

The Effect of Child Gender on Parents' Labor Supply: An Examination of Natives, Immigrants, and their Children

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Previous research has shown that child gender has significant effects on household behavior in developing countries. More recently, research on parents in developed countries has shown that child gender affects many aspects of parents' behavior, including parents' labor supply (Shelly Lundberg and Elaina Rose 2002; Lundberg 2005), marital stability (Gordon B. Dahl and Enrico Moretti 2004; Lundberg and Rose 2003), and time spent with children (Lundberg, Sabrina Wulff Pabilonia, and Ward-Batts 2006). One hypothesis as to why parents behave differently depending on child gender is that there is a gender preference, i.e., fathers prefer sons. This appears to be a reasonable explanation for the difference in parental behavior by child gender in some developing countries where the eldest male son and his wife traditionally provide old-age security for his parents. It is less clear why preference for a son would be a significant explanation for the difference in parental behavior by child gender in an industrialized country such as the United States, where Social Security and private pensions are used as support in old age, and there is greater gender equality in the workplace.

Using the March Current Population Survey (CPS) Supplement, we examine US parents to determine whether having a son rather than a daughter has a significant effect on parents' labor supply, and whether the cultural preferences of immigrants play a role in generating the effects of child gender on US parents' labor supply. If preference for a son is the only explanation, then we would expect to find that immigrant status increases the effect of having a son on parents'

labor supply. Using country of origin, we classify immigrants into groups, paying particular attention to immigrants from Asia, where a tradition of preference for sons is common. We might expect that any son-preference effect would be smaller among second- and later-generation immigrants than among first-generation immigrants. We do not distinguish second-generation immigrants from other native-born individuals in this paper. If culture is persistent, then the effect may still be present if the cultural tradition of son preference persists even when the economic rationale for valuing sons no longer applies. In this case, we would expect to find similar effects of child gender among immigrant groups regardless of country of birth, but differences across these groups. Differential parental labor supply behavior by child gender may be due to differences in child production functions, such as sons needing more father time or the greater financial resources a father can provide. If this is the case, then we expect that having sons (especially young sons) rather than daughters would have a similar effect on the parents' labor supply for both natives and immigrants, given the greater likelihood of similar adult outcomes in the United States than in developing countries.

I. Data

We analyze pooled data from the March CPS Supplement for the years 1994–2006 in order to examine the civilian labor supply behavior of married individuals with only one child under the age of three in single-family households.¹ Therefore, the mothers and fathers we examine are from the same households. Their behavior is analyzed separately, however. We use three different labor supply measures: actual hours worked last week, weeks worked last year, and annual hours worked last year. The samples used

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¹ The analysis starts in 1994 because information on country of birth was not collected prior to 1994.

TABLE 1—DIFFERENTIAL EFFECTS OF SON ON LABOR SUPPLY FOR IMMIGRANTS VERSUS NATIVES

	Fathers			Mothers		
<i>Weeks worked last year</i>						
Son	0.26 (0.23)	0.45† (0.25)	0.46† (0.25)	0.30 (0.51)	0.26 (0.55)	0.26 (0.55)
Immigrant *son		−1.01 (0.66)	−0.83 (0.65)		0.05 (1.34)	0.81 (1.50)
Immigrant		−0.46 (0.53)	0.03 (0.54)		−8.20** (1.12)	−8.94*** (1.23)
Asian immigrant *son			0.16 (1.68)			−2.00 (2.95)
Asian immigrant			−2.76* (1.41)			1.92 (2.68)
<i>N</i>	11,405	11,405	11,328	11,405	11,405	11,312
<i>R</i> ²	0.05	0.05	0.05	0.11	0.12	0.12
<i>Annual hours</i>						
Son	11.85 (14.88)	24.69 (16.40)	26.18 (16.39)	21.02 (21.11)	22.67 (23.27)	22.62 (23.27)
Immigrant *son		−66.76† (38.61)	−63.10 (41.04)		−15.05 (53.98)	26.94 (59.42)
Immigrant		−50.67 (33.27)	−10.93 (36.17)		−288.07** (45.46)	−331.43* (48.94)
Asian immigrant *son			−6.38 (90.57)			−112.97 (119.42)
Asian immigrant			−231.09** (80.20)			123.00 (115.62)
<i>N</i>	11,405	11,405	11,328	11,405	11,405	11,312
<i>R</i> ²	0.06	0.06	0.06	0.10	0.10	0.11
<i>Hours worked last week</i>						
Son	0.32 (0.31)	0.40 (0.35)	0.41 (0.35)	−0.01 (0.36)	−0.18 (0.40)	−0.18 (0.40)
Immigrant *son		−0.44 (0.80)	−0.27 (0.89)		0.87 (0.93)	1.81* (1.01)
Immigrant		−2.26** (0.69)	−2.22** (0.76)		−5.41** (0.78)	−6.53** (0.82)
Asian immigrant *son			−0.25 (1.82)			−2.73 (2.05)
Asian immigrant			−0.87 (1.61)			4.70* (1.95)
<i>N</i>	17,381	17,381	17,263	17,381	17,381	17,247
<i>R</i> ²	0.04	0.04	0.04	0.08	0.09	0.09

Notes: Standard errors are in parentheses. Survey weights are used. Control variables include race, Hispanic ethnicity, age of child, quadratic in age of respondent and spouse, family nonlabor income, region, year, education categories for respondent and spouse, and a constant.

