FEMALE LABOR FORCE TRENDS

Ever since the turn of the century, labor force participation rates of women have been rising. However, as Figure 1 shows, since 1960 the rise has been most dramatic for married women with young children. In 1960, for example, the labor force participation rate of married women with children under age 6 was about one-half the rate for married women with no children under age 18 (18.6 percent versus 34.7 percent). By 1980, the rates were equal (46 percent), and by 1988 the rate for married women with young children exceeded the rate for married women without children by almost one-fifth (57.1 percent versus 48.9 percent). Between 1970 and 1988, the labor force participation rate of married women without children rose by 40.9 percent, while for married women with young children it rose by 135.5 percent.

Research has shown that a variety of factors is responsible for
parents. Currently, there are a wide variety of government programs that subsidize child care, but there is no coordinated policy at either the federal or state level. Furthermore, although government subsidies for child care have recently increased, most of the benefits have gone to middle- and upper-income families and the constant-dollar value of benefits for lower-income families has fallen.

**Why Subsidize Child Care?**

Before examining current federal and state policies with respect to child care, it is useful to ask the rather basic question,
inception in 1976. First, in 1982, the tax credit was increased to 30 percent for low-income families and was reduced gradually on a sliding scale basis to 20 percent for families with incomes above $28,000. Before this the credit was a flat 20 percent for all families. Second, also in 1982, the maximum amount of child care expenses to which the credit could be applied was increased from $2,000 to $2,400 for one child and from $4,000 to $4,800 for two or more children. Third, and perhaps most importantly, in 1983 the credit was added to the short income tax form (1040A), which extended coverage to more low-income families.

As Table 2 indicates, the 1982 changes had only a minor effect on utilization of the credit, although they did significantly in-
FIGURE 4
Maximum Child Care Tax Credit: 1976–1988, Constant 1988 Dollars

Source: Robins (1990, Table 4).

more extensive use by eligible families. It is estimated that the percentage of families with working mothers using the credit increased from 19.4 percent in 1976 to 44.7 percent in 1987. In contrast, the average constant dollar credit per family increased by only about 18 percent from 1976 to 1988.

State Programs That Subsidize Child Care

The current system of state support for child care is also quite diverse and fragmented. As noted by the U.S. Department of Labor (1988), child care has had a long-established and well-developed system of support in some states, while in others it represents a new field of action. All states, however, currently provide some kind of child care assistance, either in the form of
ioral effects of the more progressive credit are due to both the significant estimated sensitivity on the part of families to price reductions and the large price reduction implied by more progressive credit.\textsuperscript{20}

**Additional Considerations**

There are at least two additional considerations that must be taken into account in evaluating the economic effects of changes in child care policy. One has to do with whether or not the supply of child care services can expand in response to the

\textsuperscript{20}The analysis by Blau and Robins (1989) suggests that the proposed changes in the child care tax credit would also increase the number of children born, which would further increase costs and distributional effects.
<table>
<thead>
<tr>
<th>Expenditure-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adult Education: Workplace Literacy Partnership (Education)</td>
</tr>
<tr>
<td>2. Aid to Families with Dependent Children (Health and Human Services)</td>
</tr>
<tr>
<td>3. Appalachian Child Development (Appalachian Regional Commission)</td>
</tr>
<tr>
<td>4. Business Development Assistance (Small Business Administration)</td>
</tr>
<tr>
<td>5. Census Bureau Surveys of Child Care Patterns (Commerce)</td>
</tr>
<tr>
<td>6. Child Care in Federal Buildings (General Services Administration)</td>
</tr>
<tr>
<td>7. Child Care Food Program (Agriculture)</td>
</tr>
<tr>
<td>8. Child Care in Military Institutions (Defense)</td>
</tr>
<tr>
<td>9. Child Development Associate Scholarships (Health and Human Services)</td>
</tr>
<tr>
<td>10. Child Welfare Research and Demonstration Projects (Health and Human Services)</td>
</tr>
<tr>
<td>11. Child Welfare Services State Grants (Health and Human Services)</td>
</tr>
<tr>
<td>12. Child Welfare Services Training Grants (Health and Human Services)</td>
</tr>
<tr>
<td>13. College Work-Study Program (Education)</td>
</tr>
<tr>
<td>14. Community Development Block Grants (Housing and Urban Development)</td>
</tr>
<tr>
<td>15. Community Services Block Grant (Health and Human Services)</td>
</tr>
<tr>
<td>16. Dependent Care Planning and Development (Health and Human Services)</td>
</tr>
<tr>
<td>17. Dislocated Workers Program (Labor)α</td>
</tr>
<tr>
<td>18. Economically Disadvantaged Individuals (Labor)α</td>
</tr>
<tr>
<td>19. Education of Handicapped Preschool Grant (Education)</td>
</tr>
<tr>
<td>20. Food Donation Program (Agriculture)</td>
</tr>
<tr>
<td>21. Food Stamps (Agriculture)</td>
</tr>
<tr>
<td>22. Guaranteed Student Loan Program (Education)</td>
</tr>
<tr>
<td>23. Head Start (Health and Human Services)</td>
</tr>
<tr>
<td>24. Indian Child Welfare Act</td>
</tr>
<tr>
<td>25. Job Corps (Labor)α</td>
</tr>
<tr>
<td>26. Migrant and Seasonal Farmworkers (Labor)α</td>
</tr>
<tr>
<td>27. Pell Grant Program (Education)</td>
</tr>
<tr>
<td>28. Perkins Loans (Education)</td>
</tr>
<tr>
<td>29. Public Housing (Housing and Urban Development)</td>
</tr>
<tr>
<td>30. Small Business Investment Companies (Small Business Administration)</td>
</tr>
<tr>
<td>31. Small Business Loans (Small Business Administration)</td>
</tr>
<tr>
<td>32. Social Services Block Grant, Title XX (Health and Human Services)</td>
</tr>
<tr>
<td>33. Special Milk Program for Children (Agriculture)</td>
</tr>
<tr>
<td>34. State Administrative Expenses for Child Nutrition (Agriculture)</td>
</tr>
<tr>
<td>35. State Student Incentive Grants (Education)</td>
</tr>
<tr>
<td>36. Summer Food Service Program for Children (Agriculture)</td>
</tr>
<tr>
<td>37. Supplemental Educational Opportunity Grants (Education)</td>
</tr>
<tr>
<td>38. Temporary Child Care for Handicapped Children (Health and Human Services)</td>
</tr>
<tr>
<td>39. Vocational Education (Education)</td>
</tr>
<tr>
<td>40. Women's Bureau (Labor)</td>
</tr>
<tr>
<td>41. Work Incentive Program (Labor, phased out in 1989)</td>
</tr>
</tbody>
</table>
TABLE 1 (continued)

