The Effect of Children's Gender on Divorce and Child Support*

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Abstract: In the United States a large proportion of children will live in single mother homes for some period in their childhoods, and whether they receive child support from their absent fathers is an important factor in their well-being. Previous evidence suggests that the gender composition of a family's children – specifically, the presence of sons – reduces the probability of divorce. Using the March Current Population Survey from 1983 – 2001, this paper examines whether girls are at a double disadvantage in terms of the probabilities of their parents divorcing, and in the likelihood of receiving child support if their parents are divorced. The empirical findings indicate that boys are more likely than girls to reside in married couple families, consistent with the notion that boys reduce the probabilities of divorce. However, there is little evidence that boys and girls fare differently in child support receipt or amounts if their parents are divorced.

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ABSTRACT
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In the United States a large proportion of children will live in single mother homes for some period in their childhoods, and whether they receive child support from their absent fathers is an important factor in their well-being. Previous evidence suggests that the gender composition of a family's children – specifically, the presence of sons – reduces the probability of divorce. Using the March Current Population Survey from 1983 – 2001, this paper examines whether girls are at a double disadvantage in terms of the probabilities of their parents divorcing, and in the likelihood of receiving child support if their parents are divorced. The empirical findings indicate that boys are more likely than girls to reside in married couple families, consistent with the notion that boys reduce the probabilities of divorce. However, there is little evidence that boys and girls fare differently in child support receipt or amounts if their parents are divorced.

INTRODUCTION

Of the estimated 71.5 million children in the United States in 1996, 25% lived with a single parent (Fields 2001 p. 2); and it is estimated that half of all American children will spend time in single parent families during their childhoods (Bumpass 1984). Given that the vast majority of these children live with their mothers (Fields 2001 p. 6) and that single mother families are more likely to be poor than single father families (Fields and Casper 2001 p. 8), the question of whether or not children with absent fathers will receive child support from them is an important one for policy makers and researchers. In 1997, only about 34% of separated, divorced and never married mothers of children aged 20 or under received any child support payment.[1]

Most studies of child support outcomes for children have focused on how the characteristics of the parents affect the likelihood of child support payment and receipt, or on how changing child support enforcement over time has changed these likelihoods; there has been little research on how the characteristics of the children themselves may affect the child support they receive.[2] One important attribute of children that affects how they are treated both by their parents and by society is gender. For both married and unmarried couples, there is evidence that the gender composition of their children affects both marital outcomes

[1] Calculated from published figures in Grall (2000), Table B.

[2] Aughinbaugh (2001) is one paper that considers characteristics of the children; she finds that higher scores on children's achievement tests increase the likelihood of receiving child support and the amount received.

and treatment of children.[3] In particular, the presence of sons appears to reduce the likelihood of divorce, perhaps because fathers are more involved with their children when they have sons (e.g., Morgan, Lye, and Condran 1988). This paper examines whether the greater attachment of fathers to sons suggested by the literature puts girls at greater risk of the disadvantages of growing up in single mother homes. The first question addressed is, do different divorce probabilities for fathers of boys and fathers of girls mean that boys are more likely to reside in married couple families? The second question is, does a greater attachment of fathers to sons continue outside of marriage, so that divorced fathers are more likely to pay child support to boys than to girls? This paper focuses on divorced mothers because of the evidence that child gender may affect divorce. In addition, I explored child gender composition effects on child support receipt of separated and never married mothers, but found no significant effects. This may be because they are less likely than divorced mothers to receive child support, so that there is not enough scope for gender effects to become evident.[4]

I present a simple model that predicts that boys will be more likely than girls to live with their own married parents, and I find empirical evidence consistent with this prediction and with the earlier evidence that boys reduce the probability of divorce. The model illustrates, however, that even if fathers of boys and girls differ in divorce probabilities and in

[3] Butcher and Case 1994; Katzev, Warner, and Acock 1994; Lundberg and Rose 2001; Lundberg and Rose 2002; Morgan, Lye, and Condran 1988; Mott 1994; Spanier and Glick 1981; Teachman and Schollaert 1989. This research is described in greater detail in the next section.

[4] In the data used in this paper, the March Current Population Survey, only 15% of never-married mothers report receiving any child support.

the probability of paying child support after divorce, it is an empirical question as to whether a greater proportion of daughters or sons of divorced parents will receive child support. The empirical results show no significant differences in receipt or amount of child support by child gender.

The next section of the paper describes the previous literature on the effects of children's gender composition. The third section outlines a simple model which relates fathers' divorce and child support payment behavior to the gender of their children. The fourth section introduces the data and summary sample statistics. The following two sections contain the empirical results, followed by the conclusion.

PREVIOUS LITERATURE

Historically a child's gender has affected the level of education he or she is likely to receive, the occupation he or she will choose, and the wages he or she will be paid (Blau 1998 p. 114, U.S. Department of Education 2000). There is evidence that children's gender affects parental behavior from birth. Lundberg and Rose have studied the differential behavior of fathers in response to the birth of a son versus the birth of a daughter. In their 2002 paper they find that men's labor supply and wage rates increase more in response to the births of sons than to the births of daughters, although there is no differential effect on the wages and hours of mothers.

Other research suggests that a child's gender and the gender of her siblings can affect the likelihood of growing up with two married parents. Lundberg and Rose (2001) find that a woman is more likely to marry the child's father after a nonmarital birth if the child is a son, although there is no significant effect of child gender on the remarriage probability of a divorced mother. And a number of papers suggest that the presence of sons decreases the

probability that a marriage will end in divorce. Morgan, Lye, and Condran (1988), using the June 1980 Current Population Survey, find that sons reduce the risk of marital disruption by 9% more than do daughters. The authors surmise that sons create a stronger sense of attachment and obligation in fathers that keeps them in marriages.[5] Their evidence is supported by Katzev, Warner, and Acock (1994), who find that mothers with at least one boy reported a significantly lower propensity to divorce compared to mothers with only girls, and that fathers in families with boys were more engaged with their children. Mott (1994) uses the National Longitudinal Survey of Youth and finds that fathers are more likely to be present in the home if a child is male. Spanier and Glick (1981) report in cross-tabulations that having all girls increases a woman's chances of marital disruption. Teachman and Schollaert in their 1989 study of gender and birth timing, find that women with sons are more likely than women with daughters to be married at any point in time.

[5] Yeung *et al* (2001) point out that different studies give different estimates of fathers' involvement with children, most likely because of small selected samples and variation in the ages of children studied and the measures of father involvement used. In their study using the 1997 Child Development Supplement of the Panel Study of Income Dynamics, they had a relatively large and representative sample and involvement was measured with time use diaries. They found that fathers spent more time in play and companionship activities with sons than with daughters on weekdays (and the effect was almost significant for weekends). Barnett and Baruch (1987), Ishii-Kuntz (1994), Morgan *et al* (1988), and Starrels (1994) give complementary results. (Yeung *et al* also note research indicating no difference or more involvement with daughters in Snarey (1993) and Lamb *et al* (1988)). In addition, Cox *et al* (1999), Katzev *et al* (1994) and Mizell and Steelman (2000) report higher levels of marital satisfaction in marriages with sons compared to daughters.

These findings may have serious consequences for the well-being of children, because there is a broad consensus that children growing up with only one parent fare worse than those who grow up with both of their biological parents.[6] The lower income of a single mother is a major contributor to the relatively poorer outcomes for her children (McLanahan and Sandefur 1994 p. 1, p. 3). An important factor in single mothers' low income levels is the low levels of child support paid by absent fathers. Despite increased enforcement efforts, aggregate child support award rates, receipt rates and amounts have not increased over the past 30 years (Case, Lin, and McLanahan 2002; Freeman and Waldfogel 2001; Hanson *et al* 1996; Sorensen and Halpern 1999).[7]

Girls may be especially vulnerable to the problems of growing up in single mother families because the literature suggests that they are more likely than boys to live in these families. They may be disadvantaged for another reason: if fathers are more likely to stay married for the sake of their sons than their daughters, they may be more likely to pay child support to sons after divorce. This paper examines whether girls are at a double disadvantage: are they less likely than boys to live in married parent families, and if so, are they less likely to receive child support if their parents are divorced?

