accurate basis for time-series data. It must be noted, however, that as Japanese law does not require court approval when adopting a lineal descendant (e.g., a grandchild) or a spouse's lineal descendant (e.g., a stepchild), grandparent and stepparent adoptions are excluded from the judicial statistics[6]. While the exclusion of stepparent adoption, which is typically a by-product of marriage decisions, is a merit of these statistics, the exclusion of grandparent adoption understates the number of adoptions in Japan to an unknown extent. Needless to say, unauthorized adoption, where parents falsely register an adopted child as their biological child in the family registry (*koseki*) without proceeding

Fig 1-A. The Number of Child Adoptions in Japan, 1948-2008

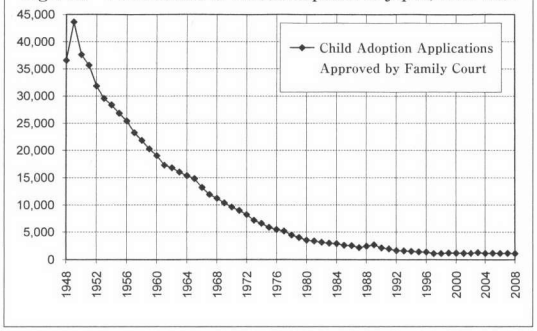
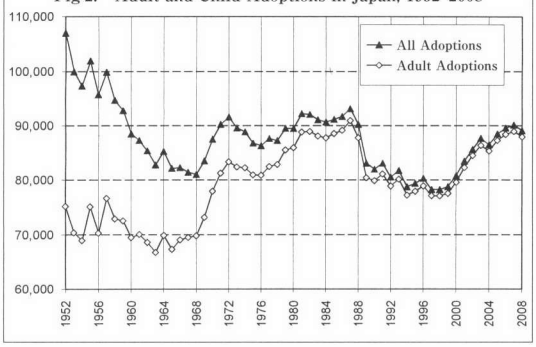


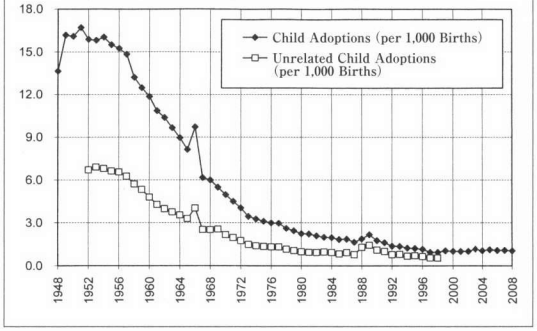
Fig 2. Adult and Child Adoptions in Japan, 1952-2008



through the court, does not appear in the above statistics[7].

Figure 1-A presents the annual number of child adoptions from 1948 to 2008. This shows that while the number of adoptions in Japan was once very high, exceeding 43,000 in 1949, it declined monotonically and continuously over the next five decades with the exception of a slight increase in 1988-89 as a result of the reforms in adoption law. Because fertility itself has also been falling sharply in Japan over recent decades, one may find the declining number of adoptions unsurprising. After all, when people have low demand even for their own biological children, who would adopt a nonbiological child? To control for fertility, **Figure 1-B** depicts the child adoption rate (defined by the number of children adopted per 1,000 live births) in 1948-2008, along with the rate of *unrelated* child adoption (i.e., the adoption of a child by individuals unrelated by blood or marriage) in 1952-98. As shown, the adoption rate peaked at about 16.0 adoptions per 1,000 births in the early 1950s, declined sharply in the 1960s, continued to fall in the 1970s, and

Fig 1-B. Child Adoption Rate in Japan, 1948-2008



stabilized at approximately 1.0 adoption per 1,000 births in the past ten years[8]. The rate of unrelated adoption follows similar time trends, comprising roughly half of all child adoptions throughout the period. In short, the declining trend in child adoption cannot be explained solely by declining fertility[9].

To compare the prevalence of child adoption with adult adoption, I obtain the annual number of all adoption cases submitted to the family registration offices (Japanese Ministry of Justice 1952-2008). **Figure 2** presents the number of total adoptions and the number of adult adoptions in Japan from 1952 to 2008[10]. Unlike child adoption, adult adoption remains common in Japan. Although it is beyond the scope of this article to examine its trends, adult adoption is typically arranged for practical concerns, including family inheritance, business succession, and even tax avoidance. For example, a sharp decline in adult adoptions in 1988 is commonly attributed to a legal reform in the same year that closed a loophole in the existing law which had allowed people to avoid inheritance tax through multiple adoptions (Hayes and Habu 2006, 1-4). Although child adoptions once comprised 30% of all adoptions in the early 1950s, by 2000 the proportion had fallen to a mere 1.5% of all adoptions.

2.2 Comparing Historical Trends in the U.S. and Japan

To provide a comparative perspective, I briefly discuss historical trends in child adoption in the U.S. based on the findings from Bernal *et al.* (2007). **Figure 3-A**

Fig 3-A. The Number of Child Adoptions in the U.S., 1951-2004

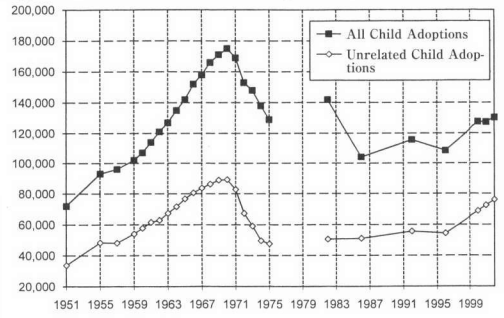


Fig 3-B. Unrelated Child Adoption Rates in the U.S. and Japan, 1950-2000

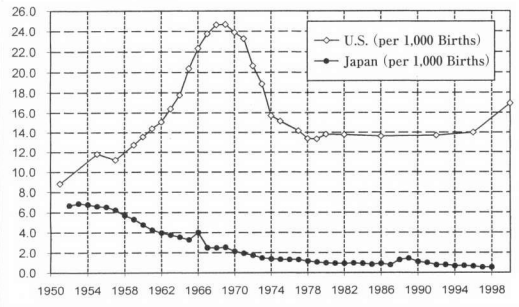
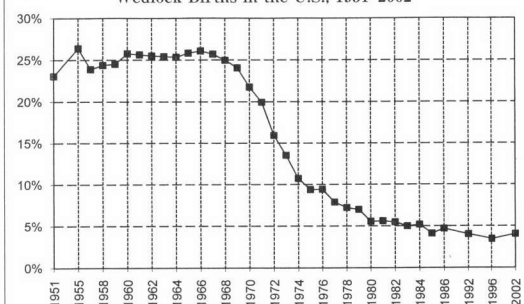


