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CHILD-CARE COSTS AND FAMILY LABOR SUPPLY

David M. Blau and Philip K. Robins*

Abstract—The child care industry has expanded rapidly in recent years as a result of growing labor force participation by mothers of young children. Much, but not all, of the child care is being provided through the market. In this paper, a model of family labor supply incorporating both market and nonmarket child care is specified and estimated. The empirical analysis is performed using data from the 1980 baseline household survey of the Employment Opportunity Pilot Projects. The results suggest that both the decision to become employed and the decision to purchase market child care are sensitive to child-care costs. The estimated price elasticity with respect to employment is -0.38 while the estimated price elasticity with respect to market care is -0.34 .

I. Introduction

THIS paper presents an empirical analysis of the effects of child-care costs on family labor supply and child-care demand. The child-care industry has expanded rapidly in recent years as a result of growing labor force participation by mothers of young children.¹ Currently, under a variety of programs, the Federal government spends several billion dollars annually on subsidies for child care.²

As the child care industry has expanded, there has been increased public attention devoted to various aspects of child care, including availability, quality, cost, and the appropriate role of the government and the family in providing care for

children. In spite of this growing interest in child-care, there has been very little analysis of fundamental economic issues such as the responsiveness of labor supply and child-care demand to the price of child care. The goal of this study is to demonstrate that a simple one-period family labor supply model can yield a number of hypotheses concerning the effects of child-care costs on family behavior, and that these hypotheses can be tested empirically in a reasonably straightforward manner.

The pioneering study in this field is that of Heckman (1974). Heckman recognized the importance of the fact that a majority of working women with young children use informal methods of child care, often by family members or relatives, at little or no direct cost. The decision by a woman to work is therefore not automatically a decision to purchase child care in the market, since low-direct-cost informal sources may be available. The decision to purchase market care involves weighing the cost and quality of market care against the cost and quality of informal care. The decision to use informal care is also a decision by the relative or family member providing the care to forego earnings or leisure. Hence an analysis of the effects of child-care costs clearly requires a family labor supply approach in which the labor supply decisions of the mother and other household members are modelled jointly with the decision to purchase market child care.³

In this paper a model of family labor supply incorporating both informal and market child care is specified and estimated. The results from this model provide the first direct evidence that labor supply of both married mothers of young children and other family members are responsive to the market price of child care, and that use of market care is responsive to its price.

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¹ For information on the growth of the child-care industry, see Kamerman (1983), and U.S. Bureau of the Census (1982, 1987).

² According to Kahn and Kamerman (1987), federal spending for child care totaled \$5.5 billion in 1986, \$3.4 billion of which (62%) was for the child care tax credit under the federal income tax. For a description of the major federal child-care programs, see Robins (1988).

³ Heckman incorporated such considerations in his model but in an indirect way since he lacked data on the market price of child care and (apparently) the labor supply of household members other than the mother. His empirical results provide indirect evidence that the labor supply of mothers of young children is sensitive to the price of market child care and the availability of informal care.

The basic theoretical framework is outlined in section II, the data are described in section III, the empirical results are presented and discussed in section IV along with some policy implications, and the conclusions are given in section V.

II. Theoretical Framework

The model described in this section is intended to serve as a framework for cross-section estimation of the effects of child-care costs on labor supply and child-care use. A one-period approach is used. The model is intended to apply to households in which young children requiring continuous care are present and in which both the mother and one other potential child-care provider are present.⁴ The assumption that every household has available a potential source of informal care requires some discussion. Since the empirical analysis deals with women who are married with the spouse present, in principle the husband is a potential child-care provider in every household. Many husbands do in fact provide child care while the wife works⁵ but even if the husband is assumed to work full time, it may still be reasonable to assume that every household has access to some other source of informal child care at low or zero direct cost. Such sources include teenagers and other relatives and friends, either living in the household or elsewhere. The crucial consideration, which we incorporate into the theoretical model, is the quality of such care.

The household is assumed to maximize the value of the utility function $U = U(L_M, L_O, G, Q)$, where L_M is the mother's "leisure" (i.e., all non-market activities), L_O is the leisure of the other potential child-care provider, G is a composite market good, and Q is the average quality of care per child per hour. For simplicity all children in a

given household are assumed to receive the same quality care, and the number of children requiring care is taken as exogenous and given by N .