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[6] For children of divorced parents, there is less agreement as to whether this is a causal result of divorce, or of a third factor associated with both divorce and poorer outcomes for children, which would negatively affect the children even if the parents remained married (Cherlin 1999).

[7] The evidence suggests that overall, certain aspects of child support enforcement have been effective, but that they have been counteracted to differing degrees over this period by other political, economic and demographic forces (e.g. Case, Lin, and McLanahan 2002).

The existing literature indicates the opposite of this "double disadvantage" story; if anything, boys are associated with lower levels of child support. One paper that has addressed the question of whether the gender composition of a woman's children affects levels of assistance from the father is Paasch and Teachman (1991). They use the fifth round of the National Longitudinal Study of the Class of 1972 (NLS-72) to examine whether child gender affects the regularity of contributions of various forms of assistance from fathers. Some forms of assistance (for example, helping with homework and attending school events) require fathers' direct participation with their children, whereas others (such as writing a child support check) do not. Paasch and Teachman hypothesize that fathers will find it easier to make the direct participation contributions to their sons rather than their daughters, but that for less direct (monetary) contributions, there will be no gender difference. Their measure of gender composition is presence of a son (i.e., the mother has at least one boy).[8] Contrary to their hypothesis, the presence of a son has no significant effect on the regularity of the direct forms of assistance, but for two of the monetary measures of assistance (paying for routine dental care and carrying medical insurance for the children), for which they predict no gender difference, a son's presence has a negative and significant effect.

Paasch and Teachman argue that their results highlight a selection issue: if we accept that fathers with sons are less likely to divorce, it seems that those divorced fathers who have sons are less committed to them on average. Divorced fathers with no sons are not selected in the same way, and are more likely to provide at least these two kinds of support to their absent girls.

[8] They report that regressions not shown using more complex measures of sibling gender composition gave similar results.

Seltzer (1991) focuses on the broader relationship of absent fathers with their children, not on the gender composition of the children; but she notes that her results show that a child being a boy has a negative and significant effect on the father paying child support if the father and mother have been separated for more than five years.[9]

This paper extends the previous literature in the following ways. First, I address both aspects of the "double disadvantage" story: whether girls are less likely to live in married couple households, and whether girls are less likely to receive child support from absent fathers. Second, the data used in this paper, the Current Population Survey, have the advantage of a very large sample size which may be able to detect effects that smaller samples will not.[10] The effects of boy children on divorce found in previous work are not large, and the effect on child support receipt and amounts is likely to be as small or even smaller. Third, I control more precisely for both the number and gender makeup of the divorced women's children than previous work.

MODEL

Girls may be at greater risk of the difficulties of growing up in a single mother family because of two possible influences: differences between boys and girls in their fathers' divorce probabilities -- or bias in divorce probabilities -- and differences between boys and

[9] She also finds a negative effect of being a boy on visits by the father, although she cites other research which has given mixed results on absent father visits by child gender.

[10] The CPS provides no information about non-financial forms of assistance that absent fathers may provide. However, Paasch and Teachman find that fathers are much more likely to contribute child support payments than any of the other forms of assistance.

girls in their fathers' child support payment behavior -- or bias in payment probabilities. First we will examine the case where there is bias only in the probability of divorce.

Case 1: Gender bias in divorce probabilities only

Suppose the probability of divorce can be described by P(d) = p(θ, n, b, q), so that divorce is a function of θ, the quality of the match between the husband and the wife, n the number of children in the marriage, b a measure of the quantity of sons in the marriage, and q which is a measure of the quality of the father. The probability that the father pays child support is a function of the father's quality, q, whether or not the couple is divorced, d, and the child support enforcement environment e, so P(c) = r(q, d, e). Figure 1 portrays the joint distribution over fathers of q, father quality or level of attachment to the children, and θ, quality of the match between husband and wife, or the level of attachment of the husband to the wife during the marriage. I have sketched in contour lines for the joint density of θ and q which indicate that they are positively correlated – it is plausible that the match quality of a husband and his quality as a father are positively related – but nothing depends upon this assumption. I assume that the probability of divorce depends upon both θ and q, while paying child support if divorced depends only upon q. Specifically, I assume that an increase in either θ or q reduces the chance of divorce, that is, $\frac{\partial P(d=1)}{\partial q} < 0$ and $\frac{\partial P(d=1)}{\partial \theta} < 0$.

The downward sloping curves in the graph, *q*(θ) boys* and *q*(θ) girls*, represent the level of father quality below which d=1, given θ, for boys and girls respectively. Another way of putting it is that q^* is the minimum father quality required to keep a marriage from ending at a given level of θ. I have assumed that $\frac{\partial q^*(\theta)}{\partial \theta} < 0$, so that a higher match quality reduces the father quality required to keep a marriage from ending. The influence of the gender of

the children on divorce probabilities is represented by the fact that there are two q^* curves; the curve for boys is lower and to the left of the curve for girls, so that at a given match quality θ, the level of father quality required to keep a marriage together is lower for a marriage with boys than for a marriage with girls.

The probability that a divorced father will pay child support is determined by the horizontal line, q_{min}; divorced fathers will pay child support if their $q \geq q_{min}$ and will not pay child support if their $q < q_{min}$. In this case, the probability of a father paying child support does not depend upon the gender of the children, so that there is no gender bias in the child support payment behavior of individual fathers. Aggregate differences in child support receipt across boys and girls can come only from differences in divorce probabilities of their fathers in this model.

What are the implications of this graph for the types of families which boys and girls will grow up in? Consider first marriages with one child, so that there is either one boy or one girl. The proportion of girls living with their own married parents is measured by the density in the graph above the curve *q*(θ) girls* (the area on the upper right labeled *A''* and the area on the lower right labeled *B'')*, while the proportion of boys living with their own married parents is measured by the densities found above the curve *q*(θ) boys* (the areas labeled *A''* and *B''* along with the trapezoid labeled *A'* and the parallelogram *B'*). As long as *A'* or *B'* contain positive probability, the proportion of boys living with their own married parents will be greater than the proportion of girls living with their own married parents.

What are the implications for receipt of child support by boys and girls? The proportion of girls of divorced parents who receive child support is the density of the area below *q*(θ) girls* and above q_{min} (the triangle labeled *A* and the trapezoid labeled *A'*) divided

by the density of the total area to the left of *q*(θ) girls* (areas labeled *A*, *A'*, *B'* and the trapezoid labeled *B*); we can write this more formally as

$$P(CS = 1 \mid d = 1)\,|_{girl} = \frac{\int_0^{\theta_g^*} \int_{q\min}^{q^*(\theta)\,girls} p(q,\theta)\,dq\,d\theta}{\int_0^{\infty} \int_0^{q^*(\theta)\,girls} p(q,\theta)\,dq\,d\theta}$$

where θ_g^* is the value of θ for which $q^*(\theta_g^*)\ girls = q_{min}$. Similarly, the proportion of boys of divorced parents who receive child support is the density of the area below *q*(θ) boys* and above q_{min} (area labeled *A*) divided by the density of the total area to the left of *q*(θ) boys* (areas labeled *A* and *B*), or

$$P(CS = 1 \mid d = 1)\,|_{boy} = \frac{\int_0^{\theta_b^*} \int_{q\min}^{q^*(\theta)\,boys} p(q,\theta)\,dq\,d\theta}{\int_0^{\infty} \int_0^{q^*(\theta)\,boys} p(q,\theta)\,dq\,d\theta}$$

where θ_b^* is the value of θ for which $q^*(\theta_b^*)\ boys = q_{min}$. It can be seen from the graph that it is ambiguous which of these proportions will be larger. For girls, the numerator in the conditional probability $P(CS = 1 \mid d = 1) = \frac{P(CS = 1, d = 1)}{P(d = 1)}$ is the density in *A* + *A'* and the denominator is the density in *A* + *A'* + *B* + *B'*; for boys the numerator is the density in *A* only and the denominator is the density in *A* + *B* only. Without further assumptions about these densities we do not know how the ratios will differ between girls and boys and we cannot predict which proportion is larger.