Fig 4-A. Abortion Rates in Japan and the U.S., 1949-2006

Fig 4-B. Ratio of Domestic Unrelated Adoptions to Out-of-Wedlock Births in the U.S., 1951-2002



provides the number of child adoptions and the number of unrelated child adoptions in the U.S. from 1951 to 2002. Note that, in the U.S. data, stepparent and grandparent adoptions are included in related child adoption. As shown, the number of adoptions in the U.S. increased dramatically in the 1960s, peaked in 1970 at about 180,000, but decline in the 1970s led by a sharp fall in unrelated child adoption. The number of unrelated adoptions has begun to rise again since the late 1990s. **Figure 3-B** compares the rates of unrelated child adoption (per 1,000 births) in the U.S. and Japan over the post-WWII period. To my surprise, the rates in both countries were once at a comparable level (9.6 in the U.S. and 6.7 in Japan) in the early 1950s. By the end of the 1990s, however, the unrelated child adoption rate in the U.S. was more than 30 times higher than that of Japan (15.5 in the U.S. and 0.5 in Japan).

What explains the rise and fall of unrelated child adoption in the U.S.? A range of evidence indicates that in the market for domestic infant adoption, demand has exceeded supply throughout the postwar period. Thus, the number of unrelated child adoptions in the U.S. has been constrained primarily by the supply of infants relinquished at birth by unmarried mothers. Although the out-of-wedlock birthrate in the U.S. leaped from 38 to 340 (per 1,000 births) between 1951 and 2002, the rate of relinquishment fell dramatically because of the legalization of abortion that reduced the number of unwanted births[11]. While abortion became legal in Japan in 1948-52, legalization did not take place in the U.S. until the reforms in 1969-73. **Figure 4-A** displays the abortion rates (per 1,000 births) in the U.S. and Japan during 1949-2006 reflecting these legal changes. In **Figure 4-B**, I report the ratio of the number of domestic unrelated child adoptions to the number of out-of-wedlock births in the U.S. during the period 1951-2002 as a proxy for the relinquishment rate. As shown, in a matter of just six years, this ratio fell sharply from 25% in the 1960s to 10% in the mid-1970s[12]. Given that the supply of adoptable infants inside the U.S. has remained extremely tight, the resurgence in child adoption since the late 1990s is partly driven

by a rise in international adoption. In particular, China and Russia have become major sources of supply for the U.S. since they began permitting international adoption in the early 1990s. In summary, the trends in U.S. child adoption can be explained almost entirely by changes in supply-side factors.

Why has child adoption in Japan become increasingly uncommon over the past fifty years? Was it driven mainly by a decline in the supply of adoptable children (supply constrained) or by a decline in the demand for adoption (demand constrained)? In considering the reasons for low child adoption and high institutional care in present-day Japan, Hayes and Habu (2006, 100–108) list three explanations most frequently offered by childcare professionals and experts: (i) difficulty in finding adoptive parents for children; (ii) the unwillingness of birthparents to relinquish children for adoption; and (iii) the lack of resources and incentives for public agencies to pursue adoption arrangements. Although the second and third reasons point to supply-side and institutional factors, the first reason and other anecdotal evidence suggest that the lack of demand may be a major hindrance to child adoption in Japan[13]. Because of space limitations, in this article, I focus on demand-side factors and empirically investigate the motivation for people to adopt children.

3. Understanding the Demand for Child Adoption in Japan

3.1 Parental Demand for Adoption: An Analytical Framework

Why do people adopt a child in Japan? Have the reasons for child adoption changed over time? I consider three major parental motivations for adoption and categorize child adoption accordingly: i.e., pragmatic adoption, sentimental adoption, and altruistic adoption[14]. In *pragmatic* adoption, I assume that the adoptive parents (hereafter APs) derive utility primarily from a child's material contributions, including household work, farm labor, old age assistance, and the maintenance of the family name, business, or assets. In *sentimental* adoption, I assume that APs derive utility from experience parenting, forming an emotional bond with the child, and receiving companionship. In *altruistic* adoption, APs are assumed to derive utility from helping an unfortunate child and improving the child's welfare (as opposed to their own). Compared with pragmatic and sentimental adoption, altruistic adoption is a more passive form of demand, induced often by the presence of an orphaned or abandoned child in extended family members or acquaintances. While pragmatic and sentimental motives also drive the demand for a biological child, altruism is a motive that is unique to adoption.

Observe that when compared with childbearing, adoption has both advantages and disadvantages. When adopting, parents incur no pregnancy or delivery costs and are unconstrained by their own fecundity. Moreover, APs can choose the sex, age, and ability of the child, while birthparents (hereafter BPs) cannot. When adopting an unrelated infant of unknown background, however, APs face high uncertainty over the quality of the match between the child and the parents. From this simple framework, the following implications follow (Moriguchi 2009). In sentimental adoption, parents prefer to adopt a child at a very young age (i.e., an infant) to maximize parental experience and raise the child "as their own" when their fecundity is low. If parents have tastes for genetic similarity, they may prefer to adopt a related child. If social stigma associated with adoption is high, however, parents may decide not to adopt at all. In pragmatic adoption, parents prefer to adopt an older child (or even an adult) with a known background who demonstrates high labor value, skills, or abilities that match parental needs. By contrast, in altruistic adoption, parents may not actively select the child's age or sex, but accept a child in need of a home, even if they already have their own biological child.

To investigate the relative importance of the three motives in Japan, I employ the following empirical strategies. First, I use the legal reform of 1988 as a demand shock that

differentially changed the incentives for potential APs. By comparing the composition of APs and adopted children before and after the reform, I can examine both the effects of the reform and the underlying parental motives. Second, I document the diffusion of infertility treatment in Japan, which may potentially have reduced the demand for child adoption, and compare that with the case in the U.S. Third, I take advantage of the information on parental motivations available in early years in Japan and investigate the correlations between parental motives and the characteristics of adopted children. Finally, using the observed correlations, I examine changes in the characteristics of adopted children in Japan over the fifty years to infer changes in parental motivations. Two caveats are in order. First, an implicit assumption here is that the observed characteristics of adopted children reflect parental preferences and are *not* constrained by the availability of adoptable children. The validity of this assumption is an empirical question that should be examined in future work using supply-side data. Second, because grandparent adoption is not included in the data, we consistently underestimate any altruistic and pragmatic adoption associated with grandparent adoption.

