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ABSTRACT

This study provides the first systematic analysis of the labor market behavior and characteristics of child care workers in the United States. A nationally representative sample of over 4,000 child care workers from the 1977–87 March Current Population Surveys is used to provide an analysis of the characteristics of child care workers and to estimate a model of wages. The results indicate that child care workers' wages are generally unaffected by government subsidies and regulations, suggesting that the supply of child care labor is relatively elastic. Wages of child care workers have remained constant relative to other workers' wages from 1976–86 despite substantial real increases in child care subsidies. Relative wages of different classes of child care workers have also remained constant.

I. Introduction

Child care workers are a relatively small fraction of all workers in the United States, but their numbers belie their importance. The extraordinarily rapid growth in labor force participation by mothers

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of young children in recent years has caused the demand for care of children by someone other than a child's parents to grow rapidly as well. While much child care is provided outside the market by relatives at no direct cost, the most recent national data indicate that over one-half of all children under age five with working mothers are cared for by nonrelatives.[1] The workers who provide this child care are therefore an important factor in the growth of labor force participation of mothers of young children, which is one of the most important changes in the United States labor force in the second half of the twentieth century. Despite the large amount of attention devoted to child care recently, there has been virtually no systematic study of the child care labor market.[2] This is an important gap because the behavior of child care workers can have a significant impact on the cost and supply of child care.

This study provides an analysis of child care workers. The study has several goals. First, in Section II a nationally representative sample of more than 4,000 female child care workers covering the period 1976–86 is used to provide a description of the characteristics and labor force activities of child care workers, and how they have changed over time. Earnings, labor supply, wages, occupation, industry, turnover, and related factors are examined. The study compares child care workers and other female workers and examines differences among different groups of child care workers. This is the first study to use nationally representative data to describe the characteristics and behavior of child care workers.

Second, in Section III government policy toward child care is briefly reviewed. Federal and state governments subsidize child care through a variety of programs, and the states also regulate the provision of child care services. These programs affect the environment in which the child care labor market operates, and it is therefore important to describe their characteristics and consider their likely impact on child care workers.

Third, a reduced form empirical analysis of choice of sector and wages of child care workers, other workers, and nonworkers is provided in Section IV. The analysis is based on a theoretical model that is sketched briefly. The empirical results provide evidence on how the determinants

1. See U.S. Department of Commerce (1987, p. 3). Child care by nonrelatives does not always involve a direct monetary cost, but usually involves at least some form of payment, and is, therefore, appropriately considered a market transaction. Child care by a relative sometimes involves a cash or noncash payment but is probably best treated as a nonmarket transaction.

2. Hartmann and Pierce (1989) summarize the results of a large number of local surveys of child care workers. The demand side of the child care market has received more attention recently. See Blau and Robins (1988, 1989) and Connelly (1989).

of wages differ both across sectors within the child care labor market and between child care workers and other workers. In particular, the results indicate that government subsidies and regulations have had little impact on child care workers' wages. Given the substantial growth of government child care subsidies during the period studied, this suggests that the supply of child care labor is relatively elastic. The results should provide useful guidance concerning the likely effects of proposed new policies on the child care labor market, although the results are not a substitute for careful structural analysis.

II. Data Description

A. The Sample

The main data source for this study is the March Current Population Survey (CPS) Public Use Tapes for 1977–87. The CPS data on individuals is supplemented with aggregate data from a variety of sources, described in Section III. From the March CPS tapes a sample was drawn consisting of all female child care workers between the ages of 18 and 64 (inclusive) and a 2.33 percent random subsample of all other women in the same age range. At most one woman from a given household was included in the sample. The sample begins with the March 1977 Survey because in prior years it is not possible to identify the state of residence of all individuals in the sample, and this information is needed in order to determine the subsidies and regulations to which each woman is subject. Males were excluded from the sample because over 95 percent of child care workers are female.

Three types of child care workers are identified by occupation in the CPS: (1) child care workers, private household; (2) child care workers, except private household; and (3) teachers, prekindergarten and kindergarten. A careful examination of the description of these occupations (U.S. Bureau of the Census 1971, 1982) reveals that foster parents, orphanage attendants, school bus monitors, and other workers whose occupations do not seem closely related to child care as usually defined are classified as child care workers, except private household. Also, the third category includes kindergarten teachers in elementary schools. Using three digit census industry codes, I eliminated from the child care sample those women who did not appear to be child care workers, defined as caring for children in a private home, day care center, preschool, or nursery school. Details of the sample selection criteria are given in the Appendix.

The final sample consists of 4,305 child care workers, 7,180 other work-

Table 1
Sample Sizes by Year and Occupation

	Child Care Workers				
	Private Household	Nonhousehold	Teacher	Other Workers	Nonworkers
1976	164	34	3	521	308
1977	220	34	3	458	355
1978	229	44	2	491	294
1979	293	50	1	759	376
1980	319	48	7	767	390
1981	246	34	1	656	335
1982	194	170	119	699	341
1983	203	176	109	687	346
1984	208	198	135	750	329
1985	191	208	135	709	328
1986	188	195	144	683	308
Total	2,455	1,191	659	7,180	3,710

ers, and 3,710 nonworkers.[3] Other workers are women who worked at least one hour in one week during the calendar year prior to the March survey in which they were included. Nonworkers did not work at all in the previous calendar year and child care workers worked at least one hour during the previous calendar year. The occupation and industry codes used to classify the sample are for the longest job worked during the previous calendar year. Sample sizes by year for each group are presented in Table 1.

Sample sizes for nonhousehold and teacher child care workers increase

3. The proportion of child care workers (as defined here) among all women age 18–64 in the March 1977–87 CPS is about 1 percent. The sample used here contains a disproportionate number of child care workers since they are the focus of the analysis. It is possible that the CPS undercounts child care workers because many of them may not report income to the tax authorities and, therefore, may not wish to reveal their work status. There is no straightforward way to determine the magnitude of this problem and whether it affects the estimates reported below, so the results should be interpreted with this caveat in mind. Despite this drawback, the CPS is the best national source of information on child care workers currently available. The National Child Care Survey (Urban Institute 1989) and the National Child Care Staffing Study (Child Care Employee Project 1990) will make better data available in the future.

substantially in 1982. Beginning with the March 1983 CPS survey, which reports data for calendar year 1982, the CPS uses the 1980 Census codes for occupation and industry instead of the 1970 codes. The Census Bureau appears to have changed its classification procedures substantially with the new codes, although there is no indication of this in the description of the codes. The pre-1982 sample of teachers is clearly too small for drawing inferences, and the yearly pre-1982 samples of nonhousehold workers may be too small for reliable inferences about trends over time.[4]

Table 2 gives the distribution of child care workers by occupation and industry for 1976–81 and 1982–86 separately. As noted in the table (see also the Appendix), the 1980 *industry* codes included a new category, child day care services, that did not exist previously. Teachers were kept in the 1982–86 samples only if they were classified in this industry, and almost 80 percent of nonhousehold workers are also in this industry in 1982–86. In the earlier years Type 2 and 3 workers are concentrated in religious organizations, welfare services, and nonprofit membership organizations. All private household workers are by definition classified as working in the "private household" industry.

