THE ECONOMICS OF CHILD ADOPTION

by

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ABSTRACT

Half a million children linger in foster care every year over the last decade (AFCARS, 2006). Adoption from foster care and having a consistent family is recognized as a better outcome for a child. In the United States demand for adoptive children has consistently exceeded their supply. Despite this excess demand there are more than 125,000 children waiting to be adopted in foster care every year. The magnitude of the number of children in foster care is therefore troubling and unexplained. Yet, economists have given little attention to studying the issues in child adoption. In this study I attempt to comprehensively examine the impact of changing trends in international and independent adoptions, live births from assisted reproductive technology on the adoption outcomes of children from foster care. I show that international adoptions, independent adoptions and assisted reproductive technology affect the adoption outcomes of children in foster care adversely.

CHAPTER 1

Introduction

A million children are estimated to be victims of neglect every year in the U.S (DHHS, 2008). More than half a million children have lingered in foster care every year in the last decade (AFCARS, 2006). Hundreds of articles in the academic literature argue that depriving children of a consistent family impair their emotional, intellectual and overall development[1]. Adoption from foster care and having a consistent family is recognized as a better outcome for a child in much of this literature. In the United States demand for adoptive children has consistently exceeded their supply. Despite this excess demand more than 125,000 children wait to be adopted in foster care every year. The number of children in foster care is both troubling and unexplained.

The phenomena of child adoption traces far back in human civilization with biblical references to the story of Moses adopted by the Pharoah (Javier et al., 2007). However, in recent years the nature of adoption has changed dramatically in the U.S.(Brooks et al., 2005). Firstly, there has been a rising trend in international adoptions - the numbers have more than trebled in just over a decade(DHHS, 2004). Since the number of total adoptions has remained steady at about 125,000 children every year - the share of international adoptions has increased as percentage of total adoptions (ibid). These changes have been accompanied by a shift in trends of abortions and that of live births due to assisted reproductive technology. Recent articles suggest indicate that increased abortions have an impact on the number of

[1]For a sampling of academic literature, see the 2007 published Handbook of Adoption

children available for adoption by reducing the number of children relinquished for adoption(Bitler and Zavodny, 2002b). On the other hand change in live births due to assisted reproductive technology may affect the demand for adoption. Together, these transformations could have wide-ranging impacts on the market for adoption and thereby the outcome of children in foster care. Adoption has been studied under the lens of sociology and psychology with considerable focus on adoptive child outcomes and family formation (Esposito and Biafora, 2007). On the other hand, careful attention has not been given to explain the coexistence of excess demand for adoptive children and increasing child population in foster care. No study to my knowledge has attempted to comprehensively examine the impact of changing trends in international and independent adoptions[2] and live births from assisted reproductive technology on the adoption outcomes of children from foster care. In part the purpose of this work is to make a case for economists to be interested in child adoption and how the conventional economic tools can illuminate on the workings of this market.

In this work I examine the economics of child adoption with particular attention to children in foster care. In the next section I overlay my hypothesis on a survey of relevant literature. It is followed by a section on the context for the study, the analytic approach and empirical strategy. Finally a section on the data is followed by a discussion of the results.

[2]Domestic adoption outside foster care

CHAPTER 2

Literature

2.1 Past work

Economists may not be the only social scientists guilty of neglecting the issue of adoption. Most of the early research on adoption was narrow in focus and suffered from serious methodological limitations (Brodzinsky et al., 1998). Research has been primarily descriptive and cross-sectional in nature. Even the bulk of recent literature on adoption and foster care has focussed on behavioral, emotional and psychological implications for the triad members - biological parents, child and adoptive parents (Javier et al., 2007).

Landes and Posner (1978) in an early paper (and possibly the only exception in the economics literature) developed a model of supply and demand for babies under the then existing pattern of government regulation. They showed, (1) how regulation had created a baby shortage by preventing the free market from equilibrating the demand for and supply of babies for adoption and (2) how regulation contributed to a glut of unadopted children maintained in foster homes at public expense. In the new spirit of the economics of non-market behavior they attempted to sketch how the world would look if a free market in babies was permitted to come into existence and the problem of foster care. With the publication of Becker's "A Treatise on the family" and the emergent literature on the economics of the family, one would suspect that the adoption issue and the problem of large number of children in foster care would have received considerable attention. To my knowledge it has not.

The closest literature in economics on child outcomes has been on the issue of abortion. The implication of the nationwide legalization of abortion with the 1973 *Roe v. Wade* decision by the Supreme Court has been examined in many dimensions by economists in recent years. Gruber et al. (1999) examine the impact of increased abortion availability on the average living standards of children through selection effort. To gauge the effect on living standards they use variation in the timing of abortion legalization across the states - which has been used by several researchers to show causal relationship including reduction in crime (because of legalization of abortion) (Donohue and Levitt, 2001). Gruber et al., find that the marginal child would have been 40-60 percent more likely to live in a single-parent family, to live in poverty, to receive welfare, and to die as an infant. In a related research Ananat et al. (n.d.) indicate that much of the reduction in fertility at the time abortion was legalized was permanent in that women did not have more subsequent births as a result. They also find the reduction in subsequent births is largely attributable to an increase in the number of women who remained childless throughout their fertile years. The Donohue and Levitt (2001) paper argues that as much as 50 percent of the drop in crime in the nineties could be attributed to legalized abortion. Bitler and Zavodny (2001) use data on distribution of abortions by weeks of gestation to examine the relationship between abortion restrictions and the timing of abortions. The same authors in a paper more relevant to this study estimated there was a sizable effect of abortion legalization on adoption rates. Their paper provides further evidence to previous studies' conclusions that abortion legalization led to a reduction in the number of "unwanted" children; and such a reduction may have improved average infant health and children's living conditions.

2.2 Theoretical underpinnings

It may not be apparent how the economic models of fertility and abortion could inform understanding the economics of adoption. Levine (2004) in his book "Sex and Consequences" applied the tools of economic analysis to understand behavioral responses and their implications for policy. He shows that abortion availability could be viewed as a form of insurance. The primary feature of abortion is that it provides protection from downside risk in the form of giving birth to a child that is unintended. On the other hand, if this form of insurance is available at very low cost, it may lead to changes in behavior that could lead to adverse outcomes. Specifically, it may alter decisions regarding sexual activity and contraception that would affect the likelihood of becoming pregnant. Some of these ideas were elucidated by Posner (1992) in his book "Sex and Reason" - describing the social costs and benefits of unwanted births that may result if abortion was illegal and suggesting how abortion policy should be framed.

Standard economic models treat changes in abortion policy as a change in the cost of abortion. Incorporating the demand for adoptive children in this framework can be seen as introducing a choice in the fertility decision of women. Increased demand for adoptive children is likely to lower the expected costs of bearing a unintended child due to the increased possibility of adoption. If the expected costs of giving birth are lower than the costs of abortion - an unintended pregnancy would go unaborted and the child would be available for adoption. The market for adoption can behave as a possible substitute for abortion. If the demand for adoption is sufficiently high, the probability of adoption is correspondingly higher for a child as against the probability of the child entering foster care. It is reasonable to assume that a biological mother would prefer a child to be adopted in a (good)

family rather than enter the foster care system. Therefore, higher probability of adoption will lower the expected cost of birth for a pregnant woman. Consequently, we could expect more children to be supplied to the adoption market by expectant mothers choosing adoption over abortion. Therefore the probability of adoption could act as a equilibrating force in the market for child adoption.

The same reasoning could be applied to understand how restrictive abortion policies like Medicaid funding restrictions should lead to increased costs of abortion leading to more children supplied to the adoption market. On the contrary, lower costs of abortion - both economic such as removal of parental consent laws and mandatory waiting periods and social such as liberal attitudes to abortion - may reduce the supply of children into foster care. Bitler and Zavodny (2002) provide empirical evidence by examining variation in adoptions at the state-level. In this study, I provide further evidence for the substitution effect of abortion and adoption by using individual level data on adoptions from foster care.

I examine two other effects with direct impact on outcomes of children in foster care never investigated previously - increasing international adoptions and dramatic improvements in assisted reproductive technology. I show that they independently and jointly affect the probability of adoption of children from domestic foster care.

CHAPTER 3

Context and Methodology

3.1 Current Trends

Adoption grew in popularity as a form of family creation in the U.S. through the 1950's and 60's, with annual legal adoptions doubling in number from 91,000 in 1957 to 175,000 in 1970 (Biafora & Esposito, 2007). A gradual downturn began during the early 1970's coinciding with the gradual legalization of abortion in some states in the U.S. and the eventual nationwide legalization in 1973. Estimates on the numbers of adoption indicate that they have been steady at around 125,000 children annually through the 1980's and 1990's. In the meantime, the composition of the adoptions from different sources have moved in varied directions. For decades, the prevalence of adoptions from public foster care has lagged behind private/independent adoptions (U.S. Department of Health and Human Services, 2004). More recent evidence seems to demonstrate the beginning of a trend whereby private adoptions have lowered in proportion.