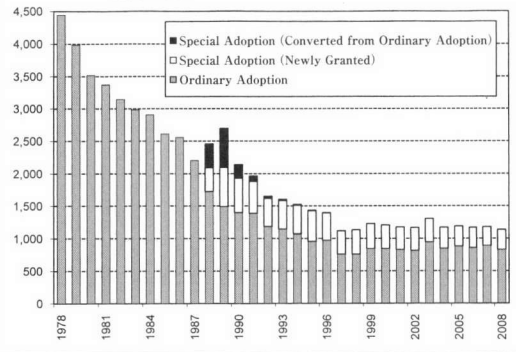
3.2 The 1988 Adoption Law Reform: Demand Creation and Sorting Effects

In 1988, the revised Japanese Civil Code introduced a new form of adoption known as "special adoption" (*tokubetsu yôshi*) in addition to the existing form of adoption, subsequently renamed "ordinary adoption" (*futsû yôshi*). Under ordinary adoption, any adult, married or single, who is older than the adoptee can be the AP. When the adoptee is under age 20, the permission of the family court must be obtained (except for a lineal descendant). The central feature of this practice is that BPs retain their parental ties with the child, even after the adoption is completed. In other words, the AP does not have exclusive parental rights over the adopted child under ordinary adoption. In the AP's family registry, the child is recorded explicitly as an "adopted child," together with the names of the BPs (Yonekura 1998, 2–4).

By contrast, in special adoption, the new law permitted a complete and permanent transfer of the child from the BPs to the APs for the first time in Japan's history. From a comparative viewpoint, it is worth noting that the U.S. was the first country to create such a law some 100 years earlier (Ben-Or 1976). The intent behind this reform was to promote the best interests of the child, not of the APs, and provide a permanent home for children in need of a family (Yonekura 1998, 182–5; Hayes and Habu 2006, 5). Accordingly, the revised law further requires that under special adoption: (i) the APs must be a married couple and must jointly adopt the child; (ii) both APs must be age 20 or older, and at least one of them must be older than 25; (iii) the child must be under age 6 at the time of the application, but parents can adopt a child under age 8 if the APs have cared for the child since he or she was under age 6; and (iv) the BPs must consent to the adoption, although their consent is unnecessary if they cannot express their will or have abused or abandoned the child. Unlike ordinary adoption, special adoption cannot be dissolved, except in special circumstances. Breaking with tradition, under special adoption an adopted child is recorded in the APs' family registry in the same way as a biological child.

When the reform took place, there was some expectation among experts that it would generate a new demand for child adoption. Namely, with the establishment of secure and exclusive parental rights, couples who would *not* have adopted under the traditional law would now adopt a child through special adoption. Alternatively, however, the primary effect of the new law can be *sorting* rather than demand creation. That is, the reform would allow APs to sort themselves into special or ordinary adoptions based on their preferences without increasing the actual number of APs. In these circumstances, which APs would select special adoption over ordinary adoption? From the above discussion, we expect that special adoption is more conducive to *sen-*

Fig 5. Ordinary & Special Child Adoptions in Japan, 1978-2008



timental adoption and attracts married couples adopting a young child desiring exclusive parental rights with the intention of raising the child as their own.

To examine empirically the demand creation and sorting effects, I use detailed adoption tables published in the judicial statistics during 1952–98, which tabulate the number of child adoptions according to the characteristics of the APs and their adopted children. The judicial reports ceased publishing such tables after 1998, making it impossible to use the 1998–2008 data. **Figure 5** presents the numbers of ordinary and special child adoptions from 1978 to 2008[15]. The 1988 reform initially generated a large number of applications, resulting in the approval of 730 and 1,205 cases of special adoption in 1988 and 1989, respectively. As many have noted, however, this effect was short-lived. The annual number of special adoptions has since declined to less than 400 in 1999–2008. With the introduction of special adoption, not only did the number of ordinary adoptions drop sharply, but also a considerable number of APs who had adopted a child before the reform (and whose child was still under age 8) *reapplied* for special adoption, indicating both within- and across-year sorting. **Figure 5** also provides a breakdown of special adoption for the cases that were converted from ordinary adoption and those that were newly granted. As shown, conversions comprised as many as 50% of special adoptions in 1988 and 1989, 28% in 1990, and 15% in 1991. In other words, the demand creation effect is even smaller than it at first appeared. The share of special adoptions in child adoption has been at about 25% during 1998–2008, suggesting that (conditional on being restricted to married couples adopting a child under age 6) sentimental adoption constitutes at most one quarter of all child adoptions in Japan today.

To distinguish the sorting and demand creation effects more clearly, in **Figures 6-A** to **6-F**, I compare the characteristics of adopted children and APs before and after 1988 by the form of adoption. If these characteristics differ across the two adoption forms, it suggests a sorting effect, while the demand creation effect should change the average characteristics of *all* child adoptions before and after 1988 by attracting a particular type of APs.

The sorting effect is most clearly seen in **Figure 6-A**, which shows the percentage of unrelated child adoptions (adoptions by nonrelatives) in special child adoptions, ordinary child adoptions, and all child adoptions (special and ordinary combined) from 1980 to 1998[16]. While the average share of unrelated adoptions stayed roughly constant at about 50% during the whole sample period, unrelated adoptions comprised a much higher proportion of special adoptions (83% in 1998) than of ordinary adoptions (35% in 1998). In other words, the reform did not attract new APs with a preference for unrelated children. Instead, it promoted sorting among the existing pool of APs. Turning to the sex of the adopted child, anecdotal evidence suggests a strong preference for baby girls among married couples without children seeking to adopt (Hayes and Habu 2006, 40, 101), which should result in a lower male ratio in special adoptions than in ordinary adoptions. Somewhat surprisingly, however, I find no evidence for such sorting. **Figure 6-B** presents the percentage of male children in special, ordinary, and all child adoptions during 1980–98. The average male ratio in all adoptions was roughly 50% across all years, and the same observation holds for both ordinary and special adoptions.