Case 1 embodies the notion that selection into the divorced fathers group by child gender (rather than a direct effect of child gender on an individual father's propensity to pay child support) will determine any differences in child support receipt across boys and girls.[11] In Section 2 I discussed the notion of selection expressed in Paasch and Teachman (1991): because fathers are more attached to sons, divorced fathers of sons are a negatively selected group, whereas divorced fathers of girls are not. However, in the model here, the effects of selection cannot be predicted. The model implies that a greater number of girls than boys will have divorced fathers; but this greater number of fathers is composed of a greater number of fathers who will pay child support and a greater number of fathers who will not, so that we cannot predict the relative proportions.

Case 2: Gender bias in divorce probabilities and gender bias in child support payment

Now I examine the case where there is gender bias in payment in addition to gender bias in divorce probabilities. Here the probability of a father paying child support depends directly upon child gender, so P(c) = r(q, d, e, b). Figure 2 again shows the joint distribution of θ and q and is identical to Figure 1, except that here there are two horizontal lines for q_{min}, one for girls and one for boys. The line q_{min} *girls* lies above the line q_{min} *boys*, indicating that fathers of girls are less likely to pay child support than are fathers of boys.

The implications for whether a higher proportion of girls or boys will be living with their own married parents are similar to Case 1, where there is no bias in payments. The proportion of girls living with their own married parents is measured by the density in the

[11] Note that this selection is not limited to results of decision-making by the father; Morgan *et al* (1988) and others have noted that special bonds between fathers and sons may be an impediment to choosing divorce for both mothers and fathers.

graph above the curve *q*(θ) girls* (the area on the upper right labeled *C''*, the area on the middle right labeled *D''*, and the area on the lower right labeled *E'')*, while the proportion of boys living with their own married parents is measured by the densities found above the curve *q*(θ) boys* (the areas labeled *C''*, *D''*, and *E''*, along with the trapezoid *C'* and the parallelograms *D'* and *E'*). As long as *C'*, *D'* or *E'* contain positive probability, the proportion of boys living with their own married parents will be greater than the proportion of girls living with their own married parents.

What are the implications in case 2 for receipt of child support by boys and girls? The proportion of girls of divorced parents who receive child support is the density of the area below *q*(θ) girls* and above q_{min} *girls* (the triangle labeled *C* and the trapezoid labeled *C'*) divided by the density of the total area to the left of *q*(θ) girls* (the triangle *C*, trapezoids *C'*, *D* and *E*, and parallelograms *D'* and *E'*). Similarly, the proportion of boys of divorced parents who receive child support is the density of the area below *q*(θ) boys* and above q_{min} *boys* (triangle *C* and trapezoid *D)* divided by the density of the total area to the left of *q*(θ) boys* (areas *C* and *D* and trapezoid *E*). By reasoning similar to the reasoning in case 1, it is ambiguous which of these proportions will be larger. For girls, the numerator in the conditional probability $P(CS = 1 | d = 1) = \frac{P(CS = 1, d = 1)}{P(d = 1)}$ is the density in *C* + *C'* and the denominator is the density in *C* + *C'* + *D* + *D'*+ *E* + *E';* for boys the numerator is the density in *C* + D and the denominator is the density in *C* + *D* + *E* only. Without further assumptions about these densities we do not know how the ratios will differ between girls and boys and we cannot predict which proportion is larger.

The literature suggests that fathers in intact families feel closer to and spend more time with their sons than their daughters. Case 2 embodies the idea that this attachment to

boys may extend beyond reducing the likelihood of divorce; it may also directly increase the likelihood that a father pays child support after divorce. If this gender bias in payment exists, we might think that girls are even more likely to be at a disadvantage in child support receipt than they are in Case 1. However, we see from Figure 2 that we still cannot predict the relative proportions of boys and girls who receive child support. In particular, we will not be able to distinguish between the selection story of Case 1, where there is gender bias only in divorce probabilities, and Case 2, where child gender influences both selection and individual fathers' propensity to pay child support.

For both cases, the model predicts that if fathers of boys are less likely to divorce than fathers of girls, a greater proportion of children living with their own married parents will be boys. This implication will be tested in the empirical results below. However, for both cases, the implications for the child support payment behavior of divorced fathers are ambiguous. Whether a greater proportion of boys will receive child support is an empirical question. In the next section I describe the data I will use to examine these questions.

DATA AND SUMMARY STATISTICS

I use the March Current Population Surveys from 1983 – 2001 (Current Population Surveys 1962-2001a,b).[12] The CPS is a monthly labor force survey of approximately 55,000

[12] For 1988 there are two data files: the original file and the Rewrite or Bridge file. The CPS data processing system was rewritten in 1989 with "revised procedures to match supplement records to basis CPS records; revised weighting procedures; revised demographic and family edits; revised imputation procedures; and more income detail on the file." (Current Population Survey 1990 p. 2-2). The CPS then rewrote the 1988 file using the new system to make it more compatible with 1989 and future years. I use the 1988 Rewrite file.

households conducted by the Census Bureau for the Bureau of Labor Statistics. The March supplement provides detailed demographic and family structure information on all household members at the time of the survey and earnings and income information for the previous calendar year, including child support and alimony receipts and amounts. The chief advantage of the CPS is that it gives a large sample of child support – eligible women and their children with reasonably consistent data over many years.[13] In addition, this time frame is useful for my study because the divorce rate leveled off in the 1980's after steep growth from the 1960's to the late 1970's (Goldstein 1999), so that the results are less susceptible to selection into divorce that varies over time.

The measures of child support payment behavior that I use are whether or not the mother received any child support or alimony in the previous calendar year, and the amount received. I use child support and alimony together because until 1988, the CPS did not ask women about child support and alimony separately.[14] I do not view this as a major limitation

[13] However, certain questions and weighting and processing procedures changed over these years.

[14] In the years when alimony and child support are enumerated separately, the number of women who receive alimony is very low: 2% of the observations in 1988, 1.4% in 2001. The average 1988 payment of child support and alimony together is $1191.71, of only child support $1038.59; the figures for 2001 are $1418.14 and $1322.97, respectively. Also prior to 1988, for amounts received (but not for recipiency), the child support and alimony total included income from "regular contributions from person not living in the household [in addition to child support and alimony], and other periodic income." (CPS 1984 p. 100). However, these amounts are small (Garfinkel, Heintze, and Huang 2001, p. 11) and results are robust to excluding observations from these years.

for a number of reasons. It is plausible that if child gender composition influences fathers' child support payment behavior, it may influence their payment of alimony similarly, if fathers believe that paying alimony affects their children's welfare. In addition, especially prior to 1985, the distinction between child support and alimony may not be meaningful, because mothers and fathers have differing tax incentives to label alimony as child support and vice versa.[15] The results discussed below were robust to using only the 1988-2001 data, when child support was asked about separately.[16] Appendix A contains additional details about the data.

Pooling the 19 years of data and using observations with month-in-sample 1 – 4 only, I obtain a sample of 43,123 separated, divorced, or never married mothers (aged 15 and over) of children aged less than 18.[17] Table 1 presents summary statistics for all of these mothers

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[15] Alimony is tax deductible for the father and taxable income for the mother, whereas child support is neither; manipulating the labeling of these amounts for tax purposes may have been easier prior to the Tax Reform Act of 1984, which revised the rules defining alimony (U.S. Department of Health and Human Services 1998, Appendix G; U.S. Department of the Treasury 2002).

[16] Three observations in the divorced women's sample were topcoded for child support, alimony, or child support and alimony together. These observations were dropped from the regressions along with 15 other outliers which had values of over $50,000 (in real $95) for child support and alimony added together.