B. Descriptive Statistics

Table 3 presents descriptive statistics for each of the child care sectors and for other female workers and nonworkers. Substantial differences exist in wages, earnings, and labor supply between child care workers and other workers, and among the different groups of child care workers. Private household workers have the lowest hourly wages, averaging 62 percent of nonhousehold worker's wages, 50 percent of teacher's wages, and 37 percent of nonchild care worker's wages. Differences in annual earnings are even larger because private household workers work fewer weeks and hours than other child care workers and nonchild care workers.

These differences are due in part to differences in characteristics of the groups. The typical private household worker has not completed high school while the typical nonhousehold worker has, and the average teacher has more than two years of college. Private household workers

4. Weights provided in the CPS could be used to estimate the total number of child care workers of each type in the population. Because of the change in occupation and industry coding between the 1981 and 1982 calendar years, it would be misleading to attempt to infer trends in the number of child care workers over the entire 1976–86 period. Furthermore, as mentioned in the previous note it is likely that the CPS undercounts child care workers. As a result, the population estimates that can be derived from the CPS are of questionable value and are not presented here.

Table 2
Percentage Distribution of Child Care Workers by Industry (longest job last year)

	1976–81			1982–86		
Industry	(1) Private Household	(2) Nonhousehold	(3) Teachers	(1) Private Household	(2) Nonhousehold	(3) Teachers
Private household (percent)	100	0	0	100	0	0
Miscellaneous personal services	0	4.1	0	0	2.7	0
Bowling and billiards	0	7.0	0	0	1.2	0
Convalescent institution	0	9.0	0	0	1.5	0
Religious organization	0	26.6	29.4	0	3.3	0
Welfare services	0	22.5	11.8	0	2.4	0
Nonprofit membership organization	0	4.9	23.5	0	1.9	0
Local government	0	5.7	0	0	.3	0
Child day care services[a]	0	0	0	0	79.3	100
All others	0	20.1	35.3	0	7.4	0
Total (percent)	100	100	100	100	100	100
Sample size	1,471	244	17	984	947	642

a. This category was not in use until 1982. For 1982–86, teachers are included in the sample *only* if they report this as their industry.

are also younger, less likely to be black, and less likely to live in an SMSA than other workers. It is also evident, however, that differences in characteristics between child care workers and other workers cannot account for all the wage differences. For example, teachers have 1.6 years more education on average than other workers but earn only 75 percent of other workers' hourly wages on average. Differences in the structure of the wage determination process across sectors are explored below in Section IV.

Other important differences among the child care sectors include a younger age, more young children, and lower earnings of the husband among private household workers, with teachers at the other extreme in each case and nonhousehold workers in the middle. A natural question about these data is how meaningful are the distinctions among the three child care sectors. The evidence in Table 3 suggests that the classification scheme used by the Census Bureau does capture meaningful differences among different types of child care workers. Private household workers appear to be less attached to the labor force, lower skilled, and more likely to be caring for a child of their own while working than other child care workers. Preschool and nursery school teachers are substantially better skilled, work 75 percent of the year (similar to many other teachers) and seem more likely to view child care as a profession rather than a relatively casual occupation. Nonhousehold workers fall between the other groups in each respect.

C. Wage Trends

Trends in real average wages of child care workers and other workers are presented in Figure 1. The very small sample size for teachers prior to 1982 precludes meaningful inferences, and recall that the pre-1982 sample sizes for nonhousehold workers are between 34 and 50 each year. Despite these limitations of the data, it is quite apparent that real wages for child care workers, as well as other workers, were essentially flat from 1976–86. Thus, while child care workers did not fall farther behind women in other occupations during this period, neither did they succeed in raising their low absolute wages, although nominal wages did rise enough to keep pace with inflation.[5]

5. Weekly earnings and hourly wages as of the survey week for those women paid by the hour are also flat over this period. Annual earnings rose slowly in real terms for all groups, due to increasing hours per week and weeks per year over the period. Child care is a labor-intensive industry and the absence of growth in the price of the main input over a recent eleven year period naturally leads one to wonder what has happened to the average price of child care over the same period. Unfortunately, this is a difficult question to answer because there is no consistent series of national data on child care costs.

Table 3
Means (and Standard Deviations) on the CPS Sample

Individual Variables	Child Care Workers: Private Household		Child Care Workers: Nonhousehold		Teachers		Other Workers		Nonworkers	
Hourly wage	1.80	(2.71)	2.91	(2.54)	3.63	(2.44)	4.81	(3.42)	—	(—)
Annual earnings	1,149	(1,644)	2,809	(3,102)	4,111	(3,517)	7,125	(6,035)	0	(0)
Annual hours	785	(746)	1,098	(879)	1,167	(738)	1,468	(769)	0	(0)
Weeks worked	27	(18)	34	(18)	39	(15)	41	(16)	0	(0)
Usual weekly hours	27	(16)	29	(15)	29	(13)	34	(12)	0	(0)
Black	.07	(.26)	.14	(.35)	.13	(.34)	.10	(.30)	.10	(.30)
Other race	.03	(.16)	.03	(.18)	.03	(.16)	.03	(.18)	.04	(.19)
Age	31.4	(12.8)	32.7	(11.7)	34.3	(9.5)	35.8	(12.2)	40.7	(14.2)
Education	11.6	(2.2)	12.2	(2.1)	14.3	(2.0)	12.7	(2.5)	11.4	(2.8)
SMSA	.34	(.47)	.43	(.50)	.57	(.50)	.43	(.50)	.42	(.49)
NKLE5	.49	(.78)	.41	(.69)	.34	(.61)	.26	(.56)	.44	(.77)
NUMOTHAD	.50	(.88)	.48	(.83)	.35	(.74)	.46	(.83)	.42	(.79)
HUSEARN	8,181	(9,730)	9,069	(10,340)	13,217	(13,052)	10,006	(11,285)	11,549	(13,461)
OTHINC	7,270	(13,392)	6,807	(13,104)	6,166	(14,396)	6,518	(11,661)	5,577	(10,867)
Sample size	2,455		1,191		659		7,180		3,710	

Notes: All dollar amounts are expressed in 1979 dollars and were deflated using the CPI. The means for husband's earnings (*HUSEARN*) include zeros for women who are not married. The means on the subsamples with a husband present are $13,461, $14,871, $19,029, $15,141, and $15,301, respectively, from left to right.
Abbreviations: *NKLE5:* Number of children aged ≤ 5; *NUMOTHAD:* Number of adults other than the woman and spouse; *HUSEARN:* Husband's earnings; *OTHINC:* Income other than earnings of woman and spouse.