Recent reported increases in public foster care adoption have been attributed to the ASFA (Adoption and Safe Families Act) of 1997 which seeks to improve child outcomes - by terminating parental rights within mandated time frames to speed the process of adoption and authorizing financial incentives to increase the number of completed adoptions(Biafora & Esposito, 2007). With 47,000 completed adoptions from foster care in 1999 compared to 25,000 in 1995 - larger proportion of children under state care appear to be placed into permanent families than ever before.

Alongside there has been a consistently rising trend of international adoptions in the U.S. over the past decade(Figure 3.1). Close to 175,000 foreign children were adopted cumulatively between 1994 and 2004, a 175% increase in just one decade (U.S. Department of State, 2005). With the total adoption numbers remaining steady, the international adoptions therefore has a growing share of the U.S. adoption market.

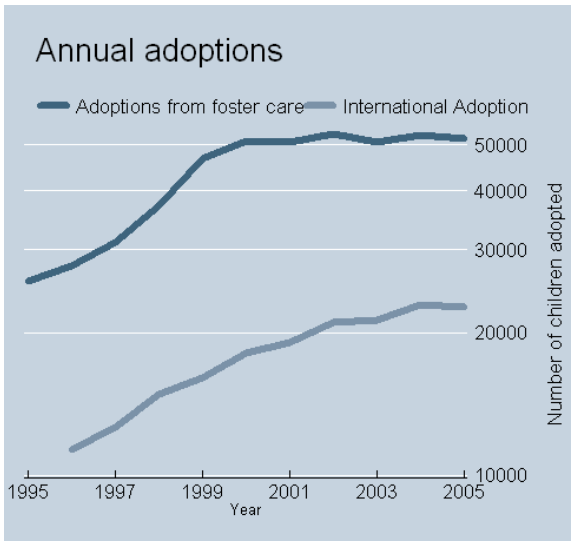

Figure 3.1: Adoptions in the US, 1995 - 2005

Domestic adoptions outside foster care - either independent adoptions or through private agencies have remained steady over the past decade. The data on independent adoptions are scarce and available only for about 30 states in the last ten years. I use the data on total reported adoptions for these states to compute the numbers on domestic adoption by deducting adoptions for international and from foster care to arrive at other adoptions, either independent or through private agencies. Along with the international adoptions, the domestic independent adoption market constitutes the alternative market to adopt children from foster care.

The effect of restrictive abortion laws on the supply of children into foster care has

been investigated earlier with state - level data on adoptions and adoption through foster care (Gennetian, 1999; Bitler and Zavodny, 2002). The Gennetian paper shows evidence that abortion access affected the supply of infansts relinquished for adoptions through two different ways. First, the availability of abortion providers has the expected effect of reducing the supply of infants relinquished, particularly relative to the demand for abortion. Second, abortion law has an unexpected negative effect. This suggests that as abortion laws become more restrictive the total number of unwanted births may decrease.

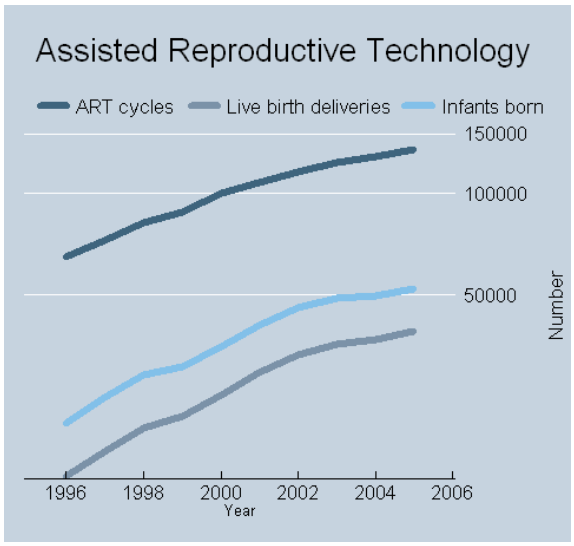

Figure 3.2: Trends in Assisted Reproductive Technology, 1996 - 2005

On the demand side of adoption, I examine if the increasing births due to assisted reproductive technology has shrunk the number of potential adopters. Improvements in success rates of births due to in-vitro fertilization would render possibilities of biological parenting to couples. A steep rise in live births through assisted reproductive technology could result in lower demand for non-biologically related children or adoptive children. I use data on live births through IVF which varies over the states across time to account for this demand substitution.

3.2 Analytic Approach

A model of the adoption market should incorporate the multiple sources of supply - public adoptions through foster care, private or independent adoptions and international adoptions. The demand for adoptive children from foster care would be determined jointly with demand for adoptive children from private agencies (private or independent adoptions) and the demand for international adoptions. The number of children adopted reflects both the supply and the demand for relinquished children. While estimating the probability of adoption from foster care - I account for the possibility of substitutions through the independent adoptions and international adoptions. I also incorporate demand shifts through improved fertility technology like in-vitro fertilization which may affect the probability of adoption.

Underlying the analysis is an economic model of fertility for supply and demand of children in the adoption market. People interested in adoptive children may have a preference and for which they may choose to go to a particular market. For instance, some adoptive parents may prefer domestic adoptions to international adoptions. Age of children could be a crucial preference parameter - usually with younger children preferred to older children. Therefore I model demand for a particular cohort of children in foster care and the substitution effect from other adoption markets and age categories. A child of a specific age will belong to a cohort and would have other individual attributes like race, health and family history of parental neglect or abuse. The equilibrium demand for a child in foster care in each of the age cohorts is determined by the equilibrium quantities of children adopted through the independent market for adoptions and the international adoptions.

The demand for adoption from foster care could be conceived as:

$$Adoption_i = F(Health_i, Q_{inter}, Q_{indep}, ART_{births}, Abortions) \tag{3.1}$$

where,

$Adoption_i$ - Adoption outcome of the child in from foster care (=1, if adopted)

$Health_i$ - Health of the child in foster care

Q_{inter} - Quantity of children adopted from the international market (immigrant children)

Q_{indep} - Quantity of domestic children adopted outside of foster care (independent adoptions)

ART_{births} - Number of live births due to assisted reproductive technology

$Abortions$ - Number of abortions

The econometric model used for estimating the probability of adoption from domestic foster care for each cohort would be:

$$A_i = \beta_0 + \beta_1 H_i + \beta_2 Q_{inter} + \beta_3 Q_{indep} + \beta_4 ART_{births} + \beta_5 Abrt + \beta_6 Controls + \epsilon_i \tag{3.2}$$

where, A_i - binary variable(= 1 if the child is adopted from foster care);

The child will belong to cohorts differentiated by age of the child - children less than 1 year old constitute a cohort and each year after that forms other age cohorts. We estimate the demand for adoption of children from foster care less than 10 years - or 10 cohorts in all.

The estimation strategy used avoids the endogeniety issue rife in modeling equilibrium quantities of demand and supply. Usually with equilibrium quantities in

each of the adoption markets - international, independent and through foster care - estimation would be mired in endogeneity issues because the aggregate quantities in one market affect the aggregate quantities in the other. In this study the quantities in the independent and international market are aggregated at the state level and therefore exogenous to the dependent variable - adoption outcome of the child which is at the individual level. This estimation technique using micro-data on adoption outcomes of an individual child as the dependent variable thereby mitigates the endogeneity problem. A texbook example of demand and supply for anchovies may clarify why there is no endogeneity in the estimation. Let the quantity of anchovies demanded by an individual (Jose) be a function of price and other variables of interest. Jose, as a price taking individual will have no effect on price at which anchovies are sold. A child adopted from foster care is expected to have a similar impact on determining the equilibrium demands in the non-foster care adoption markets.

I include abortions to account for the supply of children into foster care. Previously Bitler and Zavodny (2002) used aggregate adoptions data at the state level for the years prior to and post *Roe v. Wade* to show evidence for reduced supply to foster care and for adoptions. Increased abortions are expected to reduce supply of children to foster care and therefore should increase the probability of adoption of children in foster care. On the other hand improvements in ART may have put babies in mother's wombs that were inconceivable (pun intended) even a decade earlier. Births from these conceptions are manifested as reduced demand from parents who would otherwise have to resort to adoptions. The number of infants born through in-vitro fertilization across the U.S. has been on a upsurge in the last 10 years - about 52,000 in 2005 against 20,800 in 1996. I include ART live births in my estimation and expect it to substitute for adoptions.

I include current supply of total children in the cohort group to allow for substitution within the cohort. To remind the reader, I conceive of the demanders for children having a specific preference when they enter the adoption market - I therefore allow for the possibilities of substituting within foster children or outside foster in the adoption market. I include the quantities of children adopted in the international and independent domestic market to allow for substitution outside foster care. To allow for intra-foster care substitutions I include the number of children available in the cohort of the adoptive parents interest.