[17] From 2-3% of households from 1983-1987 had to be omitted because of duplicate or zero-valued line numbers within the household roster or because they had members whose own line number was listed as their parent line number (1983: 1,306 out of 59,211 households;

pooled together and then separately for never married, separated, and divorced mothers. Table 2 presents summary statistics for the divorced mothers only from the first and last years of the data. In my regressions I will focus on the divorced mothers because of the evidence that child gender influences divorce probabilities.

In column 1 of Table 1 we see that only 31% of single mothers in the pooled sample received any child support or alimony in the previous calendar year. The average annual amount was $1265.95.[18] Marital status makes a large difference for receipt rates and amounts received on average and among those who received any: divorced mothers were more likely than separated or never married mothers to receive any child support or alimony, and the amounts they received were greater. At the bottom of column 1 we see that in the pooled sample 39% of mothers are never married, 19% separated and 42% divorced. The average age of the mothers was 32.68, with divorced mothers being the oldest on average and never married mothers the youngest. One in three never married mothers had not completed high school, while only 15% of divorced mothers had not. Divorced mothers also had the highest proportion of women with some college or college or more. Sixty-three percent of the pooled sample is white, 34% black and 3% other races. White women composed 80% of the divorced group but only 44% of the never married group. Single mothers had on average between one and a half and two children. Never married mothers had the highest proportion of women with only one child and the highest proportion living in a central-city metropolitan

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1984: 1,144 out of 59,171; 1985: 1,238 out of 59,799; 1986: 1,195 out of 58,935; 1987: 1,184 out of 58,279.) 1988 – 2001 line numbers seem very clean.

[18] All monetary variables are given in 1995 dollars; amounts were inflated or deflated using the Consumer Price Index.

statistical area. Divorced mothers had the smallest household size and never married mothers the largest.

The work status and earnings information shows that that divorced women were most likely to be attached to the labor force and had the highest total earnings for the previous calendar year.[19]

Table 2 indicates that the proportion of divorced women receiving child support and alimony increased between the first and last years of the sample. The average amount received by all divorced mothers increased by about 20%, although the average amount received among those who received a positive amount did not change in real terms. The average divorced mother in 2001 was slightly older and more educated than in 1983, and more likely to be a full time full year worker.

COMPARISON OF GIRLS AND BOYS BY FAMILY TYPE: RESULTS

The model in Section 3 predicted that the number of sons living with their own married parents will be greater than the number of daughters living with their own married parents, and left open the question as to whether the proportion of girls receiving child support will be greater than the proportion of boys receiving child support. I cannot look at the first question directly with the CPS because the data do not distinguish whether the children in a married man's family are his biological, adopted or step children, or whether or not it is his first marriage. However, I am able to address a closely related question with this data: are boys

[19] Earnings information is the sum of wages, non-farm self-employment earnings, and farm self-employment earnings. Topcoded values for each were multiplied by 1.3 before being summed. Observations with negative values of earnings were not included in the earnings averages.

more likely than girls to reside in a married-couple family? If the answer is yes, this is consistent with the idea that having sons reduces divorce probabilities.

The unit of observation in Table 3 is the child, where I have selected only children who have months-in-sample 1-4, and where I have corrected the standard errors for observations on multiple children of the same parent. The top panel of Table 3 indicates that in single mother households, the ratio of boys to girls is almost one to one; 49.9% of these children are boys. The second line gives the proportion of children who are male in families where a father figure is present: given the CPS definition of parenthood, this man may be the child's biological father, adopted father or stepfather, and this group includes single father households.[20] The proportion of these children who are boys is 0.516, indicating that a boy is more likely to reside in a father-present family. The third line of the top panel shows that the difference in these proportions is statistically significant. To make sure that the single-father families are not driving this result, in the lower panel, single mother families are compared to only married-couple families. Again, the proportion of children who are male, 0.513, is larger in the married-couple families than in the single-mother families, and this difference is significant.

Although the difference in the proportion male across married-couple and single mother households appears small, it is consistent with a large effect of a child's gender on divorce. In Appendix B I calculate the magnitude of the effect of gender on divorce that would be required to observe that 51.3% of children in married couple families are boys. If we consider only married parents and imagine that all families have two children and that half of marriages end in divorce, the 51.3% figure implies that having a boy relative to a girl decreases the probability of divorce by 2.6 percentage points. The probability of divorce

[20] This excludes father figures who are living with but not married to the child's mother.

faced by a family with two boys would be 47.4%, while the probability for a family with two girls would be 52.6%, a 5.2 percentage point increase or 11% of the divorce probability of the two-boy family. If we assume that only 40% of marriages will end in divorce, the increase would be 6.2 percentage points or 17% of the divorce probability of the two-boy family.

COMPARISON OF GIRLS' AND BOYS' CHILD SUPPORT RECEIPT: RESULTS

The evidence in Table 3 is consistent with the model's prediction that a greater proportion of children living with their own married parents will be boys. Now I turn to the question of whether the proportion of boys receiving child support will be greater than the proportion of girls receiving child support.

To examine this question empirically, recall that I modeled the probability of divorce as $P(d) = p(\theta, n, b, q)$ and the probability of paying child support as $P(c) = r(q, d, e)$. Whether daughters or sons of divorced families are more likely to receive child support will depend upon the expected quality of the divorced fathers, $E(q \mid d = 1, b, \theta, n)$, so that child support behavior among divorced fathers will depend upon the factors that affect selection into the divorced fathers group, b, θ, and n, as well as on q and e.

I have assumed that the father's quality q is unobservable, but it is plausible that it is correlated with the fathers' observable characteristics. As I noted, characteristics of the fathers are not available in the CPS, so the characteristics of the mothers, which I denote as x_w, have to serve as proxies for the father characteristics. Given assortative mating, this controls for some of the characteristics of the father, but as discussed earlier it is a limitation that I cannot include control variables for the father directly. I control for the child support enforcement environment by including state year fixed effects in the regression. For θ, I

assume that the quality of the match is a function of some of the observable characteristics of the parents and characteristics of the children such as their ages; again, the characteristics of the mothers will proxy for the characteristics of the fathers. I denote x_c to be characteristics of the children other than their gender composition and number. I also control for number of children *n* and a measure of boys in the marriage *b*. The empirical implementation is

$$C = \beta_0 + \beta_1 X_w + \beta_2 X_c + \beta_3 b + \beta_4 n + \beta_5 e + \varepsilon.$$

Therefore child support receipt is allowed to depend upon characteristics of the mother and the children and the child support enforcement environment. Whether the measure of child gender has a significant effect on child support receipt is an empirical question.

The child support outcome variables that I use on the left hand side are whether or not the mother received any child support or alimony in the previous calendar year and the amount she received.[21] In a third specification, I use the amount received as the dependent variable and limit the regression only to the sample of women who received a positive amount. The characteristics of the mother which I control for are her age, race, metropolitan statistical area status, her education, and the number of adult men and women in her household. For children, I control for their number and the ages of the youngest and oldest children. I control for the child support enforcement environment by including state year fixed effects in the regression. I use different measures for child gender in the following regressions.

[21] The results for child support receipt are robust to using a probit specification. The second regression for amount received has many observations censored on the left at zero, so that a Tobit specification might be used. The dependent variable is very likely heteroskedastic, in which case Tobit estimates would be biased. (Deaton 1997 p. 85).

In the first regression for the measure of child gender, I follow Paasch and Teachman (1991) and use an indicator equal to one if the divorced mother has at least one son. Paasch and Teachman found no effect of having at least one boy on the regularity of receiving child support for divorced mothers, controlling for total number of children. The regression results in the top panel in Table 4 show a similar result for divorced mothers in the CPS data for child support and alimony receipt, amount received, and amount received if any: the coefficients on at least one boy are small and not statistically significant.[22] Because of economies of scale and different court-ordered award formulas for different numbers of children, it is important to control carefully for the number of children. The lower panel of Table 4 shows a similar regression where instead of a linear specification in the number of children, I include indicator variables for whether the mother has two, three, or four or more children. In column 2 for child support and alimony receipt, we see that the negative effect of at least one boy is still small, but it has increased slightly compared to the more restricted regression and has become marginally significant (p-value = 0.08). The coefficients on at least one boy in columns 3 and 5 remain insignificant. In contrast to the idea that girls may be at a double disadvantage, this is evidence that if anything, boys are at a disadvantage for child support receipt.