<table>
<thead>
<tr>
<th>Tax-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accelerated Cost Recovery System (Treasury)</td>
</tr>
<tr>
<td>2. Child and Dependent Care Tax Credit (Treasury)</td>
</tr>
<tr>
<td>3. Child Care as a Business Expense (Treasury)</td>
</tr>
<tr>
<td>4. Dependent Care Assistance Programs (Treasury)</td>
</tr>
<tr>
<td>5. Non-Profit Child Care Centers, Tax Exemption (Treasury)</td>
</tr>
</tbody>
</table>


*Funded under the Job Training Partnership Act.

Title XX social service program. Total Title XX funds were cut by about 20 percent, and states were given considerable flexibility in allocating program expenditures. As a consequence, federal Title XX spending for child care declined by almost 60 percent in constant dollars from 1977 to 1988. Second, over the same period, the Child Care Tax Credit expanded greatly, increasing by a factor of more than 7.5 from 1977 to 1988 (a factor of almost 4 in constant dollar terms). This expansion was the result of liberalized provisions and increased use by eligible families. By 1988, the Child Care Tax Credit had become the dominant form of government subsidization of child care, representing about 60 percent of all federal spending for child care, up from 25 percent in 1977. Because the tax credit is nonrefundable, meaning that it is limited to the amount of the individual's tax liability, the main beneficiaries have been middle- and upper-income families.

As Figure 3 indicates, federal spending for child care under expenditure-based programs declined by more than 13 percent in constant dollars from 1977 to 1988. Because most of the child care benefits accruing to low-income families are from expenditure-based programs, there has been a decided shift in the distribution of federal child care benefits. Hence, although federal spending for child care has risen by almost 65 percent in constant dollar terms since 1977, virtually all the increased benefits have gone to middle- and upper-income families.

The increased spending for child care under the Child Care Tax Credit has been the result of more extensive use of the credit by the working population rather than greater subsidies per family. Table 2 shows how use of the credit has changed since its

---

3 It has been estimated that 60 percent of all non-tax-related child care benefits accrue to low-income families (U.S. Congress 1978; Table 10). Because of nonrefundability, less than 1 percent of all tax-related child care benefits accrue to these families (U.S. Department of the Treasury 1985; Barnes 1988).
TABLE 2
Use of the Child Care Tax Credit: 1976–1988

<table>
<thead>
<tr>
<th>Year</th>
<th>Number Claiming Credit (thousands)</th>
<th>Number Claiming Credit as a Percentage of Families with Working Mothers(^a)</th>
<th>Total Amount of Credit ($ millions)(^b)</th>
<th>Average Credit per Family(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>2,660</td>
<td>19.4%</td>
<td>$951</td>
<td>$358</td>
</tr>
<tr>
<td>1977</td>
<td>2,875</td>
<td>20.1</td>
<td>$1,016</td>
<td>$353</td>
</tr>
<tr>
<td>1978</td>
<td>3,431</td>
<td>22.7</td>
<td>$1,185</td>
<td>$346</td>
</tr>
<tr>
<td>1979</td>
<td>3,833</td>
<td>24.5</td>
<td>$1,291</td>
<td>$337</td>
</tr>
<tr>
<td>1980</td>
<td>4,231</td>
<td>25.6</td>
<td>$1,371</td>
<td>$324</td>
</tr>
<tr>
<td>1981</td>
<td>4,578</td>
<td>27.0</td>
<td>$1,491</td>
<td>$325</td>
</tr>
<tr>
<td>1982</td>
<td>5,004</td>
<td>30.0</td>
<td>$1,838</td>
<td>$367</td>
</tr>
<tr>
<td>1983</td>
<td>6,367</td>
<td>37.9</td>
<td>$2,433</td>
<td>$382</td>
</tr>
<tr>
<td>1984</td>
<td>7,546</td>
<td>42.4</td>
<td>$3,016</td>
<td>$400</td>
</tr>
<tr>
<td>1985</td>
<td>8,418</td>
<td>46.0</td>
<td>$3,439</td>
<td>$409</td>
</tr>
<tr>
<td>1986</td>
<td>8,950</td>
<td>47.3</td>
<td>$3,668</td>
<td>$410</td>
</tr>
<tr>
<td>1987</td>
<td>8,520</td>
<td>43.0</td>
<td>$3,592</td>
<td>$420</td>
</tr>
<tr>
<td>1988</td>
<td>8,992</td>
<td>44.7</td>
<td>$3,803</td>
<td>$423</td>
</tr>
</tbody>
</table>


\(^a\) Working mothers with children under the age of 18.