The three potential sources of child care are the mother, the potential informal provider (referred to as the "other" for short), and the market. Child care by the mother is assumed to be a joint product of her leisure, so L_M hours of care per period are provided by the mother, and every hour the mother works in the market requires an hour of care by someone else. This is a simplifying assumption but seems to be consistent with customary practice, in which the mother is the main child-care provider. The quality of care per hour provided by the mother is exogenous and is given by Q_M . Child-care time provided by the informal source is separated from this source's leisure and is denoted T_O . The quality of care per hour provided by the informal source is exogenous as in the case of the mother and is given by Q_O . Finally, it is assumed that a continuum of market care quality is available for purchase at price P_Q per unit of quality, with Q_P representing the (endogenous) quality of care purchased.⁶

The time constraints faced by the household are $L_M + H_M = L_O + H_O + T_O = 1$, where H_M and H_O are hours of work of the mother and other, respectively. Given the normalization of total available time to unity, average quality of child care, Q , is just a weighted sum of the quality of the different sources, $Q = Q_M L_M + Q_P(H_M - T_O) + Q_O T_O$, where the weights are the number of hours of each type of care used and sum to one; and by the previous assumptions, $H_M - T_O \geq 0$. The budget constraint is $G = E + W_M H_M + W_O H_O - N P_Q Q_P (H_M - T_O)$, where E is exogenous income (including earnings of the husband if he is not a potential child-care provider), W_M and W_O are exogenous wage rates, and G is the numeraire.

The household chooses L_M , L_O , T_O , and Q_P to maximize the utility function subject to the time, quality, and budget constraints, along with the appropriate non-negativity constraints. As described in a longer version of this paper available from the authors, there are five mutually exclusive

⁴ Some households may have more than one potential source of informal child care other than the mother, but this is neglected for simplicity. It would be straightforward to account for school-age children who require care only during non-school hours, but this is also neglected in order to focus on the essential issues.

⁵ See U.S. Bureau of the Census (1987, p. 15). In Winter 1984-85 it is estimated that 12.9% of children under 5 years of age of married full-time working mothers were cared for by the father, and the corresponding figure for part-time working mothers was 25.6%. Of all child care by relatives, fathers provided over one-third for families with the mother working full time and over one-half for families with the mother working part time.

⁶ It is straightforward to incorporate into the model a fixed price of using market or informal child care in addition to the variable cost P_Q , but this would leave the analysis essentially unchanged.

and exhaustive corner solutions to the model. These are (0) the mother does not work, so child care is not an issue, (1) the mother works, there is no purchased care, and the other works in the market in addition to providing child care, (2) the mother works, there is no purchased care, and the other does not work, but provides child care, (3) the mother works, all nonmotherly care is purchased in the market, and the other works, and (4) the mother works, some care may be provided by the other as well as the market, and the other does not work.

It is straightforward to derive the effects of changes in exogenous variables on choice of states. In many instances, these effects cannot be signed a priori.⁸ However, the model does have some unambiguous implications. Assuming G is a normal good, it can be shown that (a) an increase in the price of child care (P_O) raises the likelihood of choosing states in which child care is not purchased (0, 1, 2) relative to states in which child care is purchased (3, 4), (b) an increase in the mother's wage (W_M) increases the likelihood that the mother will work, (c) an increase in exogenous income (E) increases the likelihood that the mother will not work, (d) an increase in the other household member's wage (W_O) increases the likelihood that the other works, (e) an increase in the quality of the mother's care (Q_M) raises the likelihood that the mother does not work, and (f) an increase in the quality of the other's care (Q_O) raises the likelihood of choosing states in which all nonmotherly care is provided by the other, relative to the state in which nonmotherly care is split between the market and the other.

These predictions seem intuitively plausible and provide the basis for an empirical qualitative choice model. The empirical qualitative choice model estimated is a reduced form specification in which the probability of choosing one of the five

⁷ Given these corner solutions, there are also continuous choices of labor supply within each state. In our longer paper, we examine these continuous choices.

⁸ By imposing structure on the distribution of preferences (i.e., a functional form for utility), it would be possible to derive restrictions on the preference parameters across states. Because of the large number of choice variables in the model, however, this would be extremely cumbersome and empirical estimation of the model by full information maximum likelihood methods would be virtually infeasible. Heckman (1974) imposed structure in his analysis, but he had far fewer decision variables.

employment-child care states is a function of the exogenous variables.