The model of demand for each cohort include demographic and economic controls in a given state and year - per capita personal income and the proportion of the adult population who have completed high school and college. This controls for possible effects of educational attainment and income growth on the adoption market. Finally I include state and year fixed-effects variables. The state fixed effects capture unobservable time-invariant factors common across all years in a given state. The year fixed effects capture time-varying factors common to all states in a given year, such as unemployment cycles and recession.

CHAPTER 4

Data

The AFCARS (Adoption and Foster Care Analysis Reporting System) data on foster care is the primary dataset used in this study. It contains case level information on all children in foster care for whom State child welfare agencies have responsibility for placement, care or supervision, and on children who are adopted under the auspices of the State's public child welfare agency. We use the AFCARS data for the years between 1995 and 2004 for our empirical analysis.

Data on children adopted internationally in the US used in the study is from the US Department of Homeland Security. The annual data for the years 1996 to 2004 has been used for the study. Data on abortions in the US is sourced from CDC (Centers for Disease Control and Prevention) and Alan Guttmacher Institute for the relevant years. Data on Assisted Reproductive Technology is from CDC.

4.0.1 AFCARS

The AFCARS is a federally mandated data collection system. AFCARS collects individual or case level information on all children in foster care for whom State child welfare agencies have responsibility for placement, care or supervision and on children who are adopted under the auspices of the State's public child welfare agency. AFCARS also includes information on foster and adoptive parents. Under federal regulations states are required to collect and submit the child level data. Prior to 1998 fiscal penalties were not applicable, therefore pre-1998 datasets are not inclusive of all states. Dramatic improvements in data quality and completeness

occurred between 1995 and 1998, since financial penalties are levied for poor quality data (AFCARS, 2000).

AFCARS was designed to address policy development and useful for researchers interested in analyzing aspects of the United States' foster care and adoption programs. In this work, I use individual level data on the child demographics including gender, race, birth date, health and other information on child attributes for the years 1995 to 2004.

4.0.2 International adoptions

The data on children adopted by citizens of United States from other countries was provided by the Department of Homeland Security for the years 1996 to 2005. The data contained information on "immigrant orphans" adopted by US citizens in each state by gender and by age groups.

4.0.3 Independent adoptions

The data on independent/other adoptions was obtained from National Center for State Courts (NCSC) for the period 1990 to 2005.

4.0.4 Abortion and IVF

The data on statewide abortion rates for the years 1995 to 2004 was sourced from the Abortion Surveilance System maintained by CDC. CDC began abortion surveillance in 1969 to document the number and characteristics of women obtaining legal induced abortions. CDCs surveillance system counts legal induced abortions [1] only.

[1]For surveillance purposes, legal abortion is defined as a procedure performed by a licensed physician or someone acting under the supervision of a licensed physician to induce the termination of a pregnancy.

To calculate abortion rate, abortions per 1,000 women aged 15-44 years is used by CDC[2].

Data on ART (Assisted Reproductive Technology) was sourced from CDC. The aggregate numbers for states on IVF (In Vitro Fertilization) cycles and live births from IVF for each state was compiled from fertility clinic level data for the states. The data used is for the years 1995 to 2004. The data is by type, number, and outcome of ART cycles performed, number of live births and number of infants born in U.S. fertility clinics. It also includes individual clinic tables that provide ART success rates and other information from each clinic.

4.0.5 Socioeconomic data

Data on per capita personal income for each state was sourced from Bureau of Economic Analysis, U.S. Department of Commerce. Data on educational attainment - percentage high school graduate and college or more of population 25 years and over, is from the U.S. Census Bureau.

[2]CDC obtains the number of women in this age group from the U.S. Department of Commerce, Bureau of the Census.

CHAPTER 5

Results

I report the results for the regressions of cohorts in three categories - overall, male and female. The overall regressions include male and female children of the particular cohort. For instance for the regression on the cohort of babies - include children less than 2 years old in foster care for the years 1996 to 2004. This way of categorizing the cohorts of children affords two favorable implications. Firstly, it accounts for a preference for children of particular age groups by adopters- babies may be more preferred to older children. Secondly, it gets over the problem of identifying children for panel regressions[1] as each child appears only one time in this framework.

Table 1 shows the cohort regressions for babies (children less than 1 year old). The sign on international adoptions (immigrant) is negative and significant for the cohort. Independent adoptions are negative but the magnitude of the marginal effect is lower than that for international adoptions. Abortions are negative in sign but not significant. Live births due to in-vitro fertilization are negative but not significant. The education and income variables are positive, with the former being significant as well.

The base category for the race of the child was white. African-American children show negative probabilities of adoption overall besides female african-american children. They are both significant. If one of the reasons for the child entering foster care was disability, neglect or physical abuse - they bear a negative coefficient for probability of adoption.

[1]The identity of children is encrypted in the dataset for confidentiality

Table 2 shows probit results and marginal effects of the 1 to 2 year cohort. The results for international and independent adoptions are consistent with the cohort of babies - negative and significant. The abortions still remain negative and statistically insignificant. The in-vitro births are negative and significant for total and female children. This is confirming our a priori expectation of the substitution effect of biological children. More abortions should lead to lower supply of children to foster care - tantamounts to drop in supply. Therefore probability of adoption of resident children in foster care should rise. So the negative insignificant result is unsatisfactory on abortions. IVF births should contract the demanders of non-related children and should lead to a lower probability of adoption from foster care - which explains the negative coefficient. The education variable retains positive significance while the income variable switches sign to negative but insignificant. I shall deter from interpreting this switch in sign. Their inclusion was for controlling certain trends and not to infer causality.

Table 3 shows the results for cohorts of age three. Here abortions and international adoptions retain their negative sign - but loose significance. The independent adoptions and IVF births retain sign and significance. Abortions, independent adoptions and IVF births - retain sign and significance for cohorts of age 4 (Table 4). Male dummy negative significant.

I shall resist from harrowing the reader about signs and significance for the rest of the cohorts (the more interested ones can refer to tables in the appendix). To summarize - international adoptions, independent adoptions and IVF births show the same pattern of negative significance. The signs and signifance of female immigrant behave across regressions - negative and significant, male immigrant coefficients not as often significant. The males in foster care consistently show negative significance.

5.1 Discussion

I now discuss some of the key results of this study. Firstly as an aside, I offer (more accurately, borrow) one possible explanation for the consistent negative coefficient on the males in foster care.

5.1.1 The demand for girl child

In their forthcoming paper provocatively titled "Demand for Sons", Gordon Dahl and Enrico Moretti show multiple evidence for the notion that parents in the U.S. favor boys over girls. They show that women with first-born daughters are less likely to marry. The gender of a child in utero affects shotgun marriages: mothers who have a girl are less likely to be married at delivery than mothers who have a boy. Parents who have first-born girls are significantly more likely to be divorced. Third, after a divorce, fathers are much more likely to obtain custody of sons compared to daughters (Dahl and Moretti, 2008).

These findings have implications for attributes of children by gender in foster care. Firstly, if biological parents prefer boys to girls, in the circumstances the Dahl and Moretti paper discusses, girls are more likely to end up in foster care. Girls despite being bright, healthy and possesing good attributes for adoption as compared to boys are more likely to be in foster care, just for being girls. Boys on the other hand may need to have more serious problems for their parents to place them in foster care. Girls may also come into foster care, younger than boys. In other words, there may be an adverse selection of boys coming into foster care.

Parents looking to adopt a child may not necessarily share the preference for boys as the biological parents do in the Dahl and Moretti paper. Adoptive parents may find younger, healthier girl babies in foster care and choose them over boys.

Even if they did have a preference for boys it needs to be heavily biased for it to outweigh the benefits of adopting a healthier girl baby. This may be an explanation for the negative co-efficient of the male dummy in the regressions.

5.1.2 International adoptions and independent adoption: impact on domestic foster care adoption

One of the key results of this study is to show that the market of international adoptions and independent adoptions for children have a significant impact on the probability of adoption of children from domestic foster care. In each of the cohort regressions we find that either both independent adoptions and international adoptions or at least one of them have significant negative impact on the adoption outcomes of foster children. The marginal effects of these regressions show that it has a large order of magnitude. There is a need to carefully consider the adoption subsidies and tax credits plied to these adoptions which are typically characterised by "higher quality children" - usually younger children with better health.

5.1.3 Technology and fertility: impact on adoptions

The negative coefficient of IVF births are evidence for the increasing possibility of bearing biologically related children and its impact on adoption of biologically unrelated children. Adoptions from foster care are expected to bear a share of this demand contraction. I expect this trend to continue with improved technology and lowered costs of fertility treatment - as long as infertile couples have a preference for biological children. It should also be noted that improved success rates may more often delay couples entering the adoption market as they may sign up for fertility treatment. This tantamounts to delayed adoption outcomes for younger cohorts -

and being older in the consequent period may reduce their favorability for adoption.