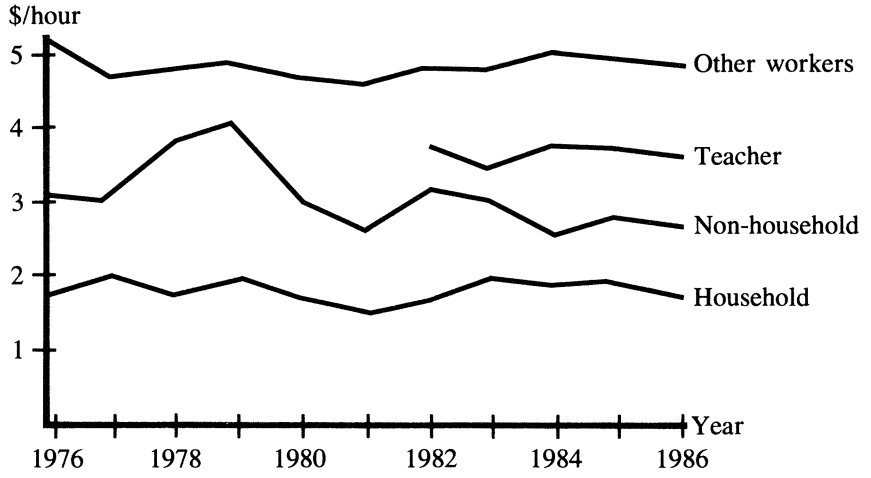

Figure 1
Real Average Hourly Earnings (in 1979 dollars)

D. Turnover

The last issue addressed in this section is the rate of turnover among child care workers, which is reputed to be as high as 40 percent annually (Phillips and Whitebook 1986). The CPS does not report job turnover data, but occupation and labor force status are recorded for both the previous calendar year and the March survey week. A comparison of a woman's status for her longest job last year with her status during the survey week gives an indication of the rate at which child care workers leave the occupation, though turnover within the occupation is missed. Table 4 presents a tabulation of occupation and labor force status cross classified by longest job last year and as of the survey week. The table shows that child care workers are much more likely to have changed occupations or left the labor force than other workers. Among child care workers, the highest turnover rate is experienced by private household workers. Only a bit more than half the women whose longest job in the previous year was as a private household worker remain in this occupation as of the survey week. One-third of such workers are out of the labor force by the survey week, and 13 percent are in another occupation. The high turnover rate of private household workers together with their relatively low average annual hours worked reinforce the idea that they tend to be "casual" workers without a strong attachement to the labor force. The turnover rate of nonhousehold child care workers is also high,

Table 4
Occupation of Longest Job Last Year and During Survey Week

Longest Job Last Year	Survey Week: Private Household	Nonhousehold	Teacher	Other Worker	Nonworker	Total
Private household	1,313	11	5	316	810	2,455
	53.5%	.4%	.2%	12.9 %	33.0%	100%
Nonhousehold	10	835	7	125	214	1,191
	.8%	70.1%	.6%	10.5%	18.0%	100%
Teacher	0	8	521	66	64	659
	0%	1.2%	79.1%	10.0%	9.7%	100%
Other worker	9	14	20	6,372	765	7,180
	1%	.2%	.3%	88.7%	10.6%	100%
Nonworker	11	8	1	520	3,170	3,710
	.3%	.2%	.0%	14.0%	85.1%	100%
Total	1,349	877	554	7,412	5,067	

with 10 percent switching occupations and 18 percent leaving the labor force. Teachers are more strongly attached to the labor force, with 10 percent switching occupation and 10 percent leaving the labor force, similar to other workers.[6]

E. Summary

Child care workers are a diverse group, ranging from relatively casual "babysitters" with little skill to highly trained teachers with a strong attachment to the labor force. Wages of the former group average only half those of the latter group, but child care workers as a group are poorly paid compared to other women. Wages remained constant on average in real terms for all women workers from 1976–86, so child care workers did not improve their relative position during this period.

III. Government Child Care Policies

The child care market in the United States does not operate in a vacuum. The Federal government subsidizes child care under a variety of programs, and state governments regulate child care in various ways as well as contributing subsidies of their own in some cases. Careful consideration of the possible effects of these programs on market outcomes is necessary in order to gain a full picture of the functioning of the child care labor market. In this section the main government programs affecting child care are briefly described, and in the following section a labor supply model incorporating these programs is sketched.[7]

A. Provider Subsidies

Child care providers are subsidized under a variety of federal programs, the most important of which are Head Start, the Child Care Food Program, and Title XX Social Service Block Grants. Under the Head Start and Child Care Food Program, funds are allocated to states based on a poverty-weighted index of the number of young children, so there is no discretion across states in funding under these programs. Therefore an-

6. Other workers switch occupations at a rate of about 10 percent between the longest job during the previous year and the March survey week.

7. Only the major programs that operated in the 1976–86 period are described. Some newer programs that have been growing rapidly but remain small relative to overall government child care spending, such as Flexible Spending Accounts and "Cafeteria Plans," are not discussed here. See Robins (1990) for a thorough discussion of these and other subsidy programs.

nual real total federal spending under each program is used as one set of indicators of producer subsidies. Under the Title XX program each state is also allocated funds in proportion to population, but states have discretion over how much to spend on each of a variety of social services. In the case of child care, each state is required to establish a rate at which providers will be reimbursed per eligible child in care. The daily Title XX reimbursement rate for each state (in real terms) is used as another indicator of the subsidy rate for providers. There has been a fairly steady increase in Child Care Food Program funding, a roughly constant level of Head Start funding since 1978, and a slowly decreasing average Title XX reimbursement. Table 5 summarizes the data for the period 1976–86.

An important point to note about these programs is that only licensed providers that meet state standards are eligible for subsidies. Thus they would appear to be relevant only for the more "formal" sectors of the market, such as day care centers and preschools. Clearly, such subsidies can have a direct impact only in these sectors. As long as workers or consumers are willing to some extent to substitute among different forms of child care, however, the price of child care in both the formal and informal sectors can be influenced by these subsidies, and, therefore, the average level of wages of all child care workers could be affected.

B. Consumer Subsidies

The main sources of government subsidies to child care consumers are Federal and State child care tax credits and deductions. These subsidies obviously have no direct impact on child care workers, but they may have important indirect effects by causing the demand for child care labor to increase, thus possibly driving wages up, depending on the elasticity of supply of child care labor. In contrast to provider subsidies, the tax credit is not limited to specific types of child care providers. Data on total expenditure on the Federal tax credit are available, and could be used as an indicator for the level of this consumer subsidy. Many states supplement the Federal credit with their own child care tax credits or deductions, however, and there are no data on expenditures by state. Data on the subsidy *rate* for each state and year are available, and when combined with the Federal subsidy rate yield a measure of the generosity of the tax credit available in each state for each year from 1976–86.