Figures 6-C present the percentage of

Fig 6-A. Ordinary vs. Special Child Adoption, 1980-98: Unrelated Adoption

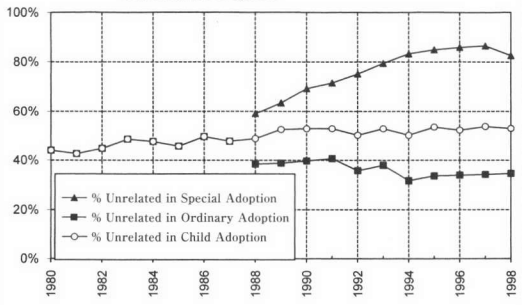


Fig 6-B. Ordinary vs. Special Child Adoption, 1980-98: Sex of the Child

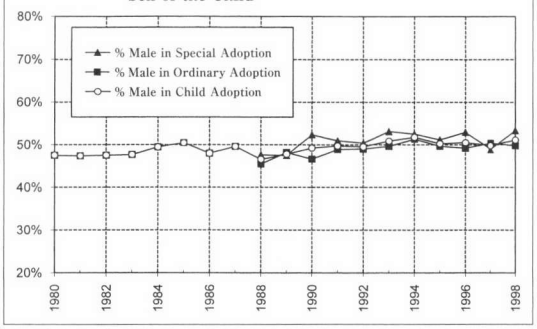


Fig 6-C. Ordinary vs. Special Child Adoption, 1980-98: Child Aged 0-4

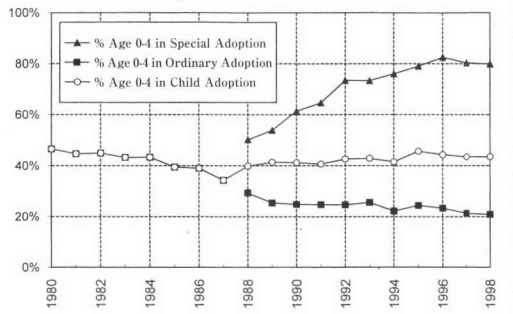


Fig 6-D. Ordinary vs. Special Child Adoption, 1980-98: Adoptive Parents with No Bio. Children

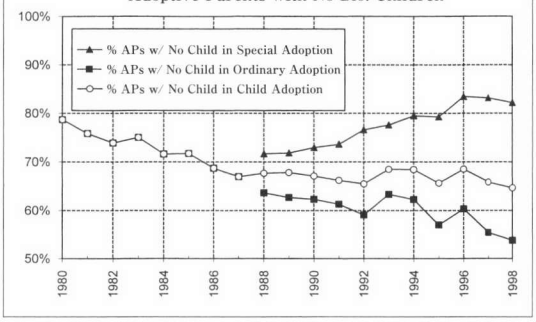


Fig 6-E. Ordinary vs. Special Child Adoption, 1980-98: Child Born Out-of-Wedlock

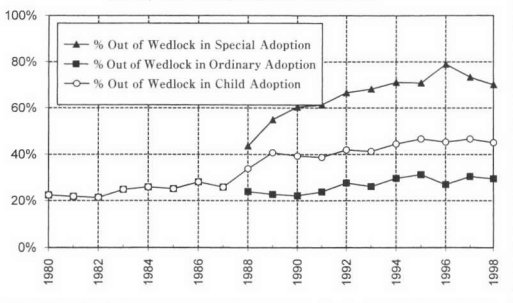
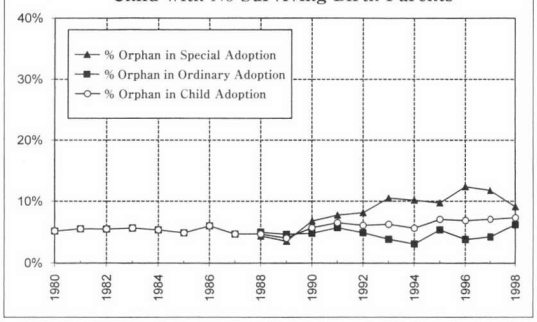


Fig 6-F. Ordinary vs. Special Child Adoption, 1980-98: Child with No Surviving Birth Parents



children aged 0-4 in special, ordinary, and all child adoptions during 1980-98. Special adoption, almost by definition, attracts parents adopting a younger child compared with ordinary adoption. While the percentage of children aged 0-4 in all adoptions remained constant at 40%, by 1998 it had risen to 80% for special adoptions and fallen to 20% for ordinary adoptions. Once again, I find strong evidence for sorting but little evidence for demand creation. **Figure 6-D** presents the percentage of APs with no surviving biological children in special, ordinary, and all child adoptions. Although somewhat subtle, the clear declining time trend in the share of childless couples in all APs in 1980-88 shifted to a more or less flat time trend in 1989-98, indicating some demand creation effect[17]. Namely, the reform likely generated a new demand among couples without children who would not have adopted under ordinary adoption. In 1998, as much as 80% of special adoptions were made by couples without biological children, indicating the importance of infertility as a motive for special adoption.

Figure 6-E presents the percentage of adoptive children who were born out of wedlock in special, ordinary, and all child

adoptions. As shown, the share of out-of-wedlock children is much higher in special adoptions than in ordinary adoptions (70% vs. 30%). Moreover, the average percentage of out-of-wedlock children increased more than 10 percentage points from the pre- to post-reform period. These results indicate that the reform had both strong sorting and demand creation effects. Finally, **Figure 6-F** presents the percentage of adopted children with no surviving BPs (i.e., orphans) in special, ordinary, and all child adoptions. The percentage of orphans in all adopted children increased from 5% before the reform to 7% after the reform, led by an increase in the number of adopted orphans in special adoption. Although the magnitude is small, the results indicate both sorting and demand creation effects. To the extent that the adoption of an orphan is motivated by altruism, this suggests that special adoption may also be conducive to altruistic adoption[18].

To summarize the main findings, the introduction of the modern adoption law had only a modest effect in increasing the demand for child adoption in Japan. This implies that the lack of secure and exclusive parental rights for APs may not have been a major reason for the low child adoption rate in Japan. At the same time, however, it should be noted that the law imposes relatively strong restrictions on APs and children to be eligible for special adoption, which may have reduced the demand creation effect. By contrast, I find that the reform generated strong sorting behaviors among APs that are consistent with the theoretical predictions. Parents were more likely to choose special adoption if they had no biological child of their own and if the adopted child was an infant (but not necessarily female), unrelated by blood, born out of wedlock, or orphaned. As expected, most of these characteristics are strongly associated with sentimental adoption.