† Statistically significant at the 10 percent level.

** Statistically significant at the 5 percent level.

*** Statistically significant at the 1 percent level.

in the regression analysis for hours worked last week include 17,381 mothers and 17,381 fathers. For the latter two labor supply measures, we analyze the behavior in the previous calendar year of parents who currently have only one child aged one or two. Each sample includes 11,405 observations. Annual hours worked last

calendar year are calculated using weeks worked last year and usual hours worked each week last year. Each model includes the usual demographic and human capital controls: age (and its square), spouse's age (and its square), age of child, family nonlabor income, and dummy variables for own education, spouse's education,

TABLE 2—DIFFERENTIAL EFFECTS OF SON ON WEEKS WORKED LAST YEAR BY RACE AND ETHNICITY

	Fathers			Mothers		
Black * son	−0.47 (1.27)	−0.52 (1.27)	−0.39 (1.28)	2.93 (2.20)	2.04 (2.19)	1.93 (2.19)
Asian * son	−1.47 (1.43)	−1.38 (1.43)	−0.36 (1.51)	−1.88 (2.44)	−1.67 (2.42)	−2.34 (2.74)
Other race * son	−6.11* (2.93)	−6.14* (2.92)	−6.10* (2.91)	1.29 (3.99)	1.79 (3.88)	1.73 (3.88)
Hispanic * son	0.54 (0.64)	0.57 (0.64)	1.29† (0.76)	0.13 (1.41)	−0.05 (1.39)	−0.51 (1.67)
Son	0.35 (0.25)	0.36 (0.25)	0.45† (0.25)	0.22 (0.58)	0.25 (0.58)	0.19 (0.59)
Immigrant		−0.98* (0.39)	−0.30 (0.59)		−8.13** (0.88)	−8.56** (1.24)
Immigrant * son			−1.33† (0.77)			0.84 (1.70)
<i>N</i>	11,405	11,405	11,405	11,405	11,405	11,405
<i>R</i> ²	0.05	0.05	0.05	0.11	0.12	0.12

Notes: Standard errors are in parentheses. Survey weights are used. Control variables include race, Hispanic ethnicity, age of child, quadratic in age of respondent and spouse, family nonlabor income, region, year, education categories for respondent and spouse, and a constant.

† Statistically significant at the 10 percent level.

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race, Hispanic ethnicity, geographic region, and year in the sample. Family nonlabor income is expressed in 1984-based real dollars using the CPI-U. All analyses are performed using the March supplement weight. The standard errors in the regression analyses are corrected for households that are sampled in consecutive March samples.

II. Results

Table 1 presents OLS regression estimates of weeks worked per year, annual hours worked, and hours worked last week for fathers and mothers, respectively.² In the first specification for each outcome, we do not allow for differences between natives and immigrants. In the second specification, we allow for such differences both in levels of the outcome and in the response to having a son rather than a daughter. In the third specification, we allow for differences between Asian immigrants and other immigrants, again, both in the levels of the outcome and in the relative response to having a son rather than a daughter.

In both mother and father samples, immigrants work fewer hours than natives. Immigrant mothers also work fewer weeks per year than native mothers. We find that fathers with a son work almost half a week more per year on average than fathers with a daughter. The point estimates for hours are also positive but are not statistically significant. Immigrant men with a son rather than a daughter work 67 fewer hours annually than similar natives. This effect remains large, but is no longer statistically significant when we allow for differences between Asian immigrants and other immigrants. Among mothers, the only statistically significant differential effect of having a son rather than a daughter for immigrants relative to natives is found in the third specification for hours worked last week. Non-Asian immigrant women with a son rather than a daughter work almost two hours more per week than US-born women with a son rather than a daughter.

These results do not suggest that first-generation immigrants, who may bring with them a son preference stemming from incentives they no longer face in the United States, play a large role in generating the child-gender differences that have been found in US data. Therefore, we explore the possible differences between racial

² We also estimated censored regression models for mothers. Results are similar and thus not reported.