III. Data and Estimation

The data used to estimate the model are from the 1980 baseline household survey of the Employment Opportunity Pilot Projects (EOPP), a job-search demonstration program conducted by the Department of Labor. The survey collected extensive information from a sample of almost 30,000 households on family labor supply, child-care expenditures and use, and a wide variety of other relevant variables.⁹ The empirical analysis is performed on a subsample of 6,170 households in which there was a married woman under age 45 with her spouse present at the time of the survey, with at least one child under age 14, and with nonmissing data on key variables.¹⁰

The dependent variable for the qualitative choice analysis is defined exactly as described in the previous section. Three issues had to be resolved to make the definition operative. The first concerns how to treat the husband. We resolve this issue by defining two dependent variables. In one case, the husband is assumed to provide no child care and households are classified as having an "other" work only if a member other than the husband and wife works. In the second case, the husband is treated as a potential source of informal care.¹¹

The second issue arises because the survey instrument permitted respondents to report use of only one mode of child care, even if more than

⁹ The sample is not random with respect to the national population. Low income households are overrepresented, although weights are available that permit nationally representative estimates to be obtained.

¹⁰ It would be possible to estimate a model for single parent households. Such a model would have different states than the one analyzed here. Because most of the recent increase in female labor force participation has occurred among married women with young children, we focus on this group. Evidence suggests that married women have more elastic labor supply than single women and hence are more likely to be sensitive to changes in child-care costs. An additional complexity introduced in analyzing single mothers is that they have a greater number of child-care subsidies available to them (through welfare programs) making it more difficult to derive an empirical measure of child-care costs.

¹¹ Note that in both cases the husband's labor supply is treated as endogenous, i.e., we use an imputed wage rate for the husband as an explanatory variable rather than using the husband's earnings.

TABLE 1.—SAMPLE PERCENTAGES FOR THE DEPENDENT VARIABLES

	Categories				
	0	1	2	3	4
	Mother Does Not Work	Mother Works, No Purchased Care, Other Works	Mother Works, No Purchased Care, No Others Work	Mother Works, Purchased Care, Other Works	Mother Works, Purchased Care, No Others Work
A. Husband Not Included as an Other Percent in Category	63.3	2.8	22.4	0.4	11.1
B. Husband Included as an Other Percent in Category	63.3	20.2	5.0	9.5	2.0

one mode is used.¹² Since the essence of informal child care by household members or relatives is low or zero direct cost, we classified households as using market care (states 3 or 4) if (1) any direct expenditures on child care were reported, regardless of mode; or (2) child care by a nonrelative or in a group facility or day care center was reported even if direct expenditure was zero.¹³

The third issue concerning the definition of the dependent variable is how to treat households with more than one potential "other" informal child-care provider when at least one such other works in the market but not all do. This issue was resolved by classifying the household as having a working other (state 1 or 3) if *any* other worked, and as not having a working other (state 2 or 4) if *no* other worked. The idea is to view multiple others as a sort of composite commodity with the case of one working and another providing infor-

mal care akin to a single individual dividing time between work and child care. A related issue that is, unfortunately, unresolvable is that the labor supply behavior of a potential other child-care provider who happens to live outside the household is unobserved, since the survey collected data only for individuals residing in the household. Hence, some households that belong in states 1 or 3 may be misclassified into states 2 or 4.

The distribution of the sample for both versions of the categorical dependent variable is presented in table 1. Sixty-three percent of the households have a nonworking mother. Of the remaining 37%, 31% use some market care and the rest use only informal sources.¹⁴ When the husband is excluded as a potential child-care provider, only 9% of households with a working mother are classified as having a working other. Including the husband increases this figure to 81%. Other household members are disaggregated into youth aged 16–19 and other adults.

The key explanatory variables in the analysis are the price per constant-quality hour of market child care per child (P_Q) and hourly wage rates (W_M and W_O). We take two approaches to measuring P_Q . First, households using any form of child care were asked in the EOPP survey to report the weekly direct cost per child (in-kind payments, while potentially important, were not

¹² The mode choices are: in own home by relative; in own home by non-relative; in relative's home; in non-relative's home; in day care center or other group facility; other. The choice of mode, other than between market and informal modes, is not analyzed here. For analysis of mode choice, see Duncan and Hill (1975), Robins and Spiegelman (1978), and Leibowitz et al. (1988).