3.3 Infertility Treatment and Child Adoption, 1985-2007

Recent progress in infertility treatment has dramatically improved the probability of couples with fertility problems having a biological child. Two major advancements were the introduction of fertility drugs in the late 1960s and the introduction of in vitro fertilization in the early 1980s, the most common form of assisted reproductive technology (ART) available today. In the U.S., more than half of women who received infertility treatment are reported to have also considered adopting a child, and there is some empirical evidence that the use of ART and the demand for child adoption are negatively associated (Gumus and Lee 2010). How widespread is ART in Japan, and how does it compare with the number of child adoptions?

Figure 7-A presents the number of ART cycles performed and the number of resulting live births (ART births) in Japan and the U.S. during 1983-2007[19]. As shown, the number of ART cycles in Japan increased dramatically in the 1990s, overtaking those in the U.S. by 2007. In Japan, the number of ART births rose from 5,687 in 1995 to 19,595 in 2007, while it rose from 16,520 to 57,569 in the U.S. during the same period. Of course, not every ART cycle results in a live birth. In the U.S., due to medical progress, the average number of ART cycles required to produce one live birth declined from 8.2 in 1987 to 2.5 in 2007. In Japan, it declined from 9.5 in 1989 to 5.5 in 2002, but began to increase since then, reaching 8.2 by 2007. This latest increase may be an indication of couples with more difficult fertility problems receiving treatment. **Figure 7-B** presents the ART birthrates (the number of ART births per 1,000 births) in Japan and the U.S. As shown, the ART birthrate in Japan has consistently been higher than that in the U.S. since 1993, reaching 18.0 per 1,000 births by 2007. In other words, as much as 1.8% of Japanese babies born in 2007 were assisted through advanced infertility treatment. These data clearly indicate that the demand for ART in recent years is higher in Japan than in the U.S.

To what extent is child adoption in Japan a substitute for infertility treatment for couples with fertility problems? In particular,

Fig 7-A. The Use of ART in Japan and the U.S., 1983-2007

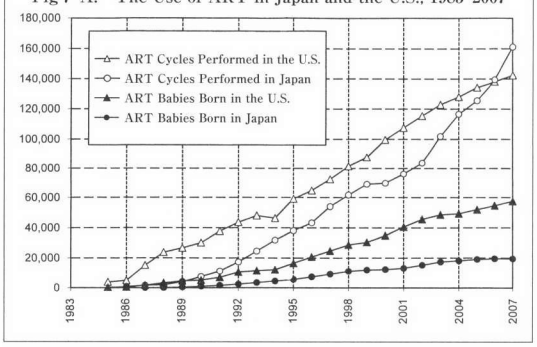


Fig 7-B. ART Birthrates in Japan and the U.S., 1983-2007

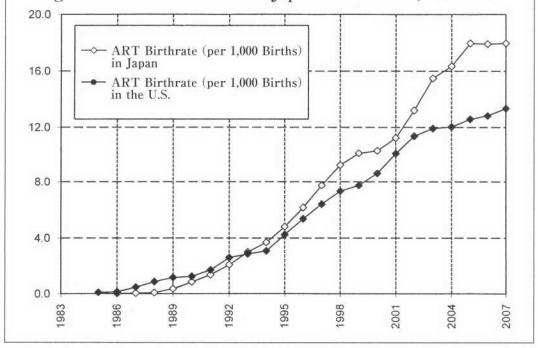
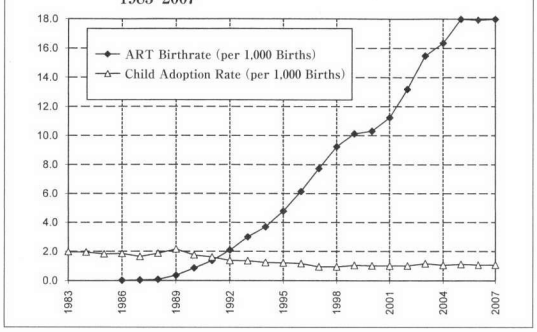


Fig 7-C. ART Birthrate & Child Adoption Rate in Japan, 1983-2007



as the introduction of ART in 1986 roughly coincided with the introduction of special adoption in 1988, the availability of ART may have reduced the very demand that the reform targeted. To examine this possibility, **Figure 7-C** compares trends in the ART birthrate and the child adoption rate in Japan from 1983 to 2007. As shown, the ART birthrate surpassed the adoption rate by 1992 and was ten times higher by 2000. While the ART birthrate rose dramatically from 1989 to 2005, the child adoption rate declined only slightly during the same period, which may suggest a low degree of substitution. Moreover, as we observed in **Figure 6-D**, the declining trend in the share of childless APs predates the introduction of ART, indicating that adoption demand among infertile couples may already have been in decline. The low demand for sentimental adoption in recent decades in Japan could be due to a high parental premium on biological children or a strong social stigma against child adoption. However, as we observe in the next section, infertility was a leading motive for parents adopting children in the 1950s.

3.4 Parental Motives to Adopt in Japan, 1953-65

For the years 1953-65, the detailed adoption tables in the judicial statistics include data on the parental motivations for child adoption, cross-tabulated with selected characteristics of the APs and the adopted children (age under 20). These data enable us to directly observe the correlations between parental motivations and the parental or child characteristics. The period 1953-65 is of great interest as the child adoption rate in Japan was at its highest in the early 1950s and began to decline sharply in the mid-1950s. What was the major driver of adoption demand when child adoption was more common? If early adoption was driven by the presence of thousands of orphaned and abandoned children in the aftermath of WWII, then we expect altruism to be a major cause of child adoption. Alternatively, if many parents delayed childbearing or lost their children during WWII and found themselves with fewer chidlren than they desired, we expect high demand for sentimetnal (and pragmatic) adoption after the war.