5.2 Robustness of results

5.2.1 Model of nominal outcomes

So far I have modeled child outcome in foster care as either an adoption or the child being un-adopted. However reunification with own family or relatives is another reason a child could exit foster care besides adoption. I model these nominal outcomes: child reunified with family or relatives, child adopted and child in foster care using a multinomial logit model(MNL). The base outcome for the model is child in foster care. Firstly, this way of modeling allows for simultaneously estimating binary logits for comparison among the alternatives. The MNL model serves as a robustness check of results. The coefficients of the international adoptions and independent adoptions are negative and significant for the adoption outcome in the MNL model as well (See appendix B).

5.2.2 Modeling child cohorts by attributes

One way to group cohorts was by age. This way of conceiving cohorts is possibly a reasonable method to allow for preference of adoptive parents for children. I now offer another way to conceive of preference for children - by attributes[2] such as gender, race, health and history of parental neglect. An adoptive couple may look for a healthy white male and another couple may seek an african american female child with no record of parental neglect (drug addiction, abuse et al). Whether the child has such health and racial attributes are sometimes more important for adoptive parents than whether the child is 5 or 7 years of age. Besides offering

[2]see appendix for details of grouping children by attributes

another way of accounting for preferences of adopters, this way of grouping children also serves as a robustness check of the results I presented for child cohorts by age.

Table 5.1: Probit of cohort: Children less than 1 year of age

	(1)	(2)	(3)	(4)	(5)	(6)
male_dum	0.00947	0.00852				
	(0.29)	(0.26)				
child black/african amer	-0.169**	-0.168**	-0.129*	-0.128*	-0.209**	-0.210**
	(-4.14)	(-4.14)	(-2.30)	(-2.28)	(-3.49)	(-3.50)
child disability	0.114	0.113	0.195+	0.194+	-0.00479	-0.00519
	(1.29)	(1.28)	(1.68)	(1.66)	(-0.03)	(-0.04)
child behavior problem	0.0463	0.0457	-0.0781	-0.0802	0.133	0.133
	(0.29)	(0.29)	(-0.31)	(-0.32)	(0.64)	(0.64)
goal_adopt	0.679**	0.679**	0.754**	0.755**	0.603**	0.605**
	(17.46)	(17.47)	(14.05)	(14.04)	(10.45)	(10.48)
physical abuse	-0.339**	-0.339**	-0.317**	-0.317**	-0.367**	-0.368**
	(-5.03)	(-5.03)	(-3.51)	(-3.50)	(-3.56)	(-3.57)
sexual abuse	-0.125	-0.126	-0.0697	-0.0665	-0.202	-0.201
	(-0.71)	(-0.71)	(-0.30)	(-0.28)	(-0.73)	(-0.72)
neglect	-0.201**	-0.201**	-0.198**	-0.198**	-0.219**	-0.219**
	(-5.12)	(-5.12)	(-3.66)	(-3.64)	(-3.76)	(-3.77)
abortions	-0.0000434**	-0.0000418**	-0.0000725**	-0.0000682**	-0.0000125	-0.0000143
	(-2.81)	(-2.64)	(-3.34)	(-3.07)	(-0.55)	(-0.61)
pcpi	0.000115**	0.000103*	0.000152*	0.000139*	0.0000984	0.0000868
	(2.66)	(2.35)	(2.37)	(2.13)	(1.63)	(1.43)
immigrant	-0.00251**		-0.00252**		-0.00257**	
	(-5.24)		(-3.84)		(-3.61)	
oth_adopt	-0.000684**	-0.000682**	-0.000637**	-0.000637**	-0.000741**	-0.000736**
	(-13.46)	(-13.46)	(-9.12)	(-9.15)	(-9.90)	(-9.82)
edu_col	0.0929**	0.0914**	0.0732**	0.0735**	0.122**	0.118**
	(5.02)	(4.92)	(2.83)	(2.83)	(4.49)	(4.29)
ivr_live_birth	-0.000194	-0.000204	-0.0000795	-0.000151	-0.000318	-0.000257
	(-0.65)	(-0.67)	(-0.19)	(-0.36)	(-0.72)	(-0.56)
ss_child_age_0	0.00159**	0.00153**	0.000883**	0.000849**	0.00147**	0.00143**
	(8.97)	(8.42)	(5.09)	(4.81)	(6.13)	(5.84)
immig_male		-0.00176		-0.000753		-0.00308
		(-1.22)		(-0.38)		(-1.44)
immig_fem		-0.00276**		-0.00327**		-0.00223*
		(-3.65)		(-3.11)		(-2.01)
Constant	-9.457**	-8.924**	-4.761**	-4.515**	-9.419**	-8.804**
	(-5.20)	(-4.87)	(-3.54)	(-3.30)	(-3.82)	(-3.56)
Observations	40877	40806	20646	20605	19312	19282

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 5.2: Probit of cohort: Children between 1 to 2 years of age

	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	-0.0319*	-0.0318*				
	(-1.99)	(-1.98)				
child black/african amer	-0.171**	-0.169**	-0.173**	-0.171**	-0.168**	-0.166**
	(-8.86)	(-8.73)	(-6.34)	(-6.25)	(-6.12)	(-6.04)
child disability	0.0297	0.0306	0.00256	0.00359	0.0609	0.0609
	(0.65)	(0.67)	(0.04)	(0.06)	(0.91)	(0.91)
child behavior problem	-0.141+	-0.138+	-0.199+	-0.196+	-0.0735	-0.0726
	(-1.87)	(-1.85)	(-1.83)	(-1.80)	(-0.71)	(-0.70)
physical abuse	-0.263**	-0.262**	-0.269**	-0.266**	-0.254**	-0.253**
	(-9.28)	(-9.21)	(-6.88)	(-6.82)	(-6.14)	(-6.10)
sexual abuse	-0.155*	-0.155*	-0.249*	-0.250*	-0.0729	-0.0722
	(-2.20)	(-2.20)	(-2.33)	(-2.33)	(-0.78)	(-0.77)
neglect	-0.138**	-0.136**	-0.114**	-0.112**	-0.161**	-0.159**
	(-7.33)	(-7.20)	(-4.31)	(-4.22)	(-6.00)	(-5.91)
goal_adopt	0.840**	0.837**	0.831**	0.829**	0.852**	0.850**
	(47.97)	(47.79)	(33.84)	(33.74)	(34.02)	(33.87)
abortions	-0.0000279**	-0.0000273**	-0.0000363**	-0.0000361**	-0.0000208*	-0.0000197*
	(-4.35)	(-4.20)	(-3.95)	(-3.89)	(-2.30)	(-2.16)
pcpi	0.00000533	0.00000505	0.0000406	0.0000419	-0.0000267	-0.0000281
	(0.26)	(0.24)	(1.40)	(1.42)	(-0.90)	(-0.94)
immigrant	-0.000806**		-0.00116**		-0.000459	
	(-3.66)		(-3.79)		(-1.45)	
oth_adopt	-0.000448**	-0.000453**	-0.000451**	-0.000456**	-0.000446**	-0.000451**
	(-19.00)	(-19.25)	(-13.72)	(-13.88)	(-13.14)	(-13.34)
edu_col	0.0377**	0.0381**	0.0347**	0.0353**	0.0416**	0.0418**
	(4.72)	(4.75)	(3.08)	(3.12)	(3.64)	(3.64)
ivr_live_birth	-0.000455**	-0.000487**	-0.000374+	-0.000384+	-0.000549**	-0.000602**
	(-3.36)	(-3.47)	(-1.94)	(-1.93)	(-2.86)	(-3.03)
ss_child_age_1	-0.0000676*	-0.000120**	-0.0000735	-0.000121*	-0.0000604	-0.000119*
	(-2.02)	(-3.21)	(-1.56)	(-2.27)	(-1.27)	(-2.23)
immig_male		-0.000174		-0.000894		0.000533
		(-0.27)		(-0.97)		(0.57)
immig_fem		-0.00102**		-0.00124**		-0.000795+
		(-3.21)		(-2.79)		(-1.76)
Constant	-2.397**	-2.380**	-2.817**	-2.826**	-2.215**	-2.178**
	(-6.45)	(-6.34)	(-5.40)	(-5.35)	(-4.08)	(-3.98)
Observations	81237	81131	42178	42123	39059	39008

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 5.3: Probit of cohort: Children 2 years of age