I explore whether different specifications for child gender composition and number of children will reveal stronger effects of gender. Following Lundberg and Rose (2002), I compare the effect of numbers of boys versus number of girls with linear variables: *girls_0_3*

[22] These results are not directly comparable to Paasch and Teachman: I include different explanatory variables and I am able to include state-year fixed effects; they are able to control for some characteristics of the father, the marriage and the divorce arrangements that are not noted in the CPS.

is the number of girls from one to three, or zero if there are no girls or greater than 3 girls; *boys_0_3* is similar for boys.[23] For mothers with four or more boys or girls I use an indicator variable.[24] Table 5 reports results for this specification:

$$C= \beta_0 + \beta_1 X_w + \beta_2 X_c + \beta_3 * girls\_0\_3 + \beta_4 * boys\_0\_3 + \beta_5 * D(4 \text{ or more boys or girls}) + \beta_6 e + \varepsilon$$

The fourth row reports the p-value for an F-test for whether the coefficient on number of boys is significantly different from the coefficient on the number of girls. In column 2 for receipt of child support, the number of boys and number of girls appear to have identical and insignificant effects. For the amount received and amount received if any, the number of girls (from zero to three) has a higher coefficient, but it is not statistically different than the coefficient on boys. If boys are having any effect, this specification is not capturing it.

Table 6 reports results from the following specification also found in Lundberg and Rose: indicators for one boy, one girl, two boys, two girls, three boys, three girls, and an indicator for four or more boys or girls:

$$C = \beta_0 + \beta_1 X_w + \beta_2 X_c + \sum_1^3 \beta_{girls\,j} * D_{girlsj} + \sum_1^3 \beta_{boys\,j} * D_{boysj} + \beta_9 * D(4 \text{ or more boys or girls}) + \beta_{10} e + \varepsilon$$

P-values are reported for F-tests on the difference between the coefficients on one girl and one boy, two girls and two boys, and three girls and three boys. In column 2 for child

[23] Lundberg and Rose are able to control for father fixed effects because they have multiple observations on the fathers over time.

[24] For example, a mother with two girls and four boys would have girls0_3 = 2, boys0_3 = 0 and the indicator for four or more girls or boys equal to one.

support and alimony receipt we see that the coefficient on one girl is significantly larger than the coefficient on one boy. In column 3, the coefficient on one girl for amount received is higher than for one boy, but this difference is not statistically significant. Comparing two boys to two girls and three girls to three boys for all three outcomes, we find no significant differences. The marginally significant effect of at least one boy on receipt that we saw in Table 4 may be driven by the difference in receipt between one boy and one girl.

To isolate this effect, Table 7 presents the regression with the most precise controls for the gender composition and number of children. In the top panel the sample is limited to divorced mothers who have only one child. In column 2, the coefficient on one boy indicates that the mother of a male only child is 2.5% less likely to receive child support than the mother of a female only child, and this coefficient is significant. There are no significant differences for these mothers for amount received and amount received if any. The lower panel of Table 7 shows a regression on the sample of divorced mothers who have exactly two children. There are no significant differences in the child support outcomes for mothers of two children by the gender of the children. The results in this section give no evidence that girls are at a disadvantage in child support receipt. If anything, boys seem to be at a slight disadvantage, given the small negative effect of having a boy on child support and alimony receipt for divorced mothers with one child, but this result is not very robust.

DISCUSSION AND CONCLUSION

This paper has studied whether girls are at a double disadvantage in terms of the probabilities of their parents divorcing, and in the likelihood of receiving child support if their parents are divorced. Two questions were addressed: do different divorce probabilities for fathers of boys and fathers of girls mean that boys are more likely to reside in married couple families?

And if so, are divorced fathers more likely to pay child support to boys than girls? This paper builds on the existing research on these questions in three ways. First, I address both aspects of the "double disadvantage" story: whether girls are less likely to live in married couple households, and whether girls are less likely to receive child support from absent fathers. Second, the data used here have a very large sample size which may be able to detect effects that smaller samples will not. Third, I control more precisely for both the number and gender makeup of the divorced women's children than previous work.

The model in Section 3 presented two possible influences of child gender on the likelihood of child support receipt: a gender bias in divorce probabilities, and a gender bias in the probability of paying child support. The empirical findings indicate that boys are more likely than girls to reside in married couple families, consistent with the notion that boys reduce the probability of divorce. However, the results for child support payment receipt indicate no important differences by child gender and certainly no negative effect for girls.

APPENDIX A – Discussion of CPS Data

Parent-child relationship coding - The first prediction of the model is that a greater proportion of boys than girls will live with their own married parents, but because of the way parent-child relationships are coded, I cannot identify whether a child's parents are her birth parents, adopted parents, or step parents.[25] Therefore I will compare the proportion of boys in single mother families to the proportion of boys in married couple families, although these married couple families will not all be birth parents of the children.

The second question in my study is whether girls or boys are more likely to receive child support if their parents are divorced. Because of the parent-child coding, I am unable to identify all child-support-eligible mothers, only those who are unmarried. For separated, divorced, and never married mothers, I treat all their children under age 18 as having absent fathers and being eligible for child support. For these single mothers, there is the small problem that I am unable to exclude adopted children who are unlikely to be eligible for child support. This will not affect my results unless girls and boys do not have equal probabilities of being adopted;[26] in any case, this number of children will be very small.

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[25] For each child beginning in 1983, the roster line number of one parent in the household is listed, where a child is defined as "related by birth, marriage or adoption." (CPS 1984 p.108). For 1987, this variable (parentln) is not noted in the CPS documentation (its column is listed as filler), but the parent line number is in the raw data in the same column location as in 1983 – 1986.

[26] If more adoptees are girls (from China, for example), and girls are less likely to receive child support in my data, this may be because they are adopted, rather than because they are girls.

A larger problem is that for children of a married couple, I cannot identify the biological mother/stepfather families, so I do not know which children of married mothers are eligible for child support. These women have to be excluded from the analysis of child support receipt. There is evidence that the gender composition of children does not affect women's remarriage rates (Lundberg and Rose 2001) so this should not bias my results.[27]

Lack of data on absent fathers - For those child-support eligible mothers whom I can identify, there is no information available about the absent fathers,[28] so I do not know if the children in a single mother's family have different fathers. Presumably it is the gender composition of a man's own children that will influence his decision to pay, so to the extent that women have children from more than one absent father, the gender composition will be

[27] Estimates from the June 1990 CPS indicate that 21.6% of the estimated 64 million children under 18 in the U.S. lived with their mother only, while 72.5% lived with two parents (including step and adoptive parents) (U.S. Bureau of the Census 1992, p. 12). Of that 72.5%, 14.6% lived in biological-mother/step-father families, comprising about 10.6% of all children; presumably these 10.6% of children were child-support eligible. If these figures are broadly true for the pooled CPS sample used in this paper, confining the study to children of single mothers captures about two thirds of the child-support eligible children. Hill (1992) finds that remarriage by the custodial mother reduces child support from the absent father.

[28] This data limitation is common in many well-known studies of child support outcomes, e.g. Beller and Graham (1993), Garfinkel and Robins (1994). As noted in Smock and Manning (1997) "There are little data that follow both parents after the dissolution of a union…"

measured with error. Although many studies of child support outcomes are unable to track absent fathers, researchers agree that characteristics of the father are important to understanding child support payment behavior (e.g., Smock and Manning 1997). In particular, if a preference for boys is playing a role in child support decisions, and the absent father has a new family, the gender composition of the new family could be a factor in these decisions.[29]

Lack of information on child support orders - The CPS does not obtain information on the existence of child support orders nor the amount due to mothers. If these orders or amounts are correlated with the sex of the children (which is not inconceivable), and I detect differences in child support payments by child gender, I may be detecting an effect of the judicial system rather than of the fathers. This mechanism would need to be investigated more thoroughly with different data.