In a typical year, the original tables list nine separate reasons for adopting a child and report the distribution of APs across these categories (multiple responses are not allowed). The nine categories are: (1) had no or too few biological children and "felt lonely", (2) had daughters only and wanted a boy, (3) had sons only and wanted a girl, (4) to maintain the family business, (5) to maintain the family name, (6) to entrust the family estate, (7) to protect or save the child, (8)

Table 1. Parental Motivations for Child Adoption in Japan

Type of Adoptive Parents (APs)	No. of Child Adoption	*Infertility*	*Sex Preference*		*Family Inheritance*			*Altruism*		*Others*	Total (1)-(9)
		(1) Had No or Too Few Bio. Children	(2) Had Daughters & Wanted Boy	(3) Had Sons & Wanted Girl	(4) To Maintain Family Business	(5) To Maintain Family Name	(6) To Entrust Family Estate	(7) To Protect or Save Child	(8) Have Raised Child Since Small	(9) Other Motives	
Panel A											
All APs in 1953-61	224,406	70.8%	1.3%	1.2%	1.7%	1.6%	1.3%	11.9%	7.4%	2.8%	100.0%
APs Adopting Unrelated Child	89,236	72.8%	1.3%	1.4%	1.5%	1.1%	0.8%	11.5%	6.7%	2.9%	100.0%
APs Adopting Related Child	135,170	69.5%	1.3%	1.1%	1.9%	1.9%	1.6%	12.1%	7.9%	2.7%	100.0%
APs w/ High Wealth	12,204	62.7%	2.2%	2.1%	3.4%	1.1%	2.0%	16.9%	6.3%	3.4%	100.0%
APs w/ Low Wealth	21,621	66.1%	1.0%	0.9%	0.8%	3.5%	1.5%	10.5%	10.6%	5.1%	100.0%
Panel B											
All APs in 1959-63	60,738	67.3%	1.4%	1.2%	2.1%	1.7%	1.7%	13.8%	9.1%	1.7%	100.0%
APs Adopting Boy	27,663	64.5%	2.9%	0.0%	3.0%	2.0%	2.1%	13.9%	9.4%	2.1%	100.0%
APs Adopting Girl	33,075	69.7%	0.1%	2.2%	1.3%	1.3%	1.4%	13.7%	8.8%	1.5%	100.0%
Panel C		(1)	(2)&(3)		(4)&(5)		(6)	(7)	(8)	(9)	
All Married APs in 1962-65	51,527	72.6%	1.8%		1.8%		0.5%	14.7%	8.3%	0.2%	100.0%
APs w/ Biological Child	9,120	22.6%	10.2%		2.7%		0.5%	40.2%	22.8%	1.0%	100.0%
APs w/ No Biological Child	42,407	83.3%	0.0%		1.6%		0.6%	9.2%	5.2%	0.1%	100.0%

had raised the child since small and wanted to formally adopt, and (9) others. I refer to category (1) as an "infertility" motive (including parents who lost a child and were unable to replace the child by bearing another) and categories (2)-(3) as "sex preference" motives. Because APs in the first three categories are more likely to treat the adopted child as their own biological child, I expect categories (1)-(3) to be associated primarily with sentimental adoption, but also with pragmatic adoption insofar as parents are pragmatically motivated to have a biological child for their labor value or old age insurance. I refer to categories (4)-(6) as "family inheritance" motives and expect them to be associated purely with pragmatic adoption. Categories (7)-(8) are "altruistic" motives as the primary beneficiary is the child, and I expect these motives to be associated exclusively with altruistic adoption.

In **Table 1, Panel A** presents the percentage distribution of APs for years 1953-61 across the nine motives by their relation to the adopted child (unrelated or related) and their wealth (high or low). As the distribution patterns are fairly consistent across the sample years, I pool the data in 1953-61 to increase the number of observations (and thus gain statistical confidence) to total 224,406 cases of child adoption. As shown, 70.8% of APs reported infertility motives, 2.5% claimed sex preference motives, 19.3% had altruistic motives, and 4.6% reported family inheritance motives. When APs are divided between those who adopted a related child (typically a nephew or niece, as grandchildren are excluded) and those who adopted an unrelated child, unrelated APs constituted 40% of all APs in the period 1953-61. Unrelated APs were motivated more by infertility reasons (72.8% vs. 69.5%), while related APs were motivated more by family inheritance reasons (5.4% vs. 3.4%) and altruism (20.0% vs. 18.2%). When we compare APs with "high wealth" (comprising roughly the top 5% of all APs) and APs with "low wealth" (roughly the bottom 10%), wealthy APs were motivated consider-

ably more by sex preference (4.3% vs. 1.9%), only slightly more by family inheritance (6.5% vs. 5.8%) and altruism (23.2% vs. 21.1%), and less by infertility reasons (62.7% vs. 66.1%). Notable variations appear in the compositions of both family inheritance and altruistic motives. As one may expect, high-wealth APs were motivated more by the succession of the family business, while low-wealth APs cared mainly about the continuation of the family name. Within altruistic motives, high-wealth APs were motivated more by an active form of altruism ("to save the child"), while low-wealth APs were motivated by a more passive form of altruism ("having raised the child since small"). With respect to sex preference motives, it is interesting to compare the figures reported in categories (2) and (3). If parents have a strong son (daughter) preference, then one should observe much higher (lower) shares in category (2) than in category (3). Although the difference is small, the share of APs wanting a boy (because they had only girls) is higher than that of APs wanting a girl (because they had only boys) in most of the AP subgroups in Panel A. The data suggest that, concerning the sex of (biological and adopted) children, parents may have had a slight son preference in the 1950s[20].

Panel B in **Table 1** presents the percentage distribution of APs across parental motivations by the sex of the adopted child for the years 1959-63 (unfortunately these are the only years such tabulations are available). Among 60,738 cases of child adoption during this period, 27,663 or 45.5% of the adopted chidlren were male and 33,075 or 54.5% of the adopted chidlren were female. If adoption was not constrained by the availability of adoptable chidlren, this indicates a parental preference for adopting a girl. Infertility motives were more important for parents adopting a girl than for those adopting a boy (69.7% vs. 64.5%), which may be a further indication of a parental preference for a girl in sentimental adoption. By contrast, family inheritance was a more important reason for adopting a boy than a girl (7.1% vs. 4.0%). Altruistic motives were also more important when adopting a boy compared with a girl, but the difference was small (23.3% vs. 22.5%).

Panel C in **Table 1** reports the percentage distribution of married APs across parental motives by the presence of a biological child for the years 1962-65 (once again, these are the only years such data are available). Among 51,527 cases of child adoption by married APs, only 9,120 or 17.7% of them had at least one surviving biological child while the rest had no surviving biological children. Among married APs with a biological child, as much as 63.0% were motivated by altruism, 22.6% by infertility ("having too few children"), 10.2% by sex preference, and 3.2% by family inheritance. Among married APs without biological children, a large majority (83.3%) was motivated by infertility as one may expect, yet a sizable share (14.4%) was motivated by altruism, and only 2.2% by family inheritance.

Finally, to see if the relative importance of parental motivations changed during the 1953-61 period, I compare the percentage distribution of APs in 1953-54 to those in 1960-61. Among all APs, the share of infertility motives *fell* markedly from 73.7% to 66.0%, while the shares of both altruistic and family inheritance motives rose substantially from 16.8% to 24.4% and from 3.7% to 5.9%, respectively. The share of sex preference changed little from 2.4% to 2.7%. The patterns across the different types of APs (relations and wealth level) were remarkably consistent between the two periods, thereby confirming the findings in Panel A.