	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	-0.0331**	-0.0334**				
	(-2.58)	(-2.60)				
child black/african amer	-0.154**	-0.154**	-0.165**	-0.164**	-0.142**	-0.143**
	(-9.98)	(-9.96)	(-7.64)	(-7.61)	(-6.42)	(-6.43)
child disability	0.0251	0.0264	0.0429	0.0440	-0.00122	0.000900
	(0.72)	(0.76)	(0.91)	(0.94)	(-0.02)	(0.02)
child behavior problem	-0.0984*	-0.0970*	-0.0778	-0.0757	-0.124+	-0.123+
	(-2.12)	(-2.09)	(-1.20)	(-1.17)	(-1.85)	(-1.83)
neglect	-0.122**	-0.122**	-0.134**	-0.134**	-0.108**	-0.108**
	(-8.18)	(-8.16)	(-6.47)	(-6.45)	(-5.00)	(-4.99)
goal_adopt	0.977**	0.977**	0.960**	0.960**	0.999**	0.999**
	(69.43)	(69.41)	(48.94)	(48.92)	(49.25)	(49.25)
abortions	-0.000000735	0.000000362	-0.00000102	-0.000000255	-0.000000476	0.00000101
	(-0.14)	(0.07)	(-0.14)	(-0.04)	(-0.06)	(0.13)
pcpi	-0.0000157	-0.0000202	-0.00000758	-0.0000108	-0.0000243	-0.0000303
	(-0.96)	(-1.22)	(-0.34)	(-0.47)	(-1.03)	(-1.26)
immigrant	-0.000207		-0.000320		-0.0000902	
	(-1.19)		(-1.31)		(-0.36)	
oth_adopt	-0.000439**	-0.000438**	-0.000430**	-0.000429**	-0.000447**	-0.000446**
	(-21.39)	(-21.37)	(-15.16)	(-15.14)	(-15.01)	(-15.00)
edu_col	0.0299**	0.0296**	0.0287**	0.0285**	0.0313**	0.0308**
	(4.62)	(4.57)	(3.19)	(3.18)	(3.35)	(3.29)
ivr_live_birth	-0.000476**	-0.000521**	-0.000485**	-0.000517**	-0.000467**	-0.000528**
	(-4.39)	(-4.66)	(-3.23)	(-3.34)	(-2.97)	(-3.25)
ss_child_age_2	-0.0000287	-0.0000375	0.0000257	0.0000182	-0.0000841*	-0.0000955*
	(-0.98)	(-1.26)	(0.63)	(0.44)	(-2.00)	(-2.23)
immig_male		0.000586		0.000257		0.000943
		(1.16)		(0.37)		(1.29)
immig_fem		-0.000510*		-0.000542		-0.000481
		(-2.03)		(-1.54)		(-1.33)
Constant	-2.833**	-2.661**	-2.024**	-1.976**	-2.591**	-0.926
	(-4.61)	(-4.26)	(-5.06)	(-4.89)	(-2.92)	(-1.38)
Observations	85362	85314	44433	44411	40929	40903

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

APPENDIX A

Variable Descriptions

Appendix A. VARIABLE DEFINITIONS

Variables	Definition
Dependent Variable:	
Adoption outcome for child	1 if child adopted in the year, 0 otherwise
Outcome	1 if child adopted, 2 if reunified with family, 3 if in foster care
Explanatory variables	
Child attributes and history of neglect	
Male Dummy	1 if child is male, 0 if female
African Amer.	1 if child of african american orgin, 0 otherwise
Emot. Disturbed	1 if child is diagnosed with behavioral problems, 0 otherwise
Other Disability	1 if child is diagnosed with disability, 0 otherwise
Physical abuse	1 if child has been physically abused, 0 otherwise
Sexual abuse	1 if child has been sexually abused, 0 otherwise
Neglect	1 if child has been subject to neglect, 0 otherwise
Drug abuse parent	1 if parent of child is a drug addict, 0 otherwise
Alcohol abuse child	1 if child is addicted to alcohol, 0 otherwise
Goal adopt	1 if child's case goal is adoption, 0 otherwise
In foster ('i' periods)	Dummy indicating 'i' years in foster care

Appendix A. VARIABLE DEFINITIONS

Variables	Definition
State and time variant variables	
Abortions	Number of abortions performed
Pcpi	Per capita personal income
Immigrant	Number of international child adoptions
Other Adoptions	Number of other domestic child adoptions (outside foster care)
Edu Col	Percentage population 25 years or over with college education
IVF live birth	Live births due to Assisted Reproductive technology
Immig Male	Number of male immigrant children
Immig Female	Number of female immigrant children
ss child age i	Number of children of cohort 'i' available for adoption

APPENDIX A

Probit Results of Cohorts

A.1 Probit of cohorts

Table A.1: Probit of cohort: Children 3 years of age

	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	-0.00969	-0.00956				
	(-0.76)	(-0.75)				
child black/african amer	-0.0912**	-0.0914**	-0.108**	-0.108**	-0.0728**	-0.0729**
	(-6.04)	(-6.05)	(-5.16)	(-5.17)	(-3.33)	(-3.34)
child disability	0.0872**	0.0865*	0.0551	0.0539	0.120*	0.120*
	(2.58)	(2.56)	(1.20)	(1.18)	(2.39)	(2.39)
child behavior problem	-0.179**	-0.179**	-0.121*	-0.122*	-0.243**	-0.243**
	(-4.31)	(-4.32)	(-2.15)	(-2.16)	(-3.96)	(-3.96)
neglect	-0.118**	-0.117**	-0.102**	-0.102**	-0.136**	-0.135**
	(-7.99)	(-7.97)	(-5.02)	(-5.01)	(-6.34)	(-6.32)
goal_adopt	1.028**	1.028**	1.008**	1.008**	1.052**	1.052**
	(73.65)	(73.64)	(52.33)	(52.33)	(51.81)	(51.80)
abortions	-0.00000280	-0.00000284	-0.00000930	-0.00000946	0.00000457	0.00000462
	(-0.56)	(-0.56)	(-1.35)	(-1.36)	(0.63)	(0.63)
pcpi	-0.00000895	-0.00000950	0.00000218	0.00000189	-0.0000198	-0.0000205
	(-0.59)	(-0.61)	(0.10)	(0.09)	(-0.91)	(-0.93)
immigrant	-0.000149		0.000112		-0.000408	
	(-0.87)		(0.47)		(-1.63)	
oth_adopt	-0.000486**	-0.000486**	-0.000510**	-0.000510**	-0.000461**	-0.000461**
	(-23.05)	(-22.97)	(-17.74)	(-17.68)	(-14.83)	(-14.78)
edu_col	0.00340	0.00319	-0.00428	-0.00454	0.0119	0.0118
	(0.54)	(0.51)	(-0.50)	(-0.53)	(1.30)	(1.29)
ivr_live_birth	-0.000597**	-0.000595**	-0.000718**	-0.000710**	-0.000451**	-0.000453**
	(-5.67)	(-5.48)	(-4.95)	(-4.75)	(-2.92)	(-2.85)
ss_child_age_3	0.00000913	0.0000177	-0.00000553	0.00000606	0.0000206	0.0000260
	(0.30)	(0.58)	(-0.13)	(0.14)	(0.47)	(0.59)
immig_male		-0.000190		-0.0000257		-0.000364
		(-0.39)		(-0.04)		(-0.51)
immig_fem		-0.000136		0.000163		-0.000429
		(-0.54)		(0.47)		(-1.18)
Constant	-1.908**	-1.886**	-2.025*	-1.635**	-1.547**	-1.844*
	(-3.34)	(-3.26)	(-2.52)	(-4.27)	(-4.02)	(-2.23)
Observations	81487	81437	42570	42543	38917	38894

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

A.2 Multinomial logit model of child outcomes from foster care

Table A.2: MNL of cohort: Children less than one year of age (adoption)