For each state and year, a combined federal, state, and payroll marginal tax rate, a combined federal and state marginal child care subsidy rate, and a combined federal and state maximum dollar amount for the child care tax credit were computed using the appropriate tax schedules for 1976–86. These policy variables were calculated for a married woman with two children under age 14 (the maximum age of eligibility for the

Table 5
Descriptive Statistics on Child Care Policy Variables

	CCTC	*Maxcred*	*MTR*	*Headstart*	*CCFOOD*	*TXXRR*	*CSR-DCC*	*Ed.Qual-DCC*
1976	.22	1,119	.28	583	113	12.84	9.0	.40
1977	.22	1,079	.25	571	144	11.78	9.0	.36
1978	.23	1,013	.25	696	150	11.25	8.9	.72
1979	.23	920	.25	680	164	9.92	8.8	.69
1980	.22	794	.25	648	185	9.05	8.9	.70
1981	.23	726	.28	654	234	8.34	8.9	.69
1982	.32	1,127	.26	685	201	7.84	7.2	.57
1983	.31	1,084	.25	664	222	7.54	7.3	.54
1984	.30	1,004	.25	696	243	7.42	7.3	.56
1985	.30	968	.25	706	263	7.44	7.4	.59
1986	.30	957	.25	671	283	7.67	7.2	.56

Abbreviations: *CCTC:* Child Care Tax Credit subsidy rate; *Maxcred:* Maximum credit available; *MTR:* Marginal tax rate; *CCFOOD:* Child Care Food Program; *TXXRR:* Title XX Replacement Rate; *CSR-DCC:* Child-Staff Ratio in Day Care Centers; *Ed.Qual.-DCC:* Educational Qualification in Day Care Centers. Note: *Headstart* and *CCFOOD* are in units of millions of dollars; *Maxcred* and *TXXRR* are in dollars. All dollar amounts were deflated to a 1979 basis.

child care tax credit), and a family income equal to the real equivalent of $10,000 in 1979. Therefore, the variation across women in these variables is due solely to variation across states and over time in the parameters of state tax, federal tax, and child care credit schedules. As a check on the sensitivity of the results to the specific values assumed above for income, the policy variables were recalculated for family income levels equal to the real equivalents of $20,000 and $40,000 in 1979.

The average subsidy rate under the child care tax credit, using the assumptions described above, is about 0.27, indicating that an additional dollar of child care expense would reduce a family's tax burden by 27 cents on average. The average maximum tax credit available is $991, almost 10 percent of the assumed income level of $10,000.[8] See Table 5 for summary data, and the Appendix for further details on the calculations.

C. State Child Care Regulations

The Federal government does not regulate the child care market, but the states have regulations governing several aspects of child care. The most important regulations involving child care workers concern the maximum child-staff ratio and the qualifications of the provider. Both sets of regulations vary by the type of provider (center versus home-based care), and child-staff ratios vary by age. It is relatively straightforward to measure these regulations but there is a real question as to whether the regulations governing family day care are in fact enforced. There are no systematic data available on compliance, but considerable anecdotal information suggests that the bulk of home-based day care is unlicensed and unregistered and, therefore, evades the regulations. This issue is discussed further in the context of the theoretical model sketched below, but it is essentially an empirical issue. As discussed in the next section, regulations governing child-staff ratios and provider qualifications, if enforced, are likely to influence child care workers' wages and labor supply. If these effects do not appear in the data, this may be taken to indicate that the regulations are in fact not enforced. Therefore, data were collected on the maximum legal child-staff ratio for two-year-olds in day care cen-

8. The maximum dollar amount of the credit is included as a policy variable because it is part of all child care tax credit programs and varies independently of the subsidy rate. The average maximum credit has declined over time as a result of inflation, with the exception of the legislated increase in the federal credit in 1983. There is considerable variation in the tax credit subsidy rate over time and across states. The subsidy rate averaged .22 before 1982 and .31 from 1982–86. In 1986 the lowest subsidy rate was .27 in states with no state tax credit (.27 was the federal rate), and the two highest rates were .54 in Minnesota and .67 in New Mexico.

ters. A variable was also constructed indicating whether a state imposes any educational qualifications on day care center workers. See Table 5 for averages and the Appendix for details on the construction of these variables.[9] The average child-staff ratio decreased by almost two over the period covered, and educational qualifications became more common as well.

D. Other Aggregate Variables

If a state's child care policy variables are correlated with other state policies that could affect child care workers' behavior such as the AFDC Benefit level, or with other determinants of the aggregate demand for women's labor, then it is important to include such variables in the empirical analysis in order to obtain consistent estimates of the parameters on the policy variables of interest. Data were collected on AFDC Benefits, the unemployment rate, average family income minus the woman's earnings, the minimum wage, the age and educational structure of the female population, and the industrial structure of employment. These variables were chosen because of the likelihood that they would have some influence on wages and because they may be correlated with the policy variables of interest. All of these variables except the minimum wage are state and year specific. The Appendix describes the sources of these data and Table A2 provides descriptive statistics.

IV. An Empirical Analysis of Wages

What factors influence a woman's decision to become a child care worker versus working in another occupation or not working? What factors determine the choice among sectors (private household, nonhousehold, teachers) within the child care occupation? How do wage determinants compare between child care workers and other workers and within the child care sector? Do policy variables influence these outcomes? This section presents empirical results on these issues. The analysis is reduced form but is motivated by a model of behavior sketched below.

In this model, women are assumed to choose the sector that yields the highest utility. The choices are (1) no work; (2) work in an occupation other than child care; (3) work as a private household child care provider;

9. Data are also available on the child-staff ratio and educational requirements for family day care workers. These are highly correlated with the regulations for day care center workers and are therefore not included as separate variables in the analysis.

(4) work as a nonhousehold provider; or (5) work as a preschool teacher. Utility depends on leisure, goods consumption, the number of children, and quality of care provided to the woman's children. Quality of care depends on the number of hours the children are in market child care, nonmarket child care, and parental care, and on the quality of each provider. Higher quality care can be purchased at a price in the market by hiring a higher quality child care provider. Each woman is endowed with a certain amount of skill or quality as a child care worker; the higher her quality, the higher the wage she can earn as a child care worker. The woman's endowment of quality can differ across sectors within the child care market and the price of quality can also differ across sectors because of differences in supply and demand. The budget constraint faced by a woman differs by sector and incorporates the relevant policy variables. For example, in Sector (2) the child care tax credit is included in the constraint; in Sectors (3)–(5) the various producer subsidies and regulations are included; and in section (1) neither consumer nor producer subsidies enter. The price of child care quality in each sector is determined in general equilibrium by the aggregate supply and demand for each type of quality.