¹³ This classifies relatives who are paid for providing care as a form of market care. The reason for classifying zero-direct-cost non-relative care as market care is that a variety of government programs fully subsidize child care, so some families may in fact incur no direct cost for using market care. These programs include the Title XX social services program and Aid to Families with Dependent Children. Since our sample includes only married women with spouse present, these two programs probably are not a significant source of funding for the sample. The income tax subsidy via the child-care tax credit is likely to be relevant, although households probably have not netted out the tax credit when reporting child-care expenditures. The child-care tax credit is discussed further in Blau and Robins (1987) and Robins (1988).

¹⁴ The percentage using market care is somewhat lower than the corresponding estimates for the national population for 1982 (a year close to that covered in our sample) of 49.5% for mothers employed full time and 33.1% for mothers employed part time (U.S. Bureau of the Census, 1987, p. 15). However, the national figures pertain only to families with children under the age of 6 years, and would no doubt be lower if older children were included as in our sample.

ascertained). The EOPP survey was conducted in 20 distinct geographic sites across the country, including both SMSAs and other census-defined non-SMSA county groups. We use the site-average of nonzero values of weekly child-care expenditures as a measure of child-care cost for each family in the site. This captures the essential notion that all families within a given market face the same array of market child-care options, summarized by a single average-quality price.¹⁵

The other approach to measuring child-care costs also takes advantage of the well-defined sites in the EOPP survey and their correspondence to census categories. Average hourly earnings of child-care workers in each site were collected from the 5% public use sample of the 1980 U.S. Census. This measure is used as an alternative to the other measure in order to check the robustness of the results.

Wage rates for each individual are imputed from selectivity-corrected wage regressions for the subsamples of workers reporting an hourly wage rate. The explanatory variables in the wage regressions include education (as a set of dummy variables); a quadratic in actual reported years of work experience, and dummy variables for each site. The regressions were run separately for married men, married women, youth, and other adults.¹⁶

Other explanatory variables that belong in the model include nonwage income, exogenous quality of the mother's and other's child care, the number of children requiring care, and any relevant taste variables. Nonwage income includes all sources except earnings-tested sources such as AFDC, and is measured as a monthly flow in thousands of dollars. For lack of better measures, we use the mother's age and education as indicators of the quality of her care. Similar measures were tried for

¹⁵ Variation across households in weekly per-child child-care expenditures contains variation in both quality (Q_p) and labor supply (H_M) in addition to price variation. However, if variation across sites in site-average values of Q_p and H_M is small relative to cross-site variation in P_Q , then weekly expenditures will be a reasonable proxy for P_Q .

¹⁶ If a youth or other adult was not present in a household, the sample mean value of imputed wages for youth or other adults is assigned to the household. Probit equations for each subsample were used to estimate the probability of reporting a wage rate, and the selectivity correction variable was constructed from the probit estimates for inclusion in the wage regressions, as in Heckman (1979).

TABLE 2.—SAMPLE CHARACTERISTICS

Exogenous Variables	Mean	S.D.
Site-average weekly cost of child care	26.76	(3.27)
Site-average hourly wage of child-care workers	3.77	(0.56)
Wife's age	30.1	(6.4)
Wife's education	11.5	(2.7)
1 = Black	0.10	(0.30)
1 = Hispanic	0.13	(0.34)
Number of children aged 0-4	0.77	(0.78)
Number of children aged 5-13	1.21	(1.12)
Nonwage income (\$000/month)	0.103	(0.466)
Predicted Wage of:		
Husband	6.08	(1.58)
Youth	2.41	(0.33)
Other Adult	4.06	(0.84)
Wife	3.52	(0.89)
Sample Size	6,170	

other adults and youth but were dropped from the final specification because they were never statistically significant. The number of children potentially requiring care is assumed to include all children under age 14. Separate variables for children under 5 and 5-13 are used since preschool age children generally require more care than others. Dummy variables for black and hispanic households are included to allow for possible taste differences, which may also be picked up by age and education. Sample statistics for the explanatory variables are reported in table 2.¹⁷

Multinomial logit is used to estimate the state choice model. It is a convenient method for a state choice model with multiple unordered alternatives, although it imposes the perhaps unrealistic assumption of independence among the stochastic components of utility in each state.

IV. Empirical Results

Table 3 presents estimates of the state choice model, with state 0 as the omitted category, assuming the husband is not a potential source of child care. The most important result in table 3 is that the cost of child care, as measured by the site-average weekly cost of market care, has a consistently negative effect on the probability of choosing any of the states in which the wife works.