\(^b\) Expressed in 1988 dollars, using the Consumer Price Index.

increase the average credit per family (from $325 to $367 in 1988 dollars). The changes were not enough, however, to make up for the inflation that had occurred since the late 1970s. As Figure 4 indicates, though the credit was increased from 20 percent to 30 percent for low-income families, the maximum constant dollar benefit for this group was only 6 percent higher in 1982 than it was in 1976 ($1,763 in 1982 versus $1,660 in 1976). For middle- and upper-income families, the maximum constant dollar benefit fell by 29 percent (from $1,660 to $1,175), despite the increase in qualifying expenses. Hence, although the average credit per family in 1982 was 13 percent higher than in 1981, it was only 3 percent higher than in 1976. The addition of the short form in 1983 had a significant effect on the number of taxpayers using the credit, but had little effect on the size of the average credit.

Overall, then, from 1976 to 1988, child care subsidies through the Child Care Tax Credit increased by a factor of four in constant dollars. This increase came about primarily because of
<table>
<thead>
<tr>
<th>State</th>
<th>Description of Program</th>
<th>Phase Out with Income</th>
<th>Maximum Subsidy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alaska</td>
<td>.16 of Federal Credit&lt;sup&gt;a,b&lt;/sup&gt;</td>
<td>No</td>
<td>$ 230</td>
</tr>
<tr>
<td>Arizona</td>
<td>Tax ded. for child care exp.</td>
<td>Yes</td>
<td>$ 39</td>
</tr>
<tr>
<td>Arkansas</td>
<td>.10 of Federal Credit</td>
<td>No</td>
<td>$ 144</td>
</tr>
<tr>
<td>California</td>
<td>.05 to .10 of Federal Credit</td>
<td>No</td>
<td>$ 144</td>
</tr>
<tr>
<td>Colorado</td>
<td>Tax ded. for child care exp.</td>
<td>No</td>
<td>$ 384</td>
</tr>
<tr>
<td>Connecticut</td>
<td>None&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delaware</td>
<td>.25 of Federal Credit</td>
<td>No</td>
<td>$ 360</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>.30 of Federal Credit</td>
<td>No</td>
<td>$ 432</td>
</tr>
<tr>
<td>Florida</td>
<td>None&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>Tax credit for child care exp.</td>
<td>No</td>
<td>$ 80</td>
</tr>
<tr>
<td>Hawaii</td>
<td>.10 of child care expenses</td>
<td>No</td>
<td>$ 200</td>
</tr>
<tr>
<td>Idaho</td>
<td>Tax ded. for child care exp.</td>
<td>No</td>
<td>$ 360</td>
</tr>
<tr>
<td>Illinois</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td>None&lt;sup&gt;e&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iowa</td>
<td>.45 of Federal Credit</td>
<td>No</td>
<td>$ 648</td>
</tr>
<tr>
<td>Kansas</td>
<td>.1 to 1.0 of Federal Credit</td>
<td>No</td>
<td>$ 162</td>
</tr>
<tr>
<td>Kentucky</td>
<td>Credit based on no. of child.</td>
<td>No</td>
<td>$ 400</td>
</tr>
<tr>
<td>Louisiana</td>
<td>.10 of Federal Credit</td>
<td>No</td>
<td>$ 144</td>
</tr>
<tr>
<td>Maine</td>
<td>.25 of Federal Credit</td>
<td>No</td>
<td>$ 360</td>
</tr>
<tr>
<td>Maryland</td>
<td>Tax deduction for child care</td>
<td>Yes</td>
<td>$ 240</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Tax deduction for child care</td>
<td>No</td>
<td>$ 240</td>
</tr>
<tr>
<td>Michigan</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td>Tax credit for child care exp.&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Yes</td>
<td>$1,440</td>
</tr>
<tr>
<td>Mississippi</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missouri</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montana</td>
<td>Tax ded. for child care exp.</td>
<td>Yes</td>
<td>$ 528</td>
</tr>
<tr>
<td>Nebraska</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nevada</td>
<td>None&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Hampshire</td>
<td>None&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Jersey</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Mexico</td>
<td>Tax credit for child care exp.&lt;sup&gt;b&lt;/sup&gt;</td>
<td>No</td>
<td>$1,200</td>
</tr>
<tr>
<td>New York</td>
<td>.20 of Federal Credit</td>
<td>Yes</td>
<td>$ 288</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Credit for child care expenses</td>
<td>Yes</td>
<td>$ 336</td>
</tr>
<tr>
<td>North Dakota</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohio</td>
<td>.25 of Federal Credit</td>
<td>No</td>
<td>$ 360</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>.20 of Federal Credit</td>
<td>No</td>
<td>$ 288</td>
</tr>
<tr>
<td>Oregon</td>
<td>.40 of Federal Credit</td>
<td>No</td>
<td>$ 576</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhode Island</td>
<td>.22 of Federal Credit</td>
<td>No</td>
<td>$ 320</td>
</tr>
<tr>
<td>South Carolina</td>
<td>.07 of Federal Credit</td>
<td>No</td>
<td>$ 101</td>
</tr>
<tr>
<td>South Dakota</td>
<td>None&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tennessee</td>
<td>None&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>None&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> 1988, <sup>b</sup> 1989, <sup>c</sup> 1990, <sup>d</sup> 1991, <sup>e</sup> 1992
TABLE 3 (continued)