The equation for the hourly wage of woman i in sector j that can be derived from this model takes the form

$$(1) \quad \ln W_{ij} = X_i\beta_j + Z_i\gamma_j + N_i\delta_j + u_{ij}$$

where X is a vector of variables that influence productivity or quality; Z is a vector of aggregate variables (including the child care policy variables) that influence the price of quality in each sector; N is the number of the woman's children who require child care; β, γ, and δ are sector-specific coefficient vectors; and u is a disturbance. The vector Z is subscripted by i because the policy and other aggregate variables vary by state and year. Child care workers can often care for their own children while simultaneously caring for paying children, but at the cost of being able to care for fewer paying children. Hence, it is expected that $\delta_j < 0$, $j = 3, 4, 5$, and $\delta_2 = 0$, since wages in nonchild-care work do not depend on the number of the woman's own young children. Fertility is assumed to be endogenous, i.e., jointly chosen with occupation, so (1) is estimated by Two Stage Least Squares (*2SLS*). The identifying variables in the first stage equation for N consist of taste variables and nonwage income, since these do not directly affect wages.

Since wages affect utility and the choice of sector is assumed to be utility-maximizing, sample selection bias could be present in OLS or *2SLS* estimates of (1) by sector. To obtain consistent estimates a reduced form discrete model of choice among the five sectors is estimated by multinomial logit, and the results are used to correct the sectoral wage

equations for selection.[10] The determinants of choice of sector in a reduced form include X, Z, any taste-related variables, and family income other than the woman's earnings. The selectivity correction is computed from the logit results using the "transformation to normality" approach (Maddala 1983, pp. 272–78). Logit is not the ideal specification for the discrete choice model because it does not allow for correlation among sector-specific disturbances, but it is the only tractable alternative for a five-choice model.[11]

Table 6 presents selectivity-corrected *2SLS* estimates of the wage equation by sector. There are several features of the results that are common to the different types of child care workers and distinguish them sharply from the estimates for other female workers. These include the absence of significant wage variation by age, race, SMSA, and, for private household workers and teachers, education. The absence of wage growth with age suggests that productivity in child care work does not increase with experience. The lack of wage differentials by race among child care workers could be due to racial segregation in the industry, i.e., Black workers care mainly for Black children. This cannot be verified because of lack of data, but would be consistent with some models of discrimination.

There are some important differences in the results across child care sectors as well. First, nonhousehold workers receive positive returns to education, but private household workers and teachers do not. The result for private household workers is not surprising, but the absence of returns to education for teachers, a highly educated group on average, is puzzling. The main effect of education on teachers is on selection into the sector, which is the relatively high-wage child care sector. Teachers typically meet some minimum educational requirement in order to enter the sector; beyond that, further education is apparently not rewarded.[12] See

10. As noted above, child care workers were oversampled from the CPS in order to obtain an adequate sample size. The sample is therefore "choice-based" in the terminology of Manski and Lerman (1977) and the logit model incorporates weights to account for this. The weight applied to each observation is the ratio of the population share to the sample share of the sector chosen by the individual. The population shares were calculated from the CPS tapes.

11. One way to add some structure to the model would be to specify a nested logit model, with the first level incorporating the choice among nonwork, other work, and child care work, and the second level incorporating the choice among child care sectors for women who choose to be child care workers. This is not feasible in this case, however, because there are no choice-specific variables available.

12. Education has a statistically significant positive effect on teachers' wages when the equation is estimated by OLS with no correction for selection. Correcting for selection and controlling for endogeneity of *NKLE5* both reduce the precision of the estimate.

Table 6
Log Wage Equations by Sector

	Private Household		Nonhousehold		Teachers		Other Workers	
Intercept	5.41	(4.51)	2.83	(11.01)	12.72	(22.71)	−7.03	(1.96)***
SMSA	.06	(.05)	.09	(.05)	.03	(.06)	.11	(.02)***
Black	−.02	(.10)	−.03	(.11)	.05	(.07)	−.05	(.02)**
Other race	−.19	(.12)	−.03	(.12)	.09	(.14)	−.10	(.04)**
Age	−.049	(.031)	−.004	(.014)	.028	(.023)	.057	(.004)***
$Age^2/100$	.040	(.030)	.017	(.017)	−.029	(.033)	−.067	(.005)***
Education	−.024	(.026)	.050	(.012)***	.048	(.051)	.092	(.005)***
NKLE5	−.33	(.07)***	−.15	(.13)	−.10	(.19)		
MTR	−.72	(.78)	2.73	(1.38)**	−2.04	(1.44)	.24	(.34)
CCTC	.85	(.69)	.93	(1.07)	−1.31	(1.47)	−.14	(.30)
Maxcred/1,000	−.16	(.22)	−.76	(.48)	.49	(.60)	.01	(.10)
Head Start/1,000	1.57	(.97)	−.75	(1.30)	1.37	(1.28)	−.42	(.38)
CCFOOD/1,000	1.77	(1.86)	−1.65	(5.91)	9.42	(13.2)	−2.40	(.78)***
TXXRR	−.010	(.008)	.025	(.013)*	.007	(.015)	−.001	(.003)
CSR-DCC	.003	(.009)	.029	(.021)	−.001	(.012)	.0062	(.0032)*
Ed.Qual.-DCC	−.072	(.044)	−.101	(.075)	.083	(.071)	.005	(.018)
Year	−.116	(.054)**	.044	(.118)	−.20	(.27)	.067	(.027)***
MOTHINC/1,000	−.018	(.013)	.001	(.013)	.015	(.016)	.012	(.004)***
AFDCBEN/1,000	.95	(.28)***	.44	(.39)	−.03	(.43)	.48	(.11)***
Minimum wage	.42	(.39)	1.05	(.67)	−.11	(1.21)	.35	(.16)**

Unemployment rate	−.011	(.009)	−.004	(.018)	.004	(.018)	−.001	(.004)
Proportion of women								
Aged 18–30	−.16	(.78)	.41	(1.26)	−.73	(1.13)	.69	(.33)***
Aged 31–45	.74	(.98)	.87	(1.65)	−.30	(1.64)	.46	(.45)
Educ < 12	.03	(1.07)	−.19	(1.38)	2.17	(1.66)	.08	(.45)
Educ = 12	1.20	(.95)	−.74	(1.26)	.97	(1.39)	−.26	(.40)
Educ = 13–15	.50	(1.17)	−2.26	(1.80)	1.77	(1.76)	−.47	(.52)
Proportion of state employment in								
TCPU	.97	(1.68)	−1.46	(2.85)	.47	(2.41)	.02	(.65)
TRADE	.32	(1.15)	−1.15	(1.74)	.70	(1.45)	−.63	(.47)
FIR	2.40	(1.88)	3.05	(2.57)	2.77	(2.46)	.59	(.75)
BAR	−1.33	(2.25)	2.99	(2.57)	−.75	(2.75)	−1.90	(.86)**
PERS	−.01	(.93)	2.29	(1.31)*	1.15	(1.27)	−.13	(.31)
PROF	1.79	(1.09)	−.97	(1.47)	2.12	(1.51)	−1.01	(.46)*
PUB	2.55	(1.04)**	−.61	(1.12)	2.08	(1.29)	1.02	(.35)
Selectivity correction	1.43	(.67)**	−.85	(.87)	−.15	(.55)	.45	(.07)***
R^2	.06		.06		.13		.15	
Standard error	.75		.69		.51		.56	

Notes: Estimation method was *2SLS* with *NKLE5* endogenous. Standard errors are in parentheses. See Tables 3, 5, and A2 for definitions of the variables. The means of the selectivity correction variables are 3.00, 2.97, 3.07, and .51, respectively, from left to right. The first stage equations for *NKLE5* are in Table A3.