In summary, in the 1950s, as much as 70% of child adoptions were motivated by infertility (i.e., having no or too few surviving biological children), 20% by altruism, 5% by family inheritance, and 3% by sex preference reasons. I have also shown that: (i) adoptive parents motivated by infertility (i.e., mostly sentimental adopters) were more likely to have no biological child of their own, have lower wealth, and adopt an unrelated child that was more likely to be female; (ii) adoptive parents motivated by altruism (i.e., altruistic adopters) were more likely to have

a biological child, have higher wealth, and adopt a related child that was slightly more likely to be male; and (iii) adoptive parents motivated by family inheritance (i.e., pragmatic adopters) were strongly associated with having a biological child, having higher wealth, and adopting a related male child (most commonly, a nephew). These results indicate that infertility motives were by far the most important reason for adopting a child in the 1950s, although altruism also played a significant role. Family inheritance was not an important motive in adopting a child. From 1953 to 1961, the share of infertility motives declined, while the shares of altruism and family inheritance motives rose. The rise of altruism and the fall of infertility motives in the 1950s are seemingly inconsistent with the hypothesis that the early demand for adoption was driven by altruism in the presence of orphaned or abandoned children from WWII. This point is further examined in the following section.

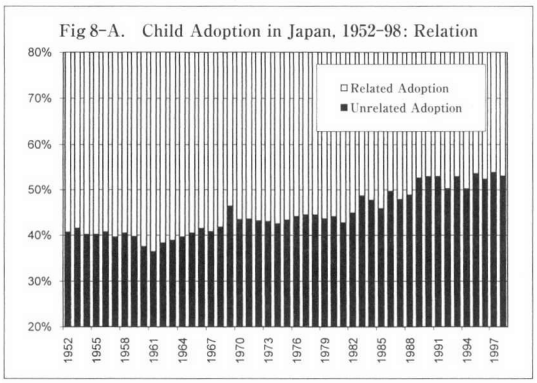
3.5 Changes in the Composition of Adopted Children, 1952–98

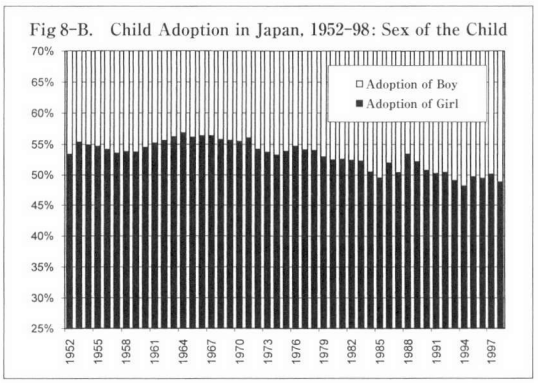
Using **Figures 8-A** to **8-F**, I present changes in the composition of APs and adopted children during 1952–98. My goal is to infer underlying changes in parental motivations using the correlations between these motivations and the parental or child characteristics observed in the previous sections. Roughly speaking, the figures show that: (i) the share of unrelated adoptions in all child adoptions increased gradually from 40% to 50% from the 1950s to the 1990s; (ii) the share of female adopted children declined (with some fluctuations) from 50% to 45% during the same period; (iii) the share of childless APs rose in the first half of the 1960s but fell steadily from 80% to 65% during the remainder of the period; (iv) the share of adopted children aged 0–4 increased sharply from 30% to 40% in the 1960s, then decreased steadily until the 1988 reform; (v) the share of out-of-wedlock children among adopted children increased slowly from just 10% in 1952 to 25% in 1987, and then rose sharply after the reform, reaching 45% by 1998; and (vi) the share of orphans among adopted children has been fairly low throughout the period, fluctuating between 5% and 7%, but there are some signs of an increase since the 1988 reform.

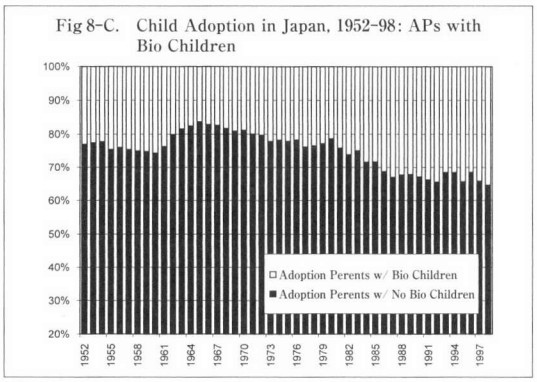
It is useful to divide the period into four subperiods in discussing these trends: namely, 1952–60, 1960–73, 1973–88, and the 1988–98 postreform period. In the 1950s, when the child adoption rates began to fall sharply in Japan, all of the changes consistently imply a falling share of sentimental adoption against those of pragmatic and altruistic adoptions (i.e., a decline in APs without children as well as in younger, unrelated, female, and nonorphaned adopted children), confirming the findings in the previous section. Namely, the decline in child adoption may have begun with falling demand for sentimental adoption. From 1960 to the early 1970s, however, pragmatic and altruistic adoptions appear to have declined faster than sentimental adoption, as indicated by the rising shares of APs without children and of adopted children who were younger, unrelated, nonorphaned, and born out-of-wedlock. From the early 1970s to 1988, the evidence is mixed and difficult to interpret. The declining shares of the childless APs and the younger female children point to a falling share of sentimental adoption, although the increasing shares of unrelated and out-of-wedlock children suggest the opposite. After the 1998 reform, through a modest demand creation effect, the shares of sentimental and altruistic adoptions rose against that of pragmatic adoption, as indicated by the higher percentages of younger, orphaned, and out-of-wedlock children.