<table>
<thead>
<tr>
<th>State</th>
<th>Description of Program</th>
<th>Phase Out with Income</th>
<th>Maximum Subsidy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utah</td>
<td>None</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Vermont</td>
<td>.265 of Federal Credit</td>
<td>No</td>
<td>$ 382</td>
</tr>
<tr>
<td>Virginia</td>
<td>Tax deduction for child care</td>
<td>Yes</td>
<td>$ 276</td>
</tr>
<tr>
<td>Washington</td>
<td>None</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>West Virginia</td>
<td>None</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>None</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Wyoming</td>
<td>None</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**Sources:** U.S. Department of Labor [1988]; unpublished data provided by David Blau, University of North Carolina.

*a* Suspended until January 1993.

*b* Tax credit is refundable.

*c* State has a very limited income tax that is applied only to unearned income.

*d* State does not have an income tax.

*e* Five-cent cigarette tax used to fund child care programs.

*f* A tax credit equal to .3 of federal credit was repealed in 1985.

other state and local programs. However, the American Public Welfare Association conducted a survey of the states and obtained estimates of combined federal, state, and local spending for child care services in each state for 1985 [American Public Welfare Association, 1988]. These estimates are presented in Table 4. To give a better perspective for comparable spending across states, spending per child under age 18 is also presented in Table 4. States are ranked by both aggregate and per child spending.

As Table 4 indicates, total federal, state, and local spending for child care services in 1985 was approximately $1.1 billion. The five states spending the most were California, New York, Pennsylvania, Massachusetts, and Illinois. Together, these states accounted for close to three-fifths of all federal, state, and local spending. The five states spending the least were Idaho, Nevada, South Dakota, Wyoming, and Montana. On a per capita basis, the rankings were generally similar to the aggregate rankings, although the District of Columbia, which ranked seventeenth in total spending, ranked first in per capita spending, and Illinois, which ranked fifth in total spending, ranked twentieth in per capita spending.

As indicated above, federal spending on Title XX in recent years has been about 10 percent of total federal spending on child care. In 1985, federal Title XX spending was about $550 million. Thus, it appears that the states contributed about $550 million
<table>
<thead>
<tr>
<th>State</th>
<th>Expenditures (millions)</th>
<th>Expenditures per Child Under 18</th>
<th>Rank (expenditures)</th>
<th>Rank (expenditures per child)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>$10.5</td>
<td>$9.36</td>
<td>23</td>
<td>30</td>
</tr>
<tr>
<td>Alaska</td>
<td>$1.0</td>
<td>$5.88</td>
<td>45</td>
<td>37</td>
</tr>
<tr>
<td>Arizona</td>
<td>$15.6</td>
<td>$17.81</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>Arkansas</td>
<td>$3.1</td>
<td>$4.73</td>
<td>38</td>
<td>41</td>
</tr>
<tr>
<td>California</td>
<td>$325.8</td>
<td>$47.71</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Colorado</td>
<td>$10.3</td>
<td>$11.95</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>Connecticut</td>
<td>$12.7</td>
<td>$16.79</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Delaware</td>
<td>$2.5</td>
<td>$15.95</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td>Dist. of Columbia</td>
<td>$14.2</td>
<td>$108.38</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Florida</td>
<td>$36.3</td>
<td>$14.32</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Georgia</td>
<td>$23.4</td>
<td>$14.15</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Hawaii</td>
<td>$2.5</td>
<td>$8.63</td>
<td>39</td>
<td>31</td>
</tr>
<tr>
<td>Idaho</td>
<td>$0.2</td>
<td>$0.55</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>Illinois</td>
<td>$39.0</td>
<td>$12.58</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Indiana</td>
<td>$8.6</td>
<td>$5.71</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>Iowa</td>
<td>$1.8</td>
<td>$2.27</td>
<td>43</td>
<td>47</td>
</tr>
<tr>
<td>Kansas</td>
<td>$3.1</td>
<td>$4.69</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>Kentucky</td>
<td>$6.9</td>
<td>$6.70</td>
<td>30</td>
<td>36</td>
</tr>
<tr>
<td>Louisiana</td>
<td>$13.0</td>
<td>$9.58</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>Maine</td>
<td>$4.0</td>
<td>$13.17</td>
<td>34</td>
<td>19</td>
</tr>
<tr>
<td>Maryland</td>
<td>$18.1</td>
<td>$16.51</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>$53.0</td>
<td>$38.91</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Michigan</td>
<td>$23.8</td>
<td>$9.58</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Minnesota</td>
<td>$16.2</td>
<td>$14.19</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Mississippi</td>
<td>$6.2</td>
<td>$7.81</td>
<td>31</td>
<td>33</td>
</tr>
<tr>
<td>Missouri</td>
<td>$7.5</td>
<td>$5.65</td>
<td>28</td>
<td>39</td>
</tr>
<tr>
<td>Montana</td>
<td>$0.5</td>
<td>$2.13</td>
<td>47</td>
<td>49</td>
</tr>
<tr>
<td>Nebraska</td>
<td>$3.3</td>
<td>$7.39</td>
<td>35</td>
<td>34</td>
</tr>
<tr>
<td>Nevada</td>
<td>$0.2</td>
<td>$1.06</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>$3.1</td>
<td>$12.31</td>
<td>37</td>
<td>21</td>
</tr>
<tr>
<td>New Jersey</td>
<td>$37.1</td>
<td>$19.94</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>New Mexico</td>
<td>$4.2</td>
<td>$9.37</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>New York</td>
<td>$141.3</td>
<td>$32.31</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>N. Carolina</td>
<td>$17.0</td>
<td>$10.70</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>N. Dakota</td>
<td>$0.7</td>
<td>$3.43</td>
<td>46</td>
<td>44</td>
</tr>
<tr>
<td>Ohio</td>
<td>$30.3</td>
<td>$10.57</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>$18.2</td>
<td>$19.72</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Oregon</td>
<td>$1.9</td>
<td>$2.66</td>
<td>42</td>
<td>46</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>$70.4</td>
<td>$24.42</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>$1.2</td>
<td>$5.28</td>
<td>44</td>
<td>40</td>
</tr>
<tr>
<td>S. Carolina</td>
<td>$12.8</td>
<td>$13.89</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>S. Dakota</td>
<td>$0.4</td>
<td>$2.18</td>
<td>49</td>
<td>48</td>
</tr>
<tr>
<td>Tennessee</td>
<td>$8.5</td>
<td>$6.93</td>
<td>26</td>
<td>35</td>
</tr>
<tr>
<td>Texas</td>
<td>$37.7</td>
<td>$7.86</td>
<td>6</td>
<td>32</td>
</tr>
</tbody>
</table>
of their own funds for child care in 1985. If state tax subsidies for child care were 10 percent of the federal subsidy at that time (which is probably an upper bound), then another $350 million of state funds were spent on child care subsidies. Thus, in 1985, it appears the states were spending about, at most, $900 million on child care, or approximately 20 percent of the federal total.