* Coefficent estimate is statistically significant at the 10 percent level.

** Coefficient estimate is statistically significant at the 5 percent level.

*** Coefficient estimate is statistically significant at the 1 percent level.

Appendix Table A1 for the choice of sector results. Second, the presence of young children reduces wages of household workers substantially, indicating that these workers probably care for their own young children while caring for paying children as well.[13] Teachers and nonhousehold workers do not suffer a statistically significant wage loss due to the presence of young children, however, suggesting that the more structured environment of a day care center or preschool is less conducive to teachers caring for their own young children on the job. This implies that day care center workers and teachers with young children may have to pay for child care themselves. Third, the hypothesis that the coefficient vectors in the three sectors are the same is strongly rejected, using an F-test on OLS versions of the models in Table 6.

The policy variables have few statistically significant effects on wages of child care workers or other workers. Nonhousehold workers' wages are positively associated with the Title XX reimbursement rate, but this result is not robust with respect to small changes in the specification of the model. The negative effect of Child Care Food spending on wages of other workers is robust, but probably captures a time trend that the linear trend variable "Year" fails to pick up, rather than representing a causal effect. One explanation for the absence of policy effects on wages is measurement error in the policy variables. This cannot be ruled out, since the level of income used in defining the child care tax credit variables was arbitrary, and the regulations may be easily evaded in some sectors. Another explanation is that the supply of child care labor is relatively elastic. This would account for the absence of higher wages in states and years with more generous tax credits, other things equal. This explanation is consistent with the relatively low barriers to entering the child

13. It is possible that the presence of young children serves as a proxy for unmeasured productivity, rather than indicating that child care workers actually face binding regulations on child-staff ratios. When a similarly specified model was estimated for female nonchild-care workers, however, *NKLE5* had a small *positive* effect on wages, indicating that it is unlikely to be picking up unmeasured productivity differences across child care workers. The effects of *NKLE5* on child care workers' wages are smaller, and statistically significant except for teachers, when the wage equations are estimated by OLS, indicating that the presence of young children is most appropriately treated as endogenous to wages. Also, the variable *NKLE5* includes, for a small number of households, children who are not the offspring of the child care worker, but rather are her siblings, nieces, nephews, grandchildren, or some other relationship. Reestimation of the model excluding those children left the results virtually unchanged. The first-stage equations for *NKLE5* are presented in Table A3. Since fertility is assumed to be endogenous, it will in general depend on the sector chosen so separate, selectivity-corrected equations for *NKLE5* were estimated for each sector. The same variables appear in both the *NKLE5* and choice-of-sector models, so the selectivity correction coefficient is identified only by the nonlinearity of the normal and logistic distributions.

care sector, particularly as a private household worker, and the high turnover rate. This explanation seems plausible, but must await better data and a careful structural analysis before being accepted as fact.

Few of the other aggregate variables have statistically significant associations with child care workers' wages, the main exception being AFDC Benefits, and a negative trend for private household workers. The coefficient estimates on the child care policy variables are sensitive to the inclusion of the other aggregate variables, indicating the importance of controlling for the latter when attempting to make inferences about policy effects.

The selectivity effects are quite different across sectors, with positive selection of household workers and nonchild-care workers, and negative but statistically insignificant selection of nonhousehold workers.[14] This indicates that women who choose to care for children in the household sector earn higher wages by doing so than would a random woman with similar observed characteristics. The logit results on which the selection correction terms are based are given in Table A1. The results are poor for child care workers due to the weighting required to adjust for the choice-based nature of the sample (see note 10). This reduced the effective sample size of child care workers down to their population proportion of about 1 percent, making it impossible to obtain precise estimates of the determinants of choosing to be a child care worker. As a result, the selection correction results should be interpreted with caution, as they are not very robust.[15] The only coefficient estimate for child care workers that is statistically significant is the positive effect of education on the probability of being a teacher.

V. Conclusions

This paper has presented the first systematic analysis of the child care labor market and how the market is affected by government

14. The selectivity correction terms are calculated from the logit results in Table A1 using the "transformation to normality" approach (Maddala 1983, 272–77). The formula for the selectivity correction terms is $\phi(q_i)/\Phi(q_i)$, where ϕ and Φ are the standard normal pdf and cdf, respectively, $q_i = \Phi^{-1}(P_i)$, and P_i is the predicted probability of choosing sector i calculated from the logit results.

15. When the wage equations are estimated without correcting for selectivity, several variables have coefficient estimates that differ significantly from those reported in Table 6. For private household workers, SMSA, Black, age, education, and the child-staff ratio all have positive, statistically significant effects. For nonhousehold workers, *NKLE5* educational qualifications, and *CCFOOD* have negative statistically significant effects. For teachers, education has a positive, statistically significant effect.

policy. An analysis of the impact of current and proposed government child care policies on child care workers is an important part of an overall analysis of the effects of public policy toward child care. The results of this paper indicate that wages of child care workers are for the most part unaffected by government subsidies to child care consumers and providers. Child care subsidies increased substantially in real terms during the 1976–86 period (Robins 1989, Table 3) but child care workers' wages have remained constant. This strongly suggests that the supply of child care labor is relatively elastic, implying that further increases in child care subsidies are unlikely to drive up the cost of child care.

The nature of the sample makes it difficult to draw inferences about the determinants of the decision to become a child care worker. The only result that stands out is the strong influence of education on the likelihood that a woman will be a preschool teacher.

The analysis presented here is only a first step toward the goal of being able to reliably predict the consequences of alternative policies on child care workers. Given the nonlinear budget constraint caused by several child care policies, and the complications introduced by the crucial role of child care quality, a structural analysis of the child care sector is important. The results presented here should prove helpful in guiding the specification of structural models.

Data Appendix

Child Care Workers

The 1983–87 CPS tapes use 1980 Census codes for industry and occupation, while the 1977–82 tapes use 1970 Census codes. Using the 1980 (1970) codes, a woman was determined to be a child care worker if, for the longest job last year, her occupation code was 406 (980) (child care workers, private household), 468 (942) (child care workers, except private household), or 155 (143) (teacher, pre-kindergarten and kindergarten) and her industry code was *not* any of the following: 842 (857) (elementary and secondary schools), 870 (879) (residential care facilities, without nursing), 770 (778) (lodging places except hotels and motels), 802 (809) (miscellaneous entertainment and recreation services). In addition, the 1980 Census codes defined a new *industry,* child day care services (862) that was not in the 1970 codes. An additional restriction imposed for 1983–87 was that, if occupation was 155 (pre-kindergarten or kindergarten teacher), industry had to be 862 for the woman to be a child care worker.