Mother and older child reports on child support income - The child support and alimony receipt and amount questions are asked of all people aged 15 and over, so that 15, 16, and 17 year old children of single mothers may report the child support as their income, rather than their mothers reporting it. In the data, children of these ages sometimes report positive receipts while mothers do not, and vice versa, and sometimes both report positive amounts.

[29] Studies have looked at the effect of the nonresident parent remarrying and having new children, but not on the gender composition of those new children. Smock and Manning (1997) find no effect of a father's new union or new children on the annual amount of child support paid; Hill (1992) reports similar findings. Teachman (1991) and Seltzer (1991) find remarried fathers are more likely to pay child support.

It is not clear whether there is double reporting, or how the reporting is divided where some children are 15 and over and some are younger. The results below are robust to using only the mother's reports or incorporating the 15-17 year old reports to the mother's record.[30]

Multiple observations on the same household - One issue in using multiple years of the CPS is that households can potentially appear in two consecutive March surveys. A CPS household once contacted is interviewed for 4 months in a row, has an 8 month hiatus, and then is interviewed for 4 more months. If two observations on the same mother in adjacent years are included in the regressions, the standard errors may be contaminated by correlation between the error terms.[31] In addition, households or household members may not reappear in the second year if the entire household or that person has moved. So the second-year observations will be the non-movers, a group which may no longer be a nationally representative random sample. For this reason I exclude from the sample the second-year

[30] If I incorporate the children's reports, receipt is an indicator equal to one if the mother reported receiving child support or alimony or any of her 15-17 year old children reported receiving child support. For amount, I summed the amounts received by the 15-17 year old children in the family, and then chose the larger of that number and the mother's reported amount. I also tried adding the children's reports to the mother's, but I think it is likely there was double reporting. However, all of the measures delivered very similar results, probably because the number of these children reporting receipt was relatively small.

[31] One approach would be to correct the standard errors for this correlation, but matching mothers from the first year to the second year is not fool-proof (Madrian and Lefgren 2000). One example is that households cannot be matched at all between 1985 and 1986 and between 1995 and 1996 (Current Population Survey 1997 p. 3-1).

observations, by keeping only women who are in the first 4 months-in-sample (following Bitler, Gelbach and Hoynes 2002).

APPENDIX B – Effect of gender on divorce probabilities

Suppose all families have two children, *K* is the total number of children, and *x* is the proportion of marriages which end in divorce. Also suppose that having a boy rather than a girl decreases this proportion by G. What would the magnitude of this effect have to be for us to observe that 51.3% of children in married-couple families are boys? Let's call this observed proportion H.

Table B.1

	Number of children of this type	**Proportion divorces**	**Proportion marriages continuing**
girls in 2-girl families	K/4	x + G	1 - x - G
girls in 1 girl, 1 boy families	K/4	x	1 - x
boys in 1 girl, 1 boy families	K/4	x	1 - x
boys in 2 boy families	K/4	x - G	1 – x + G

The proportion of boys in marriages to total children in marriages is:

$$\frac{(1-x)\frac{K}{4}+(1-x+G)\frac{K}{4}}{(1-x-G)\frac{K}{4}+(1-x)\frac{K}{4}+(1-x)\frac{K}{4}+(1-x+G)\frac{K}{4}} = H \quad \Rightarrow$$

$$\frac{2 - 2x + G}{4 - 4x} = H \quad \Rightarrow$$

$$G = (4H-2) - (4H-2)x$$

In this data we observe H to be 0.513. Estimates that half of all recent marriages will end in divorce have been widely quoted (U.S. Bureau of the Census 1992). If x = 0.50, then G = 0.026, a 2.6 percentage point change for having a boy relative to a girl. The probability

sof divorce faced by a family with two boys will be 47.4%, while the probability for a family with two girls is 52.6%, a 5.2 percentage point change or 11% of the divorce probability of the two-boy family. The Census report notes that 4 out of 10 marriages ending in divorce may be a more reasonable estimate. If x = 0.40, then G = 0.031, a 3.1 percentage point change for having a boy relative to a girl. The probability of divorce faced by a family with two boys will be 36.9%, while the probability for a family with two girls is 43.1%, a 6.2 percentage point change or 17% of the divorce probability of the two-boy family.[32]

[32] Given the two-child assumption and the value $H = 0.513$, this is a lower bound on the effect of gender, because the values of 0.40 and 0.50 include divorces of childless marriages. Marriages with children are less to end in divorce than marriages without children (e.g., Spanier and Glick 1981 p. 334, Lillard and Waite 1990) and the effect of gender in this calculation increases as the probability of divorce gets smaller.

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Table 1
Summary Sample Statistics
Separated, divorced and never married mothers with children under 18
March CPS 1983 - 2001

	1	2	3	4
	All Mothers	Never Married Mothers	Separated Mothers	Divorced Mothers
Received any child support or alimony last year	0.31	0.15	0.25	0.48
Amount received last year in $95	1,265.95	318.78	1,061.48	2,241.25
Amount received last year if received any, in $95	3,987.62	1,961.96	4,005.00	4,578.83
Age	32.68	27.75	34.43	36.55
Less than high school	0.25	0.33	0.30	0.15
High school only	0.41	0.41	0.40	0.41
Some college	0.25	0.22	0.22	0.29
College or more	0.09	0.04	0.08	0.14
White	0.63	0.44	0.65	0.80
Black	0.34	0.54	0.32	0.17
Other race	0.03	0.03	0.03	0.03
Number of children	1.72	1.65	1.97	1.67
Has 1 child	0.52	0.59	0.40	0.52
Has 2 children	0.30	0.25	0.35	0.33
Has 3 children	0.12	0.10	0.16	0.11
Has 4 or more children	0.05	0.06	0.08	0.04
Central city-MSA	0.36	0.45	0.37	0.27
Full-time full year worker	0.41	0.29	0.37	0.54
Part-time or part-year worker	0.32	0.34	0.32	0.29
Nonworker	0.27	0.37	0.31	0.17
Household size	3.64	3.90	3.75	3.34
Total earnings in $95	11,938.91	7,594.35	10,463.03	16,653.29
Never married	0.39			
Separated	0.19			
Divorced	0.42			
Observations (unweighted)	43,123	16,181	8,225	18,717

Notes for Table 1: March Current Population Survey data weighted with the March supplement weight. Observations with month in sample 1 - 4 only. Earnings and work status are for the previous calendar year. 46 observations are missing earnings information and 5 observations are missing work status information. Counts of children are for children in household aged 17 and under.

Table 2
Divorced mothers with children under 18
Range of Means March CPS 1983 and 2001

	1	2
	Divorced Mothers	
	1983	2001
Received any child support or alimony last year	0.41	0.51
Amount received last year in $95	2,105.93	2,518.67
Amount received last year if received any, in $95	4,901.54	4,892.75
Age	34.6	38.02
Less than high school	0.24	0.10
High school only	0.48	0.35
Some college	0.19	0.36
College or more	0.09	0.18
White	0.78	0.8
Black	0.2	0.16
Other race	0.02	0.04
Number of children	1.7	1.67
Has 1 child	0.53	0.52
Has 2 children	0.32	0.33
Has 3 children	0.11	0.12
Has 4 or more children	0.05	0.03
Central city-MSA	0.34	0.22
Full-time full year worker	0.47	0.62
Part-time or part-year worker	0.32	0.28
Nonworker	0.20	0.10
Household size	3.32	3.28
Total earnings in $95	13,842.79	20,432.02
Observations (unweighted)	1,069	807

Notes for Table 2: March Current Population Survey data weighted with the March supplement weight. Observations with month in sample 1 - 4 only. Earnings and work status are for the previous calendar year. In 1983, 2 observations are missing earnings information. In 2001, 1 observation is missing earnings information. Counts of children are for children in household aged 17 and under.