¹⁷ The disproportionate representation of hispanics is due to the inclusion of several sites in Texas and California in the EOPP survey.

TABLE 3. — MAXIMUM LIKELIHOOD LOGIT ESTIMATES, HUSBAND NOT AN "OTHER"

Category ^a	(1) No Purchased Care; Any Other Member Works		(2) No Purchased Care; No Other Member Works		(3) Purchased Care; Any Other Member Works		(4) Purchased Care; No Other Member Works	
	Intercept	-6.77	(1.20) ^c	-.593	(.476)	-2.83	(2.65)	-0.35
Site-Average Weekly Cost of Child Care	-0.056	(0.040)	-.048	(.016) ^c	-0.250	(0.107) ^b	-0.083	(.023) ^c
Wife's Wage (predicted)	0.91	(0.14) ^c	.89	(.06) ^c	1.39	(0.36) ^c	1.32	(.08) ^c
Wife's Age	0.15	(0.02) ^c	-.005	(.007)	-0.009	(0.043)	-0.064	(.011) ^c
Wife's Education	-0.12	(0.04) ^c	-.07	(.02) ^c	-0.21	(0.10) ^b	-0.063	(.028) ^b
1 = Black	0.72	(0.36) ^b	.47	(.15) ^c	2.36	(0.83) ^c	0.54	(.19) ^c
1 = Hispanic	0.33	(0.32)	-.14	(.13)	1.86	(0.77) ^b	0.01	(.18)
Number of Children Aged 0-4	-1.36	(0.21) ^c	-.80	(.06) ^c	-0.27	(0.31)	-0.25	(.07) ^c
Number of Children Aged 5-13	-0.39	(0.10) ^c	-.11	(.04) ^c	-0.18	(0.22)	-0.07	(.05)
Nonwage Income (\$000/month)	-0.305	(0.259)	-.140	(.093)	-0.126	(0.667)	-0.154	(.128)
Husband's Wage (predicted)	-0.104	(0.084)	-.087	(.035) ^b	0.086	(0.203)	-0.071	(.045)
Youth's Wage (predicted)	0.068	(0.251)	.271	(.109) ^b	-0.230	(0.552)	0.181	(.138)
Other Adult's Wage (predicted)	-0.048	(0.195)	-.197	(.081) ^b	0.499	(0.453)	-0.288	(.109) ^c

^a Omitted category = wife does not work; in all included categories wife does work; other members do not include husband. Log-likelihood = -5,441.9.

^b Significant at 5% level.

^c Significant at 1% level.

The coefficient estimates are statistically significant at the 5% level in 3 out of 4 cases. This confirms the prediction of the model that higher child-care costs raise the probability of state 0 relative to states 3 and 4. The model yielded no implications regarding the effect of child-care cost on states 1 and 2 relative to state 0, because none of these states involve use of child care. The fact that higher market child-care costs discourage women from working even when an informal source of care is available may indicate that such informal care is not a perfect substitute for market care. Given that the woman works, the model predicts that higher market child-care costs reduce the probability of states involving use of market care (3 and 4) relative to states without market care (1 and 2). The empirical results confirm this prediction: the effect of child-care costs on the log of the odds of state 1 versus 3 is 0.194 (standard error 0.114); and the effect on the log odds of state 2 versus 4 is 0.035 (0.028). Given that the mother works and uses some market care, higher child-care costs reduce the probability that the other works (effect on log odds of state 3 versus 4 is -0.167 (0.109)). These results provide the first direct empirical evidence on the impact of child-care costs

on family labor supply and child-care decisions, and are consistent with the theoretical framework developed above.

Several other interesting results appear in table 3. A higher wage rate for the mother encourages her to work, as expected, with the strongest effects for states 3 and 4. Thus, given that the woman works, a higher wage rate increases the probability of using market child care. If the woman's education is interpreted as a proxy for the quality of her child care, then the negative effects on the probability of the woman working are consistent with the prediction of the model. The number of children requiring care has a negative impact on the probability of the woman working, with the largest impact caused by younger children, as expected. Nonwage income has the expected negative impact on the probability of the mother working, but none of the coefficients are statistically significant at the 10% level. The husband's wage rate has generally negative effects on the likelihood of choosing states in which the wife works, with the estimate statistically significant for state 2. The only significant effect of the youth's wage is a positive effect for state 2, which is inconsistent with the theory. This result also appears for the