Adoption	Total	Total	Male	Male	Female	Female
male_dum	0.0358	0.0335				
	(0.47)	(0.44)				
child black/african amer	-0.421**	-0.420**	-0.305*	-0.303*	-0.478**	-0.538**
	(-4.39)	(-4.39)	(-2.32)	(-2.31)	(-5.50)	(-3.82)
child hawaiian/pacif islander	-0.181	-0.184	-0.837	-0.843	0.667	0.324
	(-0.38)	(-0.38)	(-1.03)	(-1.04)	(1.47)	(0.54)
child disability	0.296	0.297	0.466+	0.466+	0.126	0.0521
	(1.56)	(1.57)	(1.88)	(1.87)	(0.67)	(0.17)
child behavior problem	0.163	0.161	-0.104	-0.106	0.360	0.386
	(0.43)	(0.42)	(-0.17)	(-0.17)	(0.96)	(0.78)
physical abuse	-0.769**	-0.769**	-0.667**	-0.665**	-0.812**	-0.895**
	(-4.71)	(-4.72)	(-3.11)	(-3.09)	(-6.08)	(-3.53)
neglect	-0.493**	-0.492**	-0.482**	-0.479**	-0.517**	-0.545**
	(-5.53)	(-5.53)	(-3.94)	(-3.91)	(-6.50)	(-4.15)
alcohol abuse parent	-0.368*	-0.368*	-0.240	-0.241	-0.425**	-0.478*
	(-2.43)	(-2.43)	(-1.16)	(-1.16)	(-3.00)	(-2.16)
drug abuse parent	-0.183*	-0.183*	-0.340**	-0.337**	-0.0376	-0.0315
	(-2.02)	(-2.03)	(-2.67)	(-2.65)	(-0.47)	(-0.24)
goal_adopt	1.161**	1.160**	1.311**	1.310**	0.930**	0.996**
	(13.66)	(13.64)	(11.20)	(11.18)	(10.20)	(7.95)
abortions	-0.000113**	-0.000109**	-0.000183**	-0.000174**	0.0000476	-0.0000396
	(-2.94)	(-2.77)	(-3.49)	(-3.24)	(1.40)	(-0.67)
pcpi	0.000280**	0.000246*	0.000323*	0.000298*	-0.00195**	0.000201
	(2.71)	(2.37)	(2.20)	(2.00)	(-20.00)	(1.38)
immigrant	-0.00672**		-0.00710**		0.00156	
	(-5.63)		(-4.36)		(1.52)	
oth_adopt	-0.00177**	-0.00176**	-0.00170**	-0.00170**	-0.000367**	-0.00185**
	(-13.57)	(-13.58)	(-9.26)	(-9.29)	(-3.40)	(-9.82)
edu_col	0.224**	0.221**	0.170**	0.173**	0.0515	0.287**
	(4.90)	(4.78)	(2.72)	(2.74)	(1.34)	(4.16)
ivr_live_birth	-0.000453	-0.000498	0.0000299	-0.000119	-0.000848	-0.000714
	(-0.60)	(-0.64)	(0.03)	(-0.11)	(-1.59)	(-0.61)
ss_child_age_0	0.00409**	0.00393**	0.00537	0.00525	982480.4**	0.00358**
	(9.10)	(8.56)	(1.14)	(1.03)	(1.49e+08)	(5.81)
immig_male		-0.00453		-0.00318		-0.00643
		(-1.28)		(-0.65)		(-1.23)
immig_fem		-0.00746**		-0.00872**		-0.00609*
		(-4.07)		(-3.39)		(-2.30)
Constant	-22.10**	-20.63**	-28.07	-27.34	-303.8	-20.29**
	(-4.93)	(-4.58)	(-0.94)	(-0.85)	.	(-3.28)
Observations	41107	41036	21276	21235	19831	19801

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.3: MNL of cohort: Children less than one year of age (reunification)

Family reunification	Total	Total	Male	Male	Female	Female
male_dum	0.0296	0.0300				
	(1.12)	(1.14)				
child black/african amer	-0.275**	-0.273**	-0.266**	-0.265**	-0.277**	-0.283**
	(-8.56)	(-8.50)	(-5.95)	(-5.92)	(-5.77)	(-6.10)
ment_ret	-0.366+	-0.363+	-0.157	-0.151	-0.720*	-0.714*
	(-1.96)	(-1.94)	(-0.67)	(-0.64)	(-2.24)	(-2.26)
vis_imp	-0.583**	-0.575**	-0.389	-0.382	-0.899**	-0.899**
	(-3.02)	(-2.98)	(-1.59)	(-1.56)	(-2.76)	(-2.82)
phy_dis	-0.782**	-0.782**	-0.671**	-0.671**	-0.936**	-0.954**
	(-5.97)	(-5.97)	(-3.91)	(-3.90)	(-4.44)	(-4.66)
oth_dis	-0.506**	-0.506**	-0.602**	-0.601**	-0.403**	-0.395**
	(-9.29)	(-9.29)	(-8.13)	(-8.11)	(-4.69)	(-4.87)
neglect	-0.123**	-0.122**	-0.0967*	-0.0944*	-0.147**	-0.153**
	(-4.00)	(-3.95)	(-2.26)	(-2.21)	(-3.10)	(-3.42)
alcohol abuse parent	-0.213**	-0.213**	-0.156*	-0.156*	-0.264**	-0.272**
	(-3.82)	(-3.81)	(-2.07)	(-2.07)	(-3.00)	(-3.26)
drug abuse parent	-0.247**	-0.246**	-0.259**	-0.258**	-0.246**	-0.243**
	(-7.70)	(-7.69)	(-5.83)	(-5.80)	(-5.02)	(-5.24)
child disability	0.251**	0.254**	0.271*	0.272*	0.225+	0.229+
	(2.94)	(2.97)	(2.30)	(2.31)	(1.68)	(1.83)
child behavior problem	0.0438	0.0416	0.0943	0.0918	-0.00766	-0.00348
	(0.39)	(0.37)	(0.59)	(0.58)	(-0.05)	(-0.02)
caretaker inability cope	-0.232**	-0.232**	-0.134*	-0.133*	-0.339**	-0.346**
	(-5.97)	(-5.98)	(-2.52)	(-2.52)	(-5.55)	(-6.03)
abandonment	-0.303**	-0.306**	-0.305**	-0.307**	-0.292*	-0.288*
	(-3.93)	(-3.96)	(-2.89)	(-2.91)	(-2.47)	(-2.55)
inadequate housing	-0.372**	-0.369**	-0.371**	-0.369**	-0.381**	-0.371**
	(-7.32)	(-7.27)	(-5.29)	(-5.26)	(-4.97)	(-5.02)
goal_adopt	-2.195**	-2.191**	-2.144**	-2.143**	-2.256**	-2.248**
	(-26.40)	(-26.37)	(-18.96)	(-18.94)	(-17.45)	(-18.33)
abortions	-0.0000648**	-0.0000611**	-0.0000765**	-0.0000740**	-0.0000495**	-0.0000448**
	(-5.83)	(-5.47)	(-4.97)	(-4.78)	(-2.69)	(-2.76)
pcpi	-0.00000169	-0.0000200	-0.000000326	-0.0000157	0.000158**	-0.0000279
	(-0.05)	(-0.62)	(-0.01)	(-0.35)	(2.90)	(-0.59)
immigrant	-0.00262**		-0.00316**		-0.00206**	
	(-7.73)		(-6.68)		(-3.80)	
oth_adopt	-0.000607**	-0.000608**	-0.000593**	-0.000593**	-0.000668**	-0.000623**
	(-14.42)	(-14.48)	(-10.32)	(-10.36)	(-10.52)	(-10.09)
edu_col	0.0336*	0.0337*	0.0518**	0.0510**	0.0381+	0.0119
	(2.54)	(2.54)	(2.85)	(2.81)	(1.86)	(0.61)
ivr_live_birth	0.0000313	-0.0000977	0.000266	0.000178	-0.000469	-0.000402
	(0.15)	(-0.46)	(0.92)	(0.60)	(-1.34)	(-1.32)
ss_child_age_0	0.00107**	0.000981**	0.00123**	0.00116**	0.00139**	0.000767**
	(8.86)	(7.97)	(7.30)	(6.71)	(7.01)	(4.33)
immig_male		-0.0000509		-0.00123		0.00124
		(-0.05)		(-0.88)		(0.85)
immig_fem		-0.00370**		-0.00394**		-0.00351**
		(-6.97)		(-5.37)		(-4.53)
Constant	-1.929	-1.277	-2.641	-2.050	-32.38	-0.210
	(-1.45)	(-0.95)	(-1.44)	(-1.11)	.	(-0.11)
Observations	41107	41036	21276	21235	19831	19801

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.4: MNL of cohort: Children between 1 to 2 years of age(adoption)