Table 3
Parent's Marital Status by Gender of Children
March CPS 1983 - 2001

	1	2
	proportion children in these families who are boys [number of children]	difference (s.e.)
Comparing children of single mothers to all father-present families		
Listed mother is single (never married, separated or divorced)	0.499 [74,450]	
Father figure is present (single or married, biological, adopted and step-fathers)	0.516 [290,524]	
		-0.017*** (0.002)
Comparing children of single mothers to married-couple families		
Listed mother is single (never married, separated or divorced)	0.499 [74,450]	
Listed parent is married (parents may be biological, adopted or step)	0.513 [278,604]	
		-0.014*** (0.002)

Notes for Table 3: March Current Population Survey data 1983-2001, weighted with the March supplement weight. *** significant at 1%. Standard errors corrected for correlation between observations on multiple children of the same parent. Only observations with month-in-sample 1- 4 are used, to ensure that children are only observed once. Children of widowed mothers and with no listed parent in household are not considered in this table.

Table 4
Effect of Having At Least One Boy on Child Support and Alimony Payments
Divorced Mothers with Children under 18
March CPS 1983 - 2001

	1	2	3	4	5
	All divorced mothers			Divorced mothers who received non-zero amounts last year	
	Means	Received child support or alimony last year	Amount received last year	Means	Amount received last year
Effect of at least one boy, linear specification for number of children					
At least 1 boy	0.63	-0.008	-3.52	0.63	72.87
		(0.009)	(72.14)		(129.09)
Number of children less than 18	1.68	-0.002	480.28***	1.68	1,183.38***
		(0.008)	(68.98)		(145.58)
Observations	18,699	18,699	18,699	8,865	8,865
R-squared		0.14	0.15		0.21
Effect of at least one boy, indicators for number of children					
At least 1 boy	0.63	-0.015*	-96.22	0.63	-28.97
		(0.009)	(72.44)		(129.70)
Has 2 children	0.33	0.065***	1,261.79***	0.37	1,996.32***
		(0.012)	(105.34)		(187.76)
Has 3 children	0.11	0.019	1,381.76***	0.11	2,737.73***
		(0.019)	(177.96)		(334.29)
Has 4 or more children	0.04	-0.017	1,591.94***	0.03	3,705.08***
		(0.030)	(267.22)		(548.80)
Observations	18,699	18,699	18,699	8,865	8,865
R-squared		0.14	0.15		0.22

Notes for Table 4: Standard errors are presented in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Observations are weighted with March supplement weights and are from months in sample 1 - 4 only. The regressions are a linear probability model for receipt of child support and alimony and OLS for amounts received. State-year fixed effects are included in all regressions. The means of the dependent variables are 0.47 for receipt of child support or alimony, $2085.83 for amounts of child support and alimony received by all women in the sample, and $4343.27 for women in the sample who received non-zero amounts.

Other regressors are indicator for white, indicator for black, age of the mother, age of her oldest child, age of her youngest child, indicators for central-city-MSA, balance of MSA and non-MSA, indicators for high school only, some college, college or more, number of adult women and number of adult men in the household, and an intercept. The omitted category for race is Other; for MSA status "unidentifiable"; for educational status, less than high school. Eighteen outliers with child support and alimony sums greater than $50,000 were dropped.

Table 5
Effect of Number of Boys Versus Number of Girls on Child Support and Alimony Payments
Divorced Mothers with Children under 18
March CPS 1983 - 2001

	1	2	3	4	5
	All divorced mothers			Divorced mothers who received non-zero amounts last year	
	Means	Received child support or alimony last year	Amount received last year	Means	Amount received last year
Number of boys if 0-3	0.81	0.007 (0.009)	593.08*** (77.50)	0.82	1,267.58*** (151.82)
Number of girls if 0-3	0.82	0.007 (0.009)	645.79*** (80.41)	0.83	1,330.28*** (156.82)
Indicator = 1 if more than 3 girls or more than 3 boys	0.01	-0.125*** (0.045)	584.18 (371.78)	0.01	2,890.92*** (978.92)
F-test for number of boys = number of girls (p-value)		*0.91*	*0.35*		*0.52*
Observations	18,699	18,699	18,699	8,865	8,865
R-squared		0.14	0.15		0.22

Notes for Table 5: Standard errors are presented in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Observations are weighted with March supplement weights and are from months in sample 1 - 4 only. The regressions are a linear probability model for receipt of child support and alimony and OLS for amounts received. State-year fixed effects are included in all regressions. The means of the dependent variables are 0.47 for receipt of child support or alimony, $2085.83 for amounts of child support and alimony received by all women in the sample, and $4343.27 for women in the sample who received non-zero amounts.

Other regressors are indicator for white, indicator for black, age of the mother, age of her oldest child, age of her youngest child, indicators for central-city-MSA, balance of MSA and non-MSA, indicators for high school only, some college, college or more, number of adult women and number of adult men in the household, and an intercept. The omitted category for race is Other; for MSA status "unidentifiable"; for educational status, less than high school. Eighteen outliers with child support and alimony sums greater than $50,000 were dropped.

Table 6
Effect of Boys Versus Girls at Different Parities on Child Support and Alimony
Divorced Mothers with Children under 18
March CPS 1983 - 2001

	1	2	3	4	5
	All divorced mothers			Divorced mothers who received non-zero amounts last year	
	Means	Received child support or alimony last year	Amount received last year	Means	Amount received last year
1 boy	0.47	-0.006 (0.013)	666.06*** (107.60)	0.46	1,480.65*** (193.92)
1 girl	0.48	0.015 (0.013)	758.39*** (102.68)	0.49	1,459.66*** (185.15)
F-test for 1 boy = 1 girl (p-value)		*0.05*	*0.25*		*0.89*
2 boys	0.14	0.031 (0.020)	1,369.09*** (170.58)	0.15	2,713.28*** (324.30)
2 girls	0.13	0.019 (0.020)	1,485.02*** (181.21)	0.14	2,934.28*** (332.12)
F-test for 2 boys = 2 girls (p-value)		*0.48*	*0.45*		*0.39*
3 boys	0.02	0.018 (0.035)	1,555.16*** (285.93)	0.02	3,467.97*** (533.37)
3 girls	0.02	-0.025 (0.033)	1,526.89*** (316.88)	0.02	3,521.38*** (670.03)
F-test for 3 boys = 3 girls (p-value)		*0.25*	*0.93*		*0.94*
=1 if >3 girls or boys	0.01	-0.123*** (0.045)	691.62* (371.55)	0.01	3,078.94*** (972.17)
Observations	18,699	18,699	18,699	8,865	8,865
R-squared		0.14	0.15		0.22

Notes for Table 6: Standard errors are presented in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Observations are weighted with March supplement weights and are from months in sample 1 - 4 only. The regressions are a linear probability model for receipt of child support and alimony and OLS for amounts received. State-year fixed effects are included in all regressions. The means of the dependent variables are 0.47 for receipt of child support or alimony, $2085.83 for amounts of child support and alimony received by all women in the sample, and $4343.27 for women in the sample who received non-zero amounts.

Other regressors are indicator for white, indicator for black, age of the mother, age of her oldest child, age of her youngest child, indicators for central-city-MSA, balance of MSA and non-MSA, indicators for high school only, some college, college or more, number of adult women and number of adult men in the household, and an intercept. The omitted category for race is Other; for MSA status "unidentifiable"; for educational status, less than high school. Eighteen outliers with child support and alimony sums greater than $50,000 were dropped.