Regulation of Child Care Facilities

Although there are currently no federal regulations governing child care facilities, each state has developed a varying set of standards. As indicated by the U.S. General Accounting Office [1989], all states regulate child care centers through licensing provisions, and forty-eight states regulate family care arrangements through licensing or registration. About half the states with regulations for family care arrangements have traditional licensing, a third have mandatory registration, a few have either registration or licensing only of subsidized facilities, and the rest have voluntary registration.

The standards for regulation vary widely. Some states require child–staff ratios as low as 3 to 1, whereas others allow a ratio of 20 to 1. Maximum group sizes range from 4 to 20 or more.

---

**TABLE 4 (continued)**

<table>
<thead>
<tr>
<th>State</th>
<th>Expenditures (millions)</th>
<th>Expenditures per Child Under 18</th>
<th>Rank (expenditures)</th>
<th>Rank (expenditures per child)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utah</td>
<td>$ 8.5</td>
<td>$ 13.90</td>
<td>27</td>
<td>16</td>
</tr>
<tr>
<td>Vermont</td>
<td>$ 2.4</td>
<td>$ 17.40</td>
<td>41</td>
<td>9</td>
</tr>
<tr>
<td>Virginia</td>
<td>$ 5.3</td>
<td>$ 3.66</td>
<td>32</td>
<td>43</td>
</tr>
<tr>
<td>Washington</td>
<td>$ 11.3</td>
<td>$ 9.57</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>West Virginia</td>
<td>$ 7.0</td>
<td>$ 13.53</td>
<td>29</td>
<td>18</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>$ 12.4</td>
<td>$ 9.64</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>Wyoming</td>
<td>$ 0.5</td>
<td>$ 3.12</td>
<td>48</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>$1,095</td>
<td>$ 17.39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Adapted from American Public Welfare Association [1988].

Note: The population figures used to derive expenditures per child were taken from the Statistical Abstract of the United States.

*Includes federal, state, and local spending for the fiscal year.*
<table>
<thead>
<tr>
<th>TABLE 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Care Legislation Enacted in 1990</td>
</tr>
</tbody>
</table>

I. Child Care and Development Block Grant  
- $750 million FY 1991  
- $825 million FY 1992  
- $925 million FY 1993  
- As necessary FY 1994, 1995  
A. State allocation formula  
   Number of children under 5  
   Number of children participating in school lunch program  
   Per capita income  
B. State match  
   None  
C. Allocation of funds  
   75% direct payments to parents for child care  
   25% improving existing programs  
D. Standards  
   Must establish health and safety requirements  
   Requirements may be more stringent for participating providers  
   One-time review of licensing policies and regulations  
E. Eligibility  
   Child must be under 13  
   Family can earn at most 75% of state median income  

II. Social Security Block Grant  
- $1.5 billion to aid parents on AFDC  

III. Tax Credits  
A. Earned Income Tax Credit  
   Increased by $12.4 billion over 5 years  
B. Refundable Child Tax Credit  
   $.7 billion for low-income families with children under the age of 1  
C. Child Health Tax Credit  
   $5.2 billion for low-income families paying health insurance premiums  

Source: Child Care Action Campaign [1990].

child care aid to welfare recipients who leave the rolls as a result of becoming gainfully employed.