Adoption	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	-0.0642*	-0.0635*				
	(-1.99)	(-1.96)				
child black/african amer	-0.377**	-0.374**	-0.375**	-0.372**	-0.379**	-0.377**
	(-9.63)	(-9.54)	(-6.76)	(-6.69)	(-6.83)	(-6.78)
physical abuse	-0.537**	-0.535**	-0.540**	-0.537**	-0.530**	-0.529**
	(-8.87)	(-8.82)	(-6.47)	(-6.43)	(-5.99)	(-5.98)
sexual abuse	-0.295+	-0.295+	-0.517*	-0.519*	-0.0993	-0.0979
	(-1.96)	(-1.96)	(-2.25)	(-2.25)	(-0.50)	(-0.49)
neglect	-0.342**	-0.338**	-0.287**	-0.282**	-0.399**	-0.395**
	(-9.01)	(-8.88)	(-5.37)	(-5.28)	(-7.37)	(-7.28)
child disability	0.128	0.128	0.0857	0.0869	0.183	0.181
	(1.42)	(1.43)	(0.70)	(0.71)	(1.37)	(1.36)
child behavior problem	-0.349*	-0.346*	-0.465*	-0.459+	-0.221	-0.222
	(-2.12)	(-2.10)	(-1.96)	(-1.94)	(-0.97)	(-0.97)
goal_adopt	1.117**	1.113**	1.109**	1.106**	1.132**	1.127**
	(31.90)	(31.75)	(22.51)	(22.42)	(22.65)	(22.53)
abortions	-0.0000611**	-0.0000615**	-0.0000811**	-0.0000826**	-0.0000444*	-0.0000440*
	(-4.70)	(-4.68)	(-4.35)	(-4.37)	(-2.45)	(-2.40)
pcpi	0.0000200	0.0000274	0.0000845	0.0000952	-0.0000374	-0.0000325
	(0.47)	(0.63)	(1.39)	(1.54)	(-0.61)	(-0.53)
immigrant	-0.00215**		-0.00285**		-0.00150*	
	(-4.78)		(-4.53)		(-2.32)	
oth_adopt	-0.00105**	-0.00106**	-0.00108**	-0.00108**	-0.00103**	-0.00104**
	(-21.18)	(-21.44)	(-15.50)	(-15.66)	(-14.45)	(-14.67)
edu_col	0.0775**	0.0797**	0.0720**	0.0747**	0.0836**	0.0851**
	(4.76)	(4.87)	(3.13)	(3.23)	(3.60)	(3.65)
ivr_live_birth	-0.00104**	-0.00104**	-0.000950*	-0.000904*	-0.00116**	-0.00120**
	(-3.73)	(-3.59)	(-2.38)	(-2.19)	(-2.96)	(-2.95)
ss_child_age_1	-0.000126+	-0.000243**	-0.000147	-0.000244*	-0.000107	-0.000246*
	(-1.88)	(-3.07)	(-1.56)	(-2.22)	(-1.11)	(-2.16)
immig_male		-0.00197		-0.00338+		-0.000625
		(-1.45)		(-1.76)		(-0.32)
immig_fem		-0.00215**		-0.00260**		-0.00174+
		(-3.35)		(-2.88)		(-1.91)
Constant	-4.128**	-4.223**	-4.920**	-5.078**	-3.782**	-3.831**
	(-5.32)	(-5.38)	(-4.49)	(-4.56)	(-3.37)	(-3.38)
Observations	81237	81131	42178	42123	39059	39008

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.5: MNL of cohort: Children between 1 to 2 years of age (reunification)

Family reunification	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	-0.0178	-0.0176				
	(-1.03)	(-1.02)				
child black/african amer	-0.179**	-0.178**	-0.186**	-0.185**	-0.173**	-0.173**
	(-8.54)	(-8.51)	(-6.34)	(-6.32)	(-5.76)	(-5.74)
child disability	0.111*	0.110*	0.178*	0.174*	0.0363	0.0364
	(2.02)	(1.99)	(2.33)	(2.28)	(0.45)	(0.45)
child behavior problem	-0.175**	-0.174**	-0.131	-0.130	-0.221*	-0.221*
	(-2.67)	(-2.67)	(-1.42)	(-1.42)	(-2.38)	(-2.38)
neglect	-0.230**	-0.230**	-0.212**	-0.212**	-0.251**	-0.251**
	(-11.35)	(-11.33)	(-7.53)	(-7.50)	(-8.56)	(-8.56)
goal_adopt	-3.207**	-3.204**	-3.272**	-3.269**	-3.148**	-3.145**
	(-57.29)	(-57.24)	(-40.68)	(-40.64)	(-40.35)	(-40.31)
abortions	-0.0000482**	-0.0000480**	-0.0000536**	-0.0000530**	-0.0000426**	-0.0000429**
	(-6.98)	(-6.90)	(-5.55)	(-5.45)	(-4.30)	(-4.29)
pcpi	-0.00000672	-0.00000669	-0.0000189	-0.0000203	0.00000645	0.00000797
	(-0.33)	(-0.32)	(-0.66)	(-0.71)	(0.22)	(0.26)
immigrant	-0.00203**		-0.00192**		-0.00217**	
	(-8.94)		(-6.06)		(-6.65)	
oth_adopt	-0.000485**	-0.000486**	-0.000512**	-0.000513**	-0.000455**	-0.000457**
	(-17.63)	(-17.59)	(-13.42)	(-13.39)	(-11.43)	(-11.42)
edu_col	0.0525**	0.0525**	0.0504**	0.0503**	0.0548**	0.0548**
	(6.20)	(6.20)	(4.25)	(4.25)	(4.51)	(4.51)
ivr_live_birth	-0.000484**	-0.000489**	-0.000645**	-0.000661**	-0.000296	-0.000293
	(-3.52)	(-3.48)	(-3.36)	(-3.37)	(-1.50)	(-1.45)
ss_child_age_1	-0.000256**	-0.000262**	-0.000309**	-0.000311**	-0.000204**	-0.000214**
	(-7.38)	(-7.36)	(-6.37)	(-6.23)	(-4.09)	(-4.20)
immig_male		-0.00192**		-0.00160+		-0.00226*
		(-2.92)		(-1.75)		(-2.38)
immig_fem		-0.00207**		-0.00205**		-0.00213**
		(-6.05)		(-4.30)		(-4.32)
Constant	-0.940*	-0.939*	-0.759	-0.740	-1.163*	-1.181*
	(-2.57)	(-2.55)	(-1.50)	(-1.45)	(-2.20)	(-2.21)
Observations	81237	81131	42178	42123	39059	39008

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.6: MNL of cohort: Children of age 2 (adoption)

Adoption	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	-0.0627**	-0.0633**				
	(-2.63)	(-2.65)				
child black/african amer	-0.304**	-0.304**	-0.320**	-0.319**	-0.288**	-0.289**
	(-10.60)	(-10.60)	(-7.98)	(-7.95)	(-6.99)	(-7.02)
child disability	0.0839	0.0857	0.119	0.121	0.0331	0.0352
	(1.32)	(1.35)	(1.39)	(1.41)	(0.35)	(0.37)
child behavior problem	-0.183*	-0.181*	-0.159	-0.155	-0.214+	-0.213+
	(-2.09)	(-2.07)	(-1.30)	(-1.27)	(-1.71)	(-1.71)
physical abuse	-0.436**	-0.435**	-0.455**	-0.454**	-0.417**	-0.417**
	(-11.12)	(-11.10)	(-8.39)	(-8.37)	(-7.34)	(-7.33)
sexual abuse	-0.258**	-0.258**	-0.222+	-0.222+	-0.296*	-0.295*
	(-2.80)	(-2.80)	(-1.70)	(-1.70)	(-2.27)	(-2.27)
neglect	-0.269**	-0.268**	-0.298**	-0.298**	-0.234**	-0.234**
	(-9.72)	(-9.69)	(-7.74)	(-7.72)	(-5.86)	(-5.85)
goal_adopt	1.210**	1.210**	1.178**	1.177**	1.248**	1.248**
	(45.39)	(45.37)	(31.62)	(31.60)	(32.62)	(32.61)
abortions	-0.00000864	-0.00000741	-0.00000812	-0.00000740	-0.0000100	-0.00000824
	(-0.89)	(-0.76)	(-0.61)	(-0.55)	(-0.72)	(-0.58)
pcpi	-0.0000175	-0.0000231	0.00000194	-0.00000179	-0.0000370	-0.0000447
	(-0.55)	(-0.72)	(0.04)	(-0.04)	(-0.81)	(-0.96)
immigrant	-0.000951**		-0.00116*		-0.000715	
	(-2.90)		(-2.53)		(-1.52)	
oth_adopt	-0.000993**	-0.000991**	-0.000974**	-0.000973**	-0.00101**	-0.00101**
	(-24.47)	(-24.43)	(-17.33)	(-17.31)	(-17.23)	(-17.19)
edu_col	0.0573**	0.0571**	0.0575**	0.0574**	0.0575**	0.0571**
	(4.72)	(4.70)	(3.39)	(3.39)	(3.28)	(3.26)
ivr_live_birth	-0.00102**	-0.00107**	-0.00102**	-0.00105**	-0.00101**	-0.00108**
	(-5.00)	(-5.10)	(-3.61)	(-3.63)	(-3.42)	(-3.55)
ss_child_age_2	-0.0000316	-0.0000465	0.0000685	0.0000530	-0.000133+	-0.000150+
	(-0.57)	(-0.82)	(0.88)	(0.67)	(-1.68)	(-1.85)
immig_male		-0.0000202		-0.000497		0.000501
		(-0.02)		(-0.38)		(0.37)
immig_fem		-0.00130**		-0.00141*		-0.00116+
		(-2.78)		(-2.16)		(-1.74)
Constant	-5.272**	-5.058**	-3.359**	-3.302**	-4.580**	0.00271
	(-4.33)	(-4.09)	(-4.32)	(-4.20)	(-2.63)	(0.00)
Observations	85362	85314	44433	44411	40929	40903

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.7: MNL of cohort: Children of age 2 (reunification)