TABLE 4.—PREDICTED EFFECTS OF CHILD-CARE COSTS ON STATE PROBABILITIES

State	Child-Care Costs Per Week				
	0	10	20	30	40
Mother does not work	.131	.374	.571	.712	.813
Mother works, no purchased care, other works	.010	.017	.015	.011	.007
Mother works, no purchased care, no others work	.156	.275	.260	.201	.142
Mother works, purchased care, other works	.536	.126	.016	.002	.001
Mother works, purchased care, no others work	.167	.208	.138	.075	.038

other adult's wage rate, but the latter also has a significant negative impact on state 4, which is consistent with the theory. The relatively poor results for wages of youth and other adults may be due to the fact that so few households have such family members present and working. Black women are more likely to work than whites, and are significantly more likely than whites to use market child care (state 3) if they do work. Hispanics have a mixed pattern relative to whites. Older women are generally less likely to work, but are significantly more likely to choose state 1 relative to state 0 or any of the other working states. This is probably due to the fact that an older mother is more likely to have an older child available to provide care for younger children.¹⁸

Based on the results in table 3, we have generated a series of predictions to indicate how the state probabilities vary with child-care costs. The range of child-care costs examined (in 1980 dollars) is from zero to \$40 per week (mean child-care costs in the sample are about \$27 per week). These

predictions are presented in table 4.¹⁹ As this table indicates, the state probabilities are quite sensitive to the level of child-care costs. If child-care costs were fully subsidized (costs = 0), the model predicts that 87% of the mothers would work. If child-care costs were \$40 per week, the model predicts that only 19% of the mothers would work (recall that at the sample mean, about 37% of the mothers work). The average price elasticity of employment over the range of child-care costs examined in table 4 is about -0.38 .

Higher child-care costs also reduce the probability of using purchased child care when the mother does work. If child-care costs were fully subsidized, the model predicts that 81% of the working mothers would use purchased care $((0.536 + 0.167)/0.869)$. If child-care costs were \$40 per week, the model predicts that only 21% of the working mothers would use purchased care $((0.038 + 0.001)/0.187)$. The average price elasticity of purchased care over the range of child-care costs examined is about -0.34 .

V. Conclusions

This paper has examined the effects of child-care costs on family labor supply and child-care demand. A simple family labor supply model predicts that the cost of market child care will affect household decisions on labor supply and child-care use. Estimates of a qualitative choice model provide strong confirmation that child-care costs affect such decisions.

A commonly cited rationale for government subsidization of child-care costs is to facilitate

¹⁸ The model was reestimated (a) using an alternative measure of child-care costs and (b) treating the husband as a potential source of informal care. For both of these specifications the qualitative nature of the results in table 3 is virtually unchanged, while the quantitative magnitudes of the estimates were affected in some cases. Briefly, when the site-average wage rate of child-care workers is substituted in the logit model for the site-average weekly child-care cost measure used in table 3, and the husband is still assumed not to provide child care, the coefficients on the new variable in states 1 through 4 are all negative and generally in the same rank order by size as the estimates in table 4. The coefficient estimates on other variables in the model are virtually identical quantitatively to those in table 3. When the husband is treated as a potential source of child care (i.e., as an "other") and the logit model is estimated using the same specification as in table 3, the main differences between the new results and those in table 3 are (1) the coefficient on child-care cost in state 1 becomes significant; (2) the age effect becomes small and insignificant in state 1; and (3) the nonwage income effect remains negative and becomes significant in states 1, 2 and 3.

¹⁹ The predicted probabilities are calculated at the sample means of all variables other than child-care costs (from table 2).

labor force participation by mothers in low-income families. The responsiveness of the labor supply of mothers to child-care costs demonstrated in this study indicates that such subsidies do have their intended effect of encouraging labor supply. The fact that a large proportion of current child-care subsidies benefit primarily middle- and upper-income families via the income tax credit suggests that the labor supply effects of such subsidies may be in practice stronger for less needy families than for low-income families.²⁰ Another implication of the results of this study is that employer-subsidized child care may become an increasingly popular tool for attracting mothers into the labor force in tight labor markets.²¹

²⁰ In 1979, Martinez (1985, p. 26) reports that "almost 80 percent of the benefits from the tax credit went to families with annual incomes over \$15,000." For further discussion, see Robins (1988).

²¹ See "Help Wanted—A Shortage of Youths Brings Wide Changes to the Labor Market," *Wall Street Journal*, September 2, 1986, p. 1 for anecdotal evidence on this trend.

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