**KEY POLICY ISSUES IN CHILD CARE**

Virtually all the recent child care initiatives attempt to address the problems of affordability, availability, and quality of child care. As indicated earlier, one economic justification for a greater federal role in child care is based on the assumption that,
### TABLE 6

**Estimated Quality of Child Care and Its Responsiveness to Changes in Family Income**

<table>
<thead>
<tr>
<th></th>
<th>Married Mothers</th>
<th>Single Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Mother’s Care&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.89</td>
<td>1.98</td>
</tr>
<tr>
<td>Minimum Acceptable Quality&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.55</td>
<td>1.56</td>
</tr>
<tr>
<td>Quality of Purchased Care&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.52</td>
<td>1.05</td>
</tr>
<tr>
<td>Responsiveness to an Increase&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the Mother’s Wage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hours of work</td>
<td>.002</td>
<td>.032</td>
</tr>
<tr>
<td>Quality of purchased care</td>
<td>.138</td>
<td>.488</td>
</tr>
<tr>
<td>Total child care expenditures</td>
<td>.145</td>
<td>.562</td>
</tr>
<tr>
<td>In Other Family Income&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hours of work</td>
<td>-.001</td>
<td>-.019</td>
</tr>
<tr>
<td>Quality of purchased care</td>
<td>.278</td>
<td>.072</td>
</tr>
<tr>
<td>Total child care expenditures</td>
<td>.278</td>
<td>.046</td>
</tr>
<tr>
<td>In Child Care Subsidies&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hours of work</td>
<td>.0001</td>
<td>.002</td>
</tr>
<tr>
<td>Quality of purchased care</td>
<td>.247</td>
<td>.129</td>
</tr>
<tr>
<td>Total child care expenditures</td>
<td>.247</td>
<td>.141</td>
</tr>
</tbody>
</table>

**Source:** Michalopolous, Robins, and Garfinkel [1990].

<sup>a</sup> Measured in dollars per hour (April 1990 dollars).
<sup>b</sup> Measured as an elasticity, which is the percent change resulting from a 1 percent change in the wage.
<sup>c</sup> Measured as an elasticity, which is the percent change resulting from a 1 percent change in other family income.
<sup>d</sup> Measured as an elasticity, which is the percent change resulting from a 1 percent change in the combined federal and state child care subsidy rates.

The findings indicate that the estimated average quality of parental care for these families is between 22 and 27 percent higher than the minimum acceptable quality of care to the family. The average quality of care purchased in the market is between 20 and 53 percent lower than the quality of parental care and between 2 and 33 percent lower than the minimum acceptable care.\(^{15}\) Expenditures on child care increase with the wage rate of the mother, other family income, and child care subsidies.\(^{16}\) Virtu-

\(^{15}\) Even though the quality of purchased care is less than the minimum acceptable quality of care, the *average* quality of care provided for the child (which is a weighted average of parental care plus purchased care) exceeds the minimum quality care for virtually all the families.

\(^{16}\) The child care subsidies considered in the study are those associated with the federal and state child care tax credit programs. An increase in subsidies is equivalent to a reduction in the price of child care.
ences between private costs and benefits of child care versus social costs and benefits of child care. All these are areas that would benefit from further economic analysis.

**APPENDIX TABLE A-1**

*Determinants of Desired Weekly Family Expenditure on Child Care, Ordinary Least Squares (OLS) Estimation (uncorrected OLS standard errors in parentheses)*

<table>
<thead>
<tr>
<th></th>
<th>Married Women</th>
<th>Unmarried Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-133.57</td>
<td>-88.52</td>
</tr>
<tr>
<td>Predicted Hours</td>
<td>0.07</td>
<td>0.57</td>
</tr>
<tr>
<td>Number of Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aged: 0–2</td>
<td>8.68</td>
<td>19.59</td>
</tr>
<tr>
<td>3–5</td>
<td>7.03</td>
<td>17.94</td>
</tr>
<tr>
<td>6–12</td>
<td>4.77</td>
<td>8.61</td>
</tr>
<tr>
<td>Education</td>
<td>1.40</td>
<td>-0.71</td>
</tr>
<tr>
<td>Nonlabor Income⁴</td>
<td>0.88</td>
<td>-0.015</td>
</tr>
<tr>
<td>Nonwhite</td>
<td>-5.84</td>
<td>-9.85</td>
</tr>
<tr>
<td>Presence of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children 13–18</td>
<td>5.52</td>
<td>-1.85</td>
</tr>
<tr>
<td>Other adult females</td>
<td>-3.40</td>
<td>14.80</td>
</tr>
<tr>
<td>Other adult males</td>
<td>-4.80</td>
<td>-16.72</td>
</tr>
<tr>
<td>Nonemployed females</td>
<td>5.65</td>
<td>-11.25</td>
</tr>
<tr>
<td>Nonemployed males</td>
<td>5.32</td>
<td>16.21</td>
</tr>
<tr>
<td>SMSA</td>
<td>7.50</td>
<td>7.19</td>
</tr>
<tr>
<td>Cost of Living in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State of Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Thousands of $)</td>
<td>0.65</td>
<td>0.43</td>
</tr>
<tr>
<td>Residence in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>-8.82</td>
<td>-5.32</td>
</tr>
<tr>
<td>Central</td>
<td>-4.91</td>
<td>-1.54</td>
</tr>
<tr>
<td>South</td>
<td>8.94</td>
<td>3.17</td>
</tr>
<tr>
<td>lambda⁵</td>
<td>-19.01</td>
<td>1.53</td>
</tr>
<tr>
<td>N</td>
<td>567</td>
<td>168</td>
</tr>
</tbody>
</table>

**Source:** Table reprinted from Connelly 1989b.

⁴Nonlabor income for married women is total family income minus the mother's own earnings in thousands of dollars, for unmarried women it is monthly property income.