Family reunification	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	0.0157	0.0153				
	(0.90)	(0.88)				
child black/african amer	-0.169**	-0.169**	-0.158**	-0.157**	-0.181**	-0.182**
	(-8.04)	(-8.03)	(-5.40)	(-5.35)	(-5.96)	(-5.99)
child disability	0.186**	0.186**	0.190*	0.192*	0.185*	0.181*
	(3.18)	(3.18)	(2.42)	(2.44)	(2.11)	(2.06)
child behavior problem	-0.126*	-0.128*	-0.131	-0.130	-0.125	-0.130
	(-2.16)	(-2.20)	(-1.64)	(-1.63)	(-1.47)	(-1.53)
neglect	-0.185**	-0.186**	-0.206**	-0.206**	-0.162**	-0.163**
	(-9.13)	(-9.15)	(-7.31)	(-7.31)	(-5.51)	(-5.55)
goal_adopt	-3.325**	-3.324**	-3.378**	-3.377**	-3.272**	-3.272**
	(-66.11)	(-66.09)	(-47.84)	(-47.82)	(-45.63)	(-45.63)
abortions	-0.0000614**	-0.0000611**	-0.0000577**	-0.0000568**	-0.0000655**	-0.0000658**
	(-8.93)	(-8.82)	(-5.99)	(-5.86)	(-6.65)	(-6.63)
pcpi	-0.0000181	-0.0000186	-0.00000952	-0.0000111	-0.0000255	-0.0000252
	(-0.91)	(-0.93)	(-0.34)	(-0.39)	(-0.90)	(-0.89)
immigrant	-0.00163**		-0.00164**		-0.00163**	
	(-7.12)		(-5.20)		(-4.91)	
oth_adopt	-0.000476**	-0.000478**	-0.000454**	-0.000458**	-0.000503**	-0.000501**
	(-17.31)	(-17.35)	(-11.93)	(-12.04)	(-12.57)	(-12.51)
edu_col	0.0437**	0.0437**	0.0509**	0.0509**	0.0360**	0.0359**
	(5.18)	(5.17)	(4.35)	(4.35)	(2.95)	(2.94)
ivr_live_birth	-0.000441**	-0.000455**	-0.000327+	-0.000363+	-0.000559**	-0.000549**
	(-3.10)	(-3.12)	(-1.66)	(-1.80)	(-2.71)	(-2.60)
ss_child_age_2	-0.000201**	-0.000210**	-0.000241**	-0.000261**	-0.000158**	-0.000153**
	(-5.58)	(-5.73)	(-4.82)	(-5.15)	(-3.01)	(-2.86)
immig_male		-0.00137*		-0.000887		-0.00186+
		(-2.06)		(-0.96)		(-1.93)
immig_fem		-0.00173**		-0.00195**		-0.00154**
		(-4.97)		(-4.03)		(-3.07)
Constant	-1.668*	-1.646*	-1.199*	-1.173*	-1.017	4.630**
	(-2.22)	(-2.17)	(-2.37)	(-2.31)	(-0.95)	(5.59)
Observations	85362	85314	44433	44411	40929	40903

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.8: MNL of cohort: Children 3 years of age (adoption)

Adoption	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	-0.0161	-0.0159				
	(-0.69)	(-0.68)				
child black/african amer	-0.202**	-0.202**	-0.227**	-0.227**	-0.174**	-0.175**
	(-7.34)	(-7.34)	(-5.93)	(-5.93)	(-4.39)	(-4.40)
child disability	0.181**	0.180**	0.0976	0.0957	0.272**	0.272**
	(3.02)	(3.01)	(1.20)	(1.18)	(3.05)	(3.05)
child behavior problem	-0.356**	-0.357**	-0.246*	-0.247*	-0.482**	-0.482**
	(-4.69)	(-4.70)	(-2.40)	(-2.42)	(-4.24)	(-4.24)
neglect	-0.252**	-0.251**	-0.214**	-0.213**	-0.295**	-0.294**
	(-9.37)	(-9.34)	(-5.77)	(-5.75)	(-7.56)	(-7.53)
goal_adopt	1.268**	1.268**	1.231**	1.231**	1.311**	1.311**
	(48.33)	(48.33)	(33.97)	(33.97)	(34.40)	(34.40)
abortions	-0.0000128	-0.0000131	-0.0000249+	-0.0000256*	0.000000178	1.64e-08
	(-1.39)	(-1.42)	(-1.94)	(-1.98)	(0.01)	(0.00)
pcpi	0.00000600	0.00000560	0.0000116	0.0000114	-0.00000150	-0.00000161
	(0.21)	(0.19)	(0.28)	(0.27)	(-0.04)	(-0.04)
immigrant	-0.000732*		-0.000273		-0.00118*	
	(-2.33)		(-0.63)		(-2.57)	
oth_adopt	-0.00103**	-0.00103**	-0.00109**	-0.00109**	-0.000964**	-0.000965**
	(-25.10)	(-25.02)	(-19.27)	(-19.21)	(-16.14)	(-16.09)
edu_col	0.00453	0.00401	-0.00716	-0.00803	0.0169	0.0166
	(0.40)	(0.35)	(-0.45)	(-0.50)	(1.01)	(1.00)
ivr_live_birth	-0.00119**	-0.00117**	-0.00146**	-0.00144**	-0.000859**	-0.000848**
	(-6.15)	(-5.90)	(-5.50)	(-5.26)	(-3.03)	(-2.91)
ss_child_age_3	0.0000248	0.0000415	0.0000245	0.0000477	0.0000189	0.0000293
	(0.44)	(0.73)	(0.32)	(0.61)	(0.23)	(0.36)
immig_male		-0.000951		-0.000611		-0.00135
		(-1.07)		(-0.49)		(-1.04)
immig_fem		-0.000660		-0.000166		-0.00111+
		(-1.45)		(-0.26)		(-1.68)
Constant	-3.698**	-3.674**	-3.485*	-2.433**	-2.558**	-3.931*
	(-3.36)	(-3.30)	(-2.26)	(-3.34)	(-3.52)	(-2.47)
Observations	81487	81437	42570	42543	38917	38894

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table A.9: MNL of cohort: Children 3 years of age (reunification)

Family reunification	(Total)	(Total)	(Male)	(Male)	(Female)	(Female)
male_dum	0.0311+	0.0308+				
	(1.74)	(1.72)				
child black/african amer	-0.248**	-0.246**	-0.224**	-0.221**	-0.276**	-0.276**
	(-11.32)	(-11.24)	(-7.38)	(-7.28)	(-8.70)	(-8.71)
child disability	0.155*	0.156*	0.0775	0.0795	0.245*	0.243*
	(2.38)	(2.39)	(0.88)	(0.90)	(2.51)	(2.49)
child behavior problem	-0.253**	-0.252**	-0.283**	-0.281**	-0.212*	-0.213*
	(-4.40)	(-4.39)	(-3.64)	(-3.60)	(-2.49)	(-2.49)
neglect	-0.166**	-0.166**	-0.147**	-0.145**	-0.186**	-0.185**
	(-7.92)	(-7.89)	(-5.06)	(-5.01)	(-6.09)	(-6.07)
goal_adopt	-3.356**	-3.355**	-3.346**	-3.346**	-3.371**	-3.370**
	(-65.53)	(-65.51)	(-47.86)	(-47.85)	(-44.78)	(-44.77)
abortions	-0.0000541**	-0.0000527**	-0.0000454**	-0.0000425**	-0.0000636**	-0.0000641**
	(-7.68)	(-7.45)	(-4.69)	(-4.38)	(-6.18)	(-6.18)
pcpi	0.0000177	0.0000140	-0.0000145	-0.0000229	0.0000528+	0.0000542+
	(0.85)	(0.67)	(-0.50)	(-0.79)	(1.76)	(1.80)
immigrant	-0.00195**		-0.00178**		-0.00210**	
	(-8.17)		(-5.41)		(-6.10)	
oth_adopt	-0.000370**	-0.000373**	-0.000354**	-0.000358**	-0.000390**	-0.000390**
	(-13.33)	(-13.40)	(-9.27)	(-9.37)	(-9.61)	(-9.59)
edu_col	0.0378**	0.0376**	0.0425**	0.0421**	0.0323*	0.0324*
	(4.35)	(4.33)	(3.54)	(3.51)	(2.55)	(2.56)
ivr_live_birth	-0.000249+	-0.000301+	-0.000552**	-0.000659**	0.0000796	0.0000968
	(-1.65)	(-1.95)	(-2.62)	(-3.08)	(0.36)	(0.43)
ss_child_age_3	-0.0000999*	-0.000105**	-0.0000748	-0.0000818	-0.000128*	-0.000130*
	(-2.57)	(-2.68)	(-1.40)	(-1.52)	(-2.24)	(-2.26)
immig_male		-0.000874		0.000548		-0.00244*
		(-1.27)		(0.57)		(-2.45)
immig_fem		-0.00240**		-0.00279**		-0.00196**
		(-6.60)		(-5.50)		(-3.74)
Constant	-2.747**	-2.612**	-1.878+	-0.945+	-1.948**	-3.696**
	(-3.48)	(-3.28)	(-1.71)	(-1.78)	(-3.59)	(-3.21)
Observations	81487	81437	42570	42543	38917	38894

t statistics in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

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