Table 7
Effect of Boys Versus Girls on Child Support and Alimony Payments For One Child and Two Child Families
Divorced Mothers with Children under 18
March CPS 1983 - 2001

	1	2	3	4	5
	All divorced mothers			Divorced mothers who received non-zero amounts last year	
	Means	Received child support or alimony last year	Amount received last year	Means	Amount received last year
Mothers with one child only					
1 boy	0.49	-0.025**	-82.87	0.47	43.67
		(0.012)	(84.13)		(160.84)
Observations	9,727	9,727	9,727	4,378	4,378
R-squared		0.18	0.15		0.26
Mothers with exactly two children					
1 girl , 1 boy	0.50	-0.011	-111.27	0.50	-0.21
		(0.018)	(170.48)		(294.14)
2 boys	0.25	0.023	-134.14	0.26	-182.25
		(0.021)	(201.40)		(343.95)
Observations	6,199	6,199	6,199	3,271	3,271
R-squared		0.25	0.24		0.34

Notes for Table 7: Standard errors are presented in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Observations are weighted with March supplement weights and are from months in sample 1 - 4 only. The regressions are a linear probability model for receipt of child support and alimony and OLS for amounts received. State-year fixed effects are included in all regressions. The means of the dependent variables for one child families are 0.45 for receipt of child support or alimony, $1,700.69 for amounts of child support and alimony received by all women in the sample, and $3,718.23 for women in the sample who received non-zero amounts. The means of the dependent variables for two child families are 0.53 for receipt of child support or alimony, $2,620.77 for amounts of child support and alimony received by all women in the sample, and $4,921.24 for women in the sample who received non-zero amounts.

Other regressors are indicator for white, indicator for black, age of the mother, age of her oldest child, age of her youngest child, indicators for central-city-MSA, balance of MSA and non-MSA, indicators for high school only, some college, college or more, number of adult women and number of adult men in the household, and an intercept. The omitted category for race is Other; for MSA status "unidentifiable"; for educational status, less than high school. Eighteen outliers with child support and alimony sums greater than $50,000 were dropped.

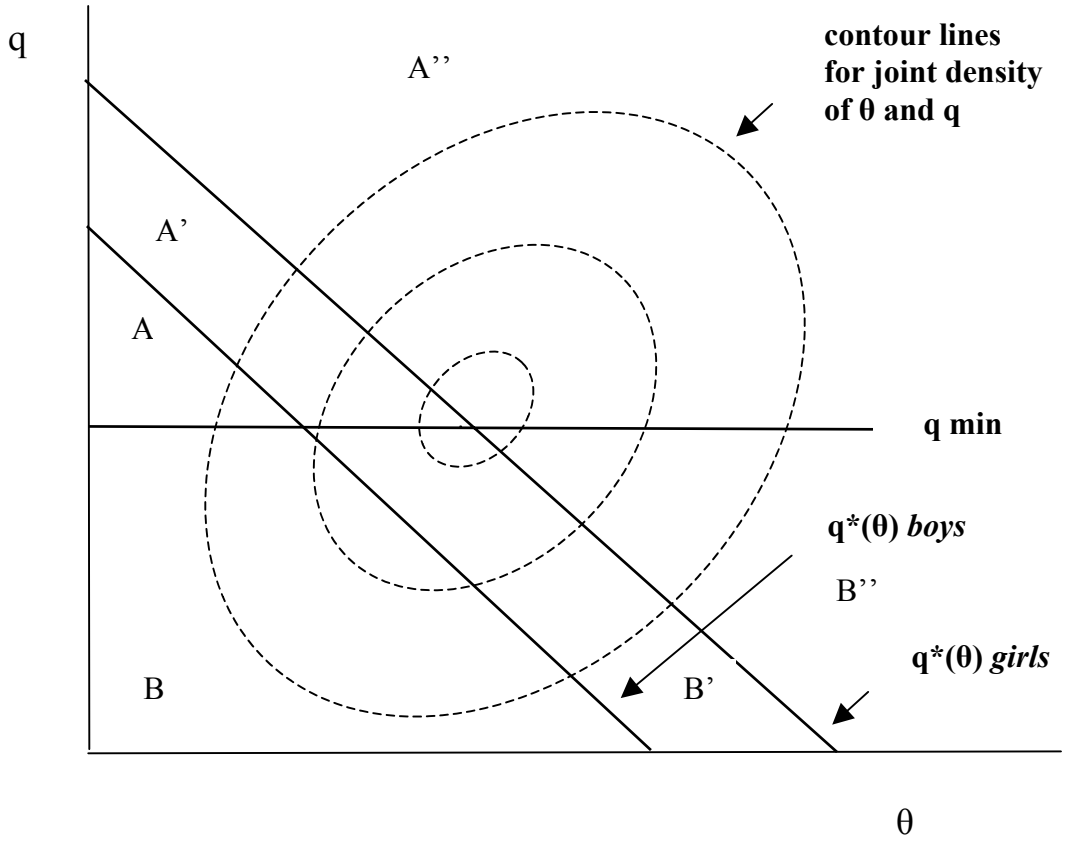

Figure 1: Distribution of θ, match quality, and q, father quality, with gender bias in divorce probability

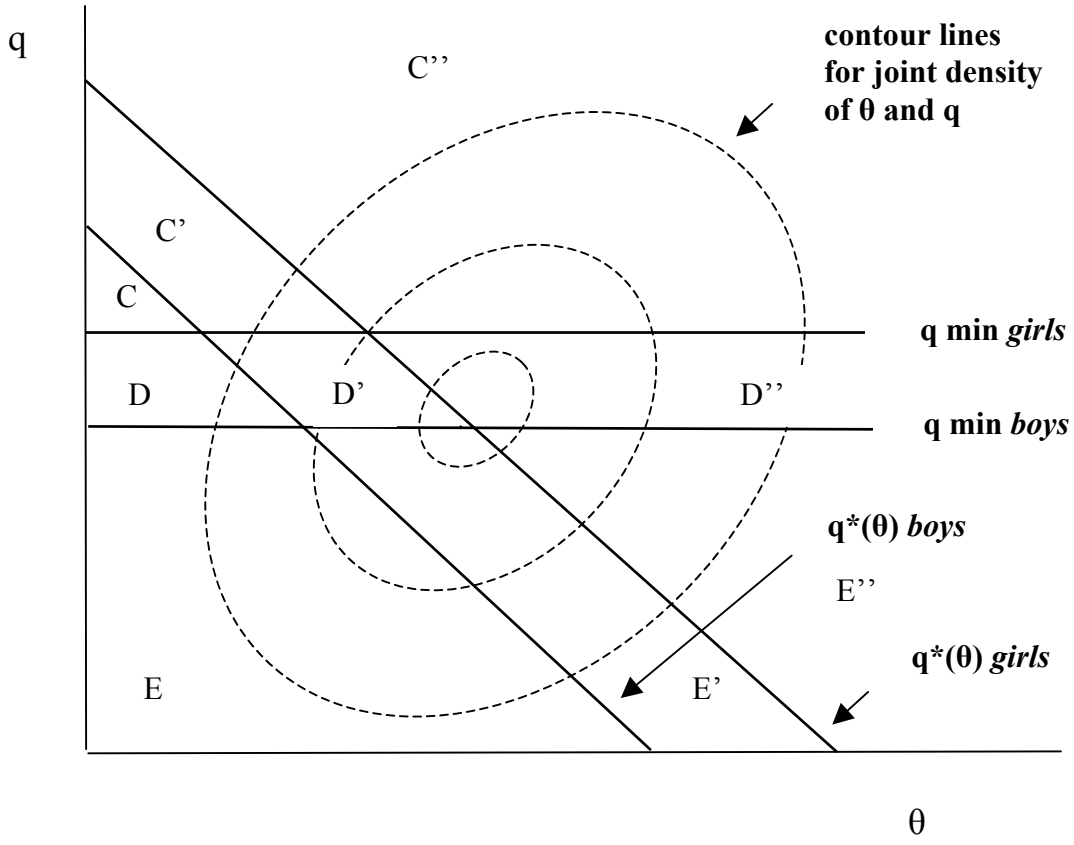

Figure 2: Distribution of θ, match quality, and q, father quality, with gender bias in divorce probability and in child support payment