⁵Lambda is a selectivity correction term used to correct for the fact that only women who work and pay for care are included in the sample. See Connelly (1989b) for details.
## APPENDIX TABLE A-2

*Determinants of the Probability of Paying for Child Care Jointly Estimated with the Probability of Being Employed*\(^a\)

*(standard errors in parentheses)*

<table>
<thead>
<tr>
<th></th>
<th>Married Women</th>
<th>Unmarried Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.527</td>
<td>.471</td>
</tr>
<tr>
<td>Number of Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aged: 0–2</td>
<td>0.463 (0.076)</td>
<td>0.645 (0.203)</td>
</tr>
<tr>
<td>3–5</td>
<td>0.501 (0.063)</td>
<td>1.225 (0.175)</td>
</tr>
<tr>
<td>6–12</td>
<td>−0.333 (0.055)</td>
<td>−0.041 (0.123)</td>
</tr>
<tr>
<td>Presence of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children 13–18</td>
<td>−0.727 (0.099)</td>
<td>−0.611 (0.166)</td>
</tr>
<tr>
<td>Other adult women</td>
<td>0.087 (0.215)</td>
<td>−0.018 (0.272)</td>
</tr>
<tr>
<td>Other adult men</td>
<td>−0.559 (0.221)</td>
<td>0.066 (0.288)</td>
</tr>
<tr>
<td>Nonemployed women</td>
<td>0.670 (0.388)</td>
<td>−0.662 (0.300)</td>
</tr>
<tr>
<td>Nonemployed men</td>
<td>−0.350 (0.197)</td>
<td>−0.217 (0.342)</td>
</tr>
<tr>
<td>Education [in hundreds]</td>
<td>0.955 (1.701)</td>
<td>−2.240 (4.51)</td>
</tr>
<tr>
<td>Nonlabor Income</td>
<td>0.201 (0.078)</td>
<td>−0.002 (0.004)</td>
</tr>
<tr>
<td>Nonwhite</td>
<td>0.163 (0.113)</td>
<td>−0.132 (0.161)</td>
</tr>
<tr>
<td>Cost of Living in State</td>
<td>−0.008 (0.005)</td>
<td>−0.001 (0.011)</td>
</tr>
<tr>
<td>SMSA</td>
<td>0.022 (0.086)</td>
<td>0.108 (0.167)</td>
</tr>
<tr>
<td>Northeast</td>
<td>0.051 (0.141)</td>
<td>−0.353 (0.279)</td>
</tr>
<tr>
<td>Central</td>
<td>0.003 (0.098)</td>
<td>−0.039 (0.218)</td>
</tr>
<tr>
<td>South</td>
<td>−0.119 (0.144)</td>
<td>−0.572 (0.327)</td>
</tr>
<tr>
<td>rho(^b)</td>
<td>−0.463 (0.116)</td>
<td>−0.529 (0.236)</td>
</tr>
</tbody>
</table>

*Source:* Table reprinted from Connelly 1989b.

\(^a\)Probit coefficient estimates.

\(^b\)rho is the correlation between the unobserved determinants of the probabilities of being employed and paying for child care.

---

**REFERENCES**


### TABLE 1
Measures of Establishment Size, Child–Staff Ratios, Experience, Child Care Earnings, and Commitment to the Profession for Family Providers in Newark, NJ, Camden, NJ, and South Chicago, IL

#### Panel A
Number of Children per Establishment

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Newark</th>
<th>Camden</th>
<th>South Chicago Unlicensed</th>
<th>South Chicago Licensed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.98</td>
<td>2.32</td>
<td>1.99</td>
<td>5.66</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.01</td>
<td>1.88</td>
<td>1.31</td>
<td>2.45</td>
</tr>
<tr>
<td>Number of Providers</td>
<td>85</td>
<td>119</td>
<td>106</td>
<td>144</td>
</tr>
<tr>
<td>Percentage of Providers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 child</td>
<td>35.0</td>
<td>46.6</td>
<td>47.9</td>
<td>1.1</td>
</tr>
<tr>
<td>4 or more children</td>
<td>8.0</td>
<td>16.6</td>
<td>14.9</td>
<td>70.9</td>
</tr>
<tr>
<td>8 or more children</td>
<td>0.2</td>
<td>3.0</td>
<td>0.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

#### Panel B
Ratio of Child Hours to Provider Hours

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Newark</th>
<th>Camden</th>
<th>South Chicago Unlicensed</th>
<th>South Chicago Licensed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.77</td>
<td>1.47</td>
<td>1.66</td>
<td>3.09</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.83</td>
<td>.75</td>
<td>.92</td>
<td>1.07</td>
</tr>
<tr>
<td>First Quartile</td>
<td>1.00</td>
<td>1.00</td>
<td>2.16</td>
<td>1.00</td>
</tr>
<tr>
<td>Median</td>
<td>1.89</td>
<td>1.26</td>
<td>1.50</td>
<td>3.00</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>2.00</td>
<td>2.00</td>
<td>4.75</td>
<td>2.01</td>
</tr>
<tr>
<td>Interquartile Range</td>
<td>1.01</td>
<td>1.00</td>
<td>1.00</td>
<td>2.59</td>
</tr>
</tbody>
</table>