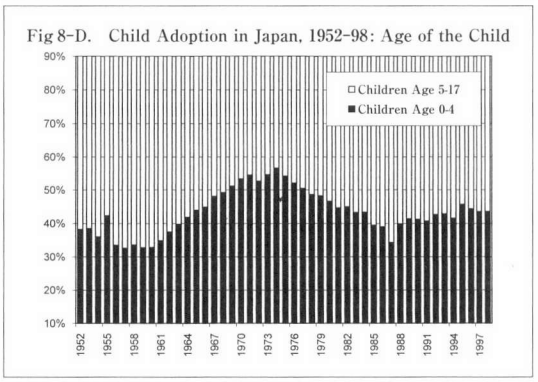
4. Concluding Remarks

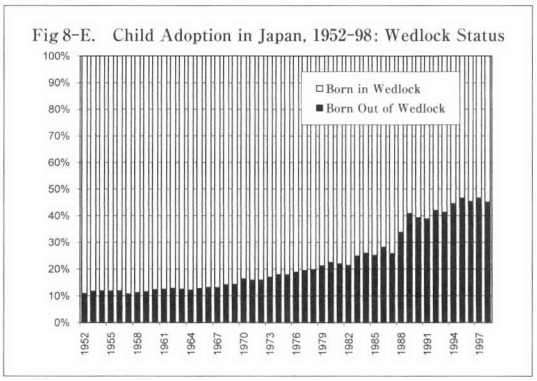
Informed by U.S. experience and taking advantage of rich government records, in this article, I presented historical trends in child adoption in Japan since WWII and examined what motivated parents to adopt children. It was shown that the rate of child adoption was surprisingly high (16.0 per 1,000 births) in the early 1950s, but then declined continuously over the next fifty years, down to 1.0 per

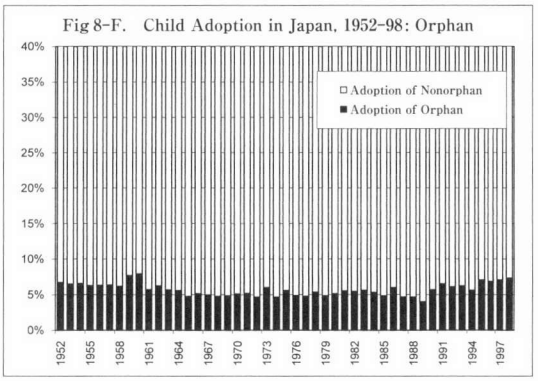












1,000 births today. In the early decades of this period when adoption was more common, I found that as much as 70% of child adoptions were motivated by infertility ("having too few children"), 20% by altruism ("to save the child"), and only 5% by family inheritance. I also found stable correlations between parental motives and the characteristics of the adopted children that are consistent with the theoretical predictions. Most notably, parents motivated by infertility were more likely to adopt an unrelated female child in the absence of their own biological child, while parents motivated by altruism were more likely to adopt a related child of either sex in addition to their biological child.

In Japan, the 1988 legal reform introduced an option for adoptive parents to establish exclusive parental rights under the name of special adoption. I found that although the reform had only a modest effect in creating new demand for child adoption, it generated strong sorting behaviors among adoptive parents that are consistent with the demand-side theory. In particular, adoptive parents are more likely to choose special (as opposed to ordinary) adoption when adopting a younger, unrelated, out-of-wedlock, or

orphaned child in the absence of their own biological child. Why did the reform fail to generate higher demand for sentimental adoption? Possible explanations are: (i) the new law was too restrictive in capturing the potential demand for sentimental adoption, (ii) the demand for sentimental adoption was already low even before the advancements in assisted reproductive technology, or (iii) the demand was constrained by the supply of adoptable infants. As noted above, the changes in the composition of child adoption over the past fifty years are complex and cannot be fully explained by demand-side factors alone. To better understand the reasons for the declining child adoption rate in Japan, I plan to incorporate supply-side analysis in future work.

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Notes

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1) See U.S. Census Bureau (2003), National Adoption Information Clearinghouse (2004), National Council for Adoption (2007), and U.S. Department of Homeland Security (2005).

2) Estimates based on records from the Japanese Supreme Court (1998-2008).

3) Although adult adoption is the predominant form of adoption in Japan (as shown below), it is rarely practiced in other countries, including the U.S. For a detailed discussion of adult adoption in Japan and elsewhere, see Mehrotra et al. (2010).

4) These figures do not include children who receive care in institutions because of mental, physical, or emotional disabilities (Japanese Ministry of Health, Labor, and Welfare 2000-08).

5) Before 1948, child adoption was not clearly distinguished from adult adoption in Japan, and adoption could be arranged between two consenting parties without court approval (Hayes and Habu 2006, 13-16).

6) Adoption of one's own illegitimate child also does not require court approval.

7) The existence of secret adoptions was first openly acknowledged by an obstetrician in the 1970s. By some accounts, the practice continues to date, and there are "hundreds" of unauthorized adoptions each year (Hayes and Habu 2006, 3-4).

8) The jump in 1966 (a year of the Fire Horse) is the result of a 25% decline in the number of births resulting from the superstition associated with that year (see Akabayashi 2006).

9) The declining marriage rate in Japan may partly explain the trend.

10) Because I compute the number of adult adoptions simply by subtracting the number of child adoptions in the judicial statistics from the number of all registered adoptions, "adult adoption" in Figure 2 includes stepchild and grandchild adoptions.

11) See Bitler and Zavodny (2002) for an empirical analysis identifying this effect using state-level variations in the timing of abortion legalization.

12) The availability of the oral contraceptive pill for unmarried women in the early 1970s also had some effect in reducing the number of unwanted pregnancies (Goldin and Katz 2002).

13) For instance, waiting time for adopting an unrelated infant in Japan is much shorter than that in the U.S. (3-6 months vs. 2-4 years). While virtually no Japanese families adopt chidlren from abroad, more than 30 Japanese children are adopted by U.S. citizens every year (U.S. Dept. of Homeland Security 2000-08). See also Yuzawa (2001, 19-22).

14) See Moriguchi (2009) for a theoretical model underlying the following discussion.

15) The figures for 1999-2008 are estimates based on the number of ordinary adoption cases approved (including a small number of ordinary adult adoptions) and the number of cases approved that are "related to" special adoption.

16) Note that grandparent adoption is excluded from our data, understating the share of related adoption. Note also that the actual number of unrelated adoptions in special adoptions is imprecisely measured due to data limitations.

17) I cannot test if the change in the slope is statistically significant without individual-level data.

18) Althernatively, if the number of spcial adoptions is constrained by BP's unwillingness to give up parental rights, we expect more orphans in special adoption because there is no need to obtain BP's consent (Goodmand 2000, 144).

19) Japanese data are from the Japanese Society of Obstetrics and Gynecology (1989-2009). The U.S. data are from the Society for Assisted Reproductive Technology (1987-2001) and the U.S. CDC (1997-2009).

20) This is consistent with Kureishi and Wakabayashi (2009), who find a son preference in Japan among parents born before 1940 and a mixed preference among parents born after 1940.

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