Cases with average hourly earnings less than $0.25 or greater than $50 were excluded from the sample.

Federal and State Tax and Child Care Tax Credit

Federal tax rates and child care subsidy rates were taken from Forms 1040 and 2441 for 1976–86. All filers are assumed to take the standard deduction and the usual exemptions. From 1976–82 the Federal child care subsidy rate was a flat 20 percent and expenses were limited to $2,000 for one child and $4,000 for two or more children (these were increased to $2,400 and $4,800 in 1982), yielding a nominal maximum credit of $400 for one child and $800 for two or more children. From 1983–86 the subsidy rate was 30 percent for Adjusted Gross Income (AGI) under $10,000, and was reduced by one percentage point for each additional $2,000 of AGI to 20 percent for AGI > $28,000. Data on the Federal payroll tax rate were taken from the *Social Security Bulletin.*

Information on state tax rates and child care credits was collected from Commerce Clearing House, *State Tax Guide, The Book of the States,* the *State Tax Review,* and the Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism,* 1985–86 edition. Some states have a child care deduction instead of a tax credit (similar to the Federal system before 1976). In this case the state subsidy rate is equal to the state marginal tax rate and the maximum "credit" is calculated as the difference between tax liability with zero child care expenses and with the maximum allowable level of child care expenses. Changes in state tax rates and child care credit or deductions that occurred during the sample period were incorporated.

Provider Subsidies

Data on Head Start and Child Care Food Program expenditures were collected from Robins (1988), Stephan and Schillmoeller (1987), and the *Statistical Abstract of the United States.* Data on reimbursement rates for center-based care under Title XX for 1981–86 are from U.S. Department of Health and Human Services (1982), and Children's Defense Fund (1984, 1986). Rates given in other than daily terms are converted to daily rates assuming nine hours per day, five days/week, 4.33 weeks/month, and 52 weeks/year. When ranges of rates were given I used the upper end of the range, with some exceptions. Data on reimbursement rates for 1976–80 were unavailable for most states. I imputed them for each state by assuming that the average annual growth rate in the reimbursement rate for 1981–86 applied to 1976–80.

Child Care Regulations

Data on each state's regulations are from Morgan (1987) for 1986, and Lawrence Johnson and Associates (1978, 1982) for 1977 and 1981. For

many states, no regulations changed between 1977 and 1986, so I assumed the same regulations applied for the whole sample period. For states with changes in regulations, I cannot determine precisely when the change occurred, so I filled in data for the missing years using three alternative assumptions: (1) the changes occurred "early," between 1977–78 and 1981–82; (2) the changes occurred roughly at the midpoints between the three years for which I have data, i.e., between 1978–79 and 1983–84; and (3) the changes occurred "late," between 1980–81 and 1985–86. In all cases I assumed the regulations for 1976 were the same as for 1977. States are assumed to have an educational requirement if any course-work, experience, or training is required.

Other Aggregate Variables

As noted in the text, most of the aggregate variables are state-year-specific weighted means computed from the full samples on the 1977–87 CPS tapes. Data on the minimum wage rate are from the *Social Security Bulletin;* unemployment rates by state and year are from the *Handbook of Labor Statistics;* and the AFDC monthly benefit for a family of four persons (one needy adult and three children) with no income is from U.S. Department of Health and Human Services, *Characteristics of State Plans for Aid to Families with Dependent Children,* annual issues, 1976–86.

Table A1
Logit Results for Choice of Sector

	Private Household		Nonhousehold		Teachers		Other Workers	
Intercept	4.77	(134)	−41.4	(87)	−1.54	(.28)	−14.69	(5.2)***
SMSA	−.13	(1.13)	−.11	(.62)	.19	(.51)	.03	(.04)
Black	−.44	(1.9)	.33	(.81)	.37	(.67)	−.09	(.06)
Other race	−.49	(2.9)	−.24	(1.5)	−.57	(1.3)	−.26	(.10)**
Age	−.08	(.26)	.04	(.15)	.19	(.15)	.12	(.01)***
Age^2/100	.042	(.33)	−.10	(.20)	−.29	(.20)	−.18	(.01)***
Education	−.008	(.19)	.098	(.115)	.44	(.09)***	.19	(.01)***
NUMOTHAD	.07	(.64)	.11	(.35)	.06	(.33)	.10	(.03)***
OTHINC/1,000	.0008	(.05)	.005	(.026)	.003	(.022)	.001	(.002)
HUSEARN/1,000	−.020	(.053)	−.015	(.027)	−.006	(.017)	−.026	(.002)***
MTR	1.4	(22)	−1.5	(14)	−4.6	(12.4)	2.21	(.93)**
CCTC	−1.4	(20)	−2.6	(10)	−4.1	(11.0)	−1.03	(.80)
Maxcred/1,000	.66	(5.9)	1.4	(3.8)	2.0	(4.5)	.23	(.25)
Head Start/1,000	.72	(28)	1.7	(14)	2.5	(12)	−.98	(1.0)
CCFOOD/1,000	4.0	(50)	−24	(43)	−87	(57)	−4.8	(2.1)**
Title XX	−.011	(.17)	−.009	(.14)	−.03	(.14)	.014	(.007)*
CSR-DCC	−.005	(.22)	−.004	(.14)	.02	(.13)	.033	(.009)***
Ed.Qual.-DCC	−.16	(1.2)	−.24	(.72)	.14	(.63)	−.083	(.049)*
Year	.004	(1.5)	.50	(1.0)	1.9	(1.5)	.18	(.06)***
MOTHINC/1,000	−.05	(.30)	−.009	(.16)	.02	(.13)	−.018	(.012)

Table A1 (*continued*)

	Private Household		Nonhousehold		Teachers		Other Workers	
AFDCBEN/1,000	.48	(7.3)	−.89	(5.0)	−.15	(4.3)	−.25	(.29)
Minimum wage	.91	(11)	−.95	(6.3)	−.42	(8.6)	.99	(.43)**
Unemployment rate	−.03	(.26)	−.08	(.15)	.018	(.13)	−.047	(.010)***
Proportion of women								
Aged 18–30	1.5	(22)	3.7	(12)	1.2	(11)	1.43	(.89)
Aged 31–45	1.5	(29)	4.4	(17)	−2.1	(15)	2.45	(1.20)**
Educ < 12	−5.9	(28)	−2.7	(16)	−.59	(14)	−5.40	(1.15)***
Educ = 12	−1.0	(25)	−1.6	(15)	−.42	(13)	−3.62	(1.04)***
Educ = 13–15	−2.4	(33)	.001	(20)	−.63	(17)	−3.7	(1.39)**
Proportion of state employment in								
TCPU	−6.7	(42)	4.1	(25)	1.5	(21)	−4.55	(1.70)***
TRADE	−.6	(31)	.06	(18)	.82	(16)	−4.22	(1.74)***
FIR	−5.5	(49)	5.9	(26)	.03	(22)	−3.82	(1.90)**
BAR	−4.6	(55)	1.1	(29)	−6.5	(23)	.87	(2.18)
PERS	−2.1	(22)	−3.1	(13)	−2.4	(11)	−.83	(.87)
PROF	−2.8	(31)	−2.0	(17)	−2.0	(15)	−3.16	(1.23)**
PUB	1.3	(24)	1.4	(14)	.57	(11)	−2.94	(.97)***
Log Likelihood					−9,620.3			

Notes: The omitted sector is nonworkers. See Tables 3, 5, and A2 for variable definitions. Standard errors are in parentheses.