TABLE 3—DIFFERENTIAL EFFECTS OF SON ON HOURS WORKED BY RACE AND ETHNICITY

	Fathers			Mothers		
<i>Annual hours</i>						
Black * son	−45.29 (67.47)	−49.35 (67.57)	−44.04 (67.88)	119.43 (93.96)	87.30 (93.27)	83.95 (93.27)
Asian * son	−138.63† (77.41)	−130.12† (77.03)	−88.58 (85.33)	−96.51 (97.69)	−88.92 (97.15)	−108.39 (109.82)
Other race * son	−465.64** (146.76)	−467.86** (144.66)	−466.58** (144.48)	−86.74 (175.69)	−68.44 (174.21)	−70.43 (173.99)
Hispanic * son	4.50 (36.02)	6.93 (35.98)	36.48 (46.17)	−7.93 (56.46)	−14.13 (55.84)	−27.50 (67.33)
Son	25.63 (17.07)	26.04 (17.07)	29.71† (17.24)	21.81 (24.34)	22.64 (24.29)	21.15 (24.65)
Immigrant		−84.49** (25.32)	−56.61 (37.41)		−293.65** (35.12)	−306.68** (50.87)
Immigrant * son			−54.65 (49.74)			24.34 (68.50)
<i>N</i>	11,405	11,405	11,405	11,405	11,405	11,405
<i>R</i> ²	0.06	0.06	0.06	0.10	0.11	0.11
<i>Hours worked last week</i>						
Black * son	2.34 (1.55)	2.27 (1.55)	2.33 (1.55)	0.66 (1.70)	0.31 (1.70)	0.05 (1.70)
Asian * son	−0.51 (1.50)	−0.34 (1.49)	0.03 (1.66)	−1.33 (1.66)	−1.29 (1.65)	−2.91 (1.86)
Other race * son	−4.31 (3.48)	−4.31 (3.49)	−4.31 (3.48)	−1.30 (3.35)	−0.85 (3.31)	−1.00 (3.29)
Hispanic * son	−0.17 (0.80)	−0.13 (0.80)	0.13 (0.99)	0.02 (0.95)	−0.04 (0.94)	−1.13 (1.15)
Son	0.26 (0.36)	0.26 (0.36)	0.29 (0.36)	0.04 (0.42)	0.04 (0.42)	−0.08 (0.42)
Immigrant		−2.47** (0.53)	−2.22** (0.78)		−4.96** (0.61)	−6.01** (0.86)
Immigrant * son			−0.49 (1.03)			2.07† (1.18)
<i>N</i>	17,381	17,381	17,381	17,381	17,381	17,381
<i>R</i> ²	0.04	0.04	0.04	0.08	0.09	0.09

Notes: Standard errors are in parentheses. Survey weights are used. Control variables include race, Hispanic ethnicity, age of child, quadratic in age of respondent and spouse, family nonlabor income, region, year, education categories for respondent and spouse, and a constant.

†Statistically significant at the 10 percent level.

**Statistically significant at the 5 percent level.

***Statistically significant at the 1 percent level.

and ethnic groups within the United States. In our specifications presented in Table 1, we control for race and Hispanic ethnicity, but we do not allow these different groups among the native born to have differential responses to child gender. If cultural beliefs or norms are persistent, so that second- and later-generation immigrants share the preferences of more recent immigrants, then our specifications in Table 1 would not allow us to identify this cultural difference. In order to address this possibility, we add interactions of race and ethnicity dummy variables with the son dummy. This allows dif-

ferential responses to having a son rather than a daughter among the various groups.

Tables 2 and 3 present results for each labor supply outcome for fathers and mothers, respectively. For each outcome, we first include a son dummy and interactions of this variable with race indicators for black, Asian, and other (non-white) race as well as for Hispanic ethnicity. We add an immigrant indicator in the second specification. Finally, we add an immigrant-son interaction in the third specification. The only significant child-gender difference for mothers is that immigrant women with a son work

two hours more per week relative to immigrant women with a daughter. We find no significant child-gender differences between racial or ethnic groups for mothers in either weeks or hours worked. We find that, compared to whites, men in the “other race” category work six fewer weeks per year when they have a son rather than a daughter. This result is robust to the addition of the immigrant dummy and the immigrant-son interaction, which is also negative and significant. There are similarly large son effects on annual hours worked for both “other race” and Asian men. These remain significant for each group when the immigrant dummy is added, but when the immigrant-son interaction is included, the result for men of “other race” remains significant while the result for Asian men is no longer significant at conventional levels. Our results are consistent with, but much larger in magnitude than, the finding by Lundberg (2005) that men work 63 fewer hours annually when they have a son rather than a daughter. These race-group specific effects may be driving the average effect found by Lundberg (2005). We find no significant child-gender effects for hours worked last week among men. The differences in findings for hours using the two measures is puzzling and will be further investigated. These differential effects across groups may explain some of the significant effects other researchers have found for parental labor supply behavior in US data.

III. Conclusion

We find some evidence that there are differential child gender effects on parents’ labor force behavior among immigrants relative to natives.

We find stronger evidence that the effect of child gender on men’s labor supply is different for different racial groups. Asian men and particularly men in the “other race” category work less relative to white men, as measured by weeks per year or hours per year, if they have a son rather than a daughter. This suggests that there may be a decline in specialization within marriage for these groups relative to whites when the couple has a son rather than a daughter. It could be attributable to men’s greater desire to spend more time with sons, especially young sons. It could also mean that sons need their father’s time more than daughters do.

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