Table A2
Annual Averages of Other Aggregate Variables

	Proportion of Women							
	Aged 18–20	Aged 31–45	Educ < 12	Educ = 12	Educ = 13–15	*MOTHINC*	*AFDCBEN*	*MINWAGE*
1976	.383	.290	.266	.447	.166	15,339	380	2.95
1977	.385	.294	.260	.449	.172	16,610	373	2.76
1978	.382	.299	.244	.450	.179	18,089	364	2.95
1979	.382	.309	.232	.450	.182	16,893	341	2.90
1980	.382	.309	.227	.453	.183	17,763	312	2.73
1981	.383	.317	.216	.454	.189	19,214	297	2.67
1982	.379	.323	.208	.450	.193	20,012	284	2.52
1983	.375	.331	.200	.448	.198	20,672	280	2.44
1984	.367	.338	.195	.444	.200	22,477	281	2.34
1985	.360	.349	.187	.445	.204	23,387	280	2.26
1986	.354	.357	.177	.438	.213	24,249	291	2.22

Table A2 (*continued*)

	Proportion of Women							
	Aged 18–20	Aged 31–45	Educ < 12	Educ = 12	Educ = 13–15	*MOTHINC*	*AFDCBEN*	*MINWAGE*
	Unemployment Rate	*TCPU*	*TRADE*	*FIR*	*BAR*	*PERS*	*PROF*	*PUB*
1976	7.55	.058	.216	.049	.034	.068	.193	.055
1977	6.85	.060	.216	.051	.035	.065	.190	.055
1978	5.89	.059	.218	.053	.036	.062	.191	.052
1979	5.69	.060	.212	.053	.037	.058	.200	.056
1980	7.01	.061	.211	.055	.040	.060	.200	.057
1981	7.41	.060	.215	.056	.042	.059	.201	.054
1982	9.51	.065	.215	.055	.047	.063	.201	.048
1983	9.49	.066	.215	.058	.049	.063	.201	.049
1984	7.36	.065	.214	.060	.051	.063	.200	.049
1985	7.13	.067	.217	.060	.055	.062	.200	.048
1986	6.95	.065	.217	.061	.058	.061	.205	.049

Abbreviations: *TCPU:* Transportation, Communication, and Public Utilities; *TRADE:* Wholesale and Retail Trade; *FIR:* Finance, Insurance and Real Estate; *BAR:* Business and Repair Services; *PERS:* Personal Services; *PROF:* Professional Services; *PUB:* Public Sector; *MOTHINC:* State average of *OTHINC; AFDCBEN:* Monthly AFDC Benefit for a family of four; *MINWAGE:* Legal Minimum Wage; Unemployment rate: State unemployment rate. Manufacturing is the omitted industry. *MOTHINC, AFDCBEN,* and *MINWAGE* are in 1979 dollars.

Table A3
First Stage Regressions on Number of Children Age Five and Under (NKLE5)

	Private Household		Nonhousehold		Teachers	
Intercept	6.13	(4.04)	−22.78	(10.73)**	−.06	(52.03)
SMSA	−.14	(.04)***	−.02	(.06)	−.05	(.09)
Black	−.43	(.08)***	.29	(.12)**	.04	(.18)
Other race	−.30	(.10)***	−.05	(.10)	.06	(.20)
Age	−.13	(.03)***	−.028	(.015)*	.005	(.042)
$Age^2/100$	.094	(.027)***	−.0018	(.015)	.019	(.065)
Education	−.085	(.022)***	−.013	(.012)	−.063	(.115)
OTHINC/1,000	−.0073	(.0014)***	−.0054	(.0021)***	−.0017	(.0021)
HUSEARN/1,000	.0102	(.0018)***	.0116	(.0024)***	.0052	(.0057)
MTR	.17	(.70)	−2.36	(1.26)*	−.47	(2.74)
CCTC	.63	(.62)	−2.19	(.93)**	3.48	(1.75)**
Maxcred/1,000	.17	(.20)	1.21	(.42)***	−1.15	(.83)
Head Start/1,000	1.80	(.86)**	2.75	(1.16)**	−.14	(1.66)
CCFOOD/1,000	4.85	(1.61)***	−12.85	(5.87)**	11.3	(30)
Title XX	−.026	(.007)***	−.028	(.011)**	.007	(.021)
CSR-DCC	−.032	(.008)***	−.067	(.019)***	−.011	(.014)
Ed.Qual.-DCC	.012	(.040)	−.090	(.073)	−.027	(.105)
Year	−.170	(.048)**	.213	(.117)*	−.045	(.629)
MOTHINC/1,000	−.042	(.011)***	.005	(.012)	−.026	(.018)
AFDCBEN/1,000	−.33	(.23)	−.60	(.35)*	−.42	(.48)
Minimum wage	−.14	(.35)***	−1.18	(.63)	3.42	(1.20)***
Unemployment rate	.010	(.008)	−.053	(.016)***	−.033	(.025)

Table A3 (*continued*)

	Private Household		Nonhousehold		Teachers	
Proportion of women						
Aged 18–30	1.56	(.69)**	1.72	(1.17)	−1.50	(1.21)
Aged 31–45	−.27	(.88)	3.92	(1.43)***	−2.24	(2.33)
Educ < 12	−1.09	(.96)	1.67	(1.23)	−1.94	(2.14)
Educ = 12	2.90	(.82)***	1.68	(1.12)	−1.43	(1.75)
Educ = 13–15	2.14	(1.04)**	3.93	(1.56)**	.55	(2.07)
Proportion of state employment in						
TCPU	−4.08	(1.49)***	7.81	(2.60)***	−2.08	(2.92)
TRADE	2.26	(1.01)***	4.45	(1.50)***	.10	(1.76)
FIR	−2.93	(1.68)*	−4.84	(2.26)**	−2.53	(2.85)
BAR	−6.48	(1.96)	1.40	(2.31)	1.94	(3.79)
PERS	−1.71	(.83)	−1.70	(1.21)	1.88	(1.43)
PROF	−1.43	(.97)***	−1.79	(1.30)	−.57	(1.69)
PUB	3.09	(.90)***	1.25	(.99)	−1.49	(1.72)
Selectivity correction	3.37	(.57)***	2.48	(.98)**	−1.52	(1.60)
R^2	.26		.22		.18	
Standard error	.68		.62		.57	

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