#### Panel C
Years of Experience

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Newark</th>
<th>Camden</th>
<th>South Chicago Unlicensed</th>
<th>South Chicago Licensed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>7.3</td>
<td>6.6</td>
<td>5.3</td>
<td>10.2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>8.2</td>
<td>8.3</td>
<td>7.0</td>
<td>9.8</td>
</tr>
<tr>
<td>First Quartile</td>
<td>1.8</td>
<td>1.0</td>
<td>1.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Median</td>
<td>4.0</td>
<td>3.0</td>
<td>3.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>10.0</td>
<td>10.0</td>
<td>5.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Interquartile Range</td>
<td>8.2</td>
<td>9.0</td>
<td>3.6</td>
<td>12.5</td>
</tr>
</tbody>
</table>
TABLE 1 (continued)

Panel D
Annual Gross Earnings from Child Care
[in units of $1000]

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Newark</th>
<th>Camden</th>
<th>South Chicago Unlicensed</th>
<th>South Chicago Licensed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.3</td>
<td>3.9</td>
<td>4.1</td>
<td>9.9</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3.7</td>
<td>4.6</td>
<td>5.8</td>
<td>5.5</td>
</tr>
<tr>
<td>First Quartile</td>
<td>0.6</td>
<td>1.1</td>
<td>1.0</td>
<td>6.1</td>
</tr>
<tr>
<td>Median</td>
<td>2.1</td>
<td>2.2</td>
<td>2.4</td>
<td>9.7</td>
</tr>
<tr>
<td>Third Quartile</td>
<td>5.0</td>
<td>5.1</td>
<td>4.7</td>
<td>13.6</td>
</tr>
<tr>
<td>Interquartile Range</td>
<td>3.4</td>
<td>4.1</td>
<td>3.7</td>
<td>7.7</td>
</tr>
</tbody>
</table>

Panel E
Commitment to the Profession
Percent Responding Yes

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Newark</th>
<th>Camden</th>
<th>South Chicago Unlicensed</th>
<th>South Chicago Licensed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member of Family Care Association Wants to Be in a Directory</td>
<td>0.0</td>
<td>3.2</td>
<td>0.0</td>
<td>42.1</td>
</tr>
</tbody>
</table>


Notes: In Panel B, children of all ages are included in the numerator of the ratio. Provider hours include the hours of all individuals reported as helping with the care of children. In Panel D, annual gross earnings from child care is defined as (weekly revenue minus cash payments to helpers) times (number of weeks/years of care).

under care per establishment among unregulated providers (in Newark, Camden, and South Chicago) are small. The unregulated providers care for about two children on average; in fact, one-third to almost one-half care for only one child. Unregulated providers appear to offer a form of care that is intensive in the time of the provider.

The statistics on child-to-staff ratios reported in Panel B of Table 1 support this view. (A provider having no helpers and caring for one child will have a ratio of one.) Unregulated providers care for only about half as many children per hour as do licensed providers.

Summary statistics on years of experience are reported in Panel C of Table 1, and educational attainment is reported in Table 2. Experience and education are offered as (perhaps crude)
TABLE 2  
Frequency Distribution of Educational Attainment

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Newark</th>
<th>Camden</th>
<th>South Chicago Unlicensed</th>
<th>South Chicago Licensed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than High School</td>
<td>47.1%</td>
<td>42.9%</td>
<td>29.0%</td>
<td>19.4%</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>31.8%</td>
<td>24.1%</td>
<td>39.0%</td>
<td>37.5%</td>
</tr>
<tr>
<td>Some College</td>
<td>20.0%</td>
<td>31.3%</td>
<td>30.0%</td>
<td>42.4%</td>
</tr>
<tr>
<td>Post College</td>
<td>1.2%</td>
<td>1.8%</td>
<td>2.0%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Courses in Child Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Training in Child Development</td>
<td>25.9%</td>
<td>33.0%</td>
<td>35.0%</td>
<td>63.2%</td>
</tr>
</tbody>
</table>

Panel B  
Persons 18 Years and Older  
[1980 Census]

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Newark</th>
<th>Camden</th>
<th>South Chicago</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than High School</td>
<td>41.5%</td>
<td>34.8%</td>
<td>30.9%</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>35.3%</td>
<td>37.9%</td>
<td>37.8%</td>
</tr>
<tr>
<td>Some College</td>
<td>13.0%</td>
<td>14.3%</td>
<td>18.8%</td>
</tr>
<tr>
<td>College Degree</td>
<td>5.9%</td>
<td>7.9%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Post College</td>
<td>4.2%</td>
<td>5.0%</td>
<td>5.2%</td>
</tr>
</tbody>
</table>


Notes: Percentages in Panel A are from The Child Care Supply and Needs Survey [1988]. Years of schooling reported in Panel B are weighted by the sampling frequency of the zip codes appearing in The Child Care Supply and Needs Survey [1988].

measures of the quality of labor input. Licensed providers have a distinct advantage: they have twice the experience of unregulated providers on average (as measured by the median), are less likely to have dropped out of high school, and are slightly more likely to have some college experience. (The proportion of high school dropouts [the national average is roughly 10 percent], especially among unregulated family providers, is indeed disturbing.) In addition, licensed providers are twice as likely to have had special training or courses in child development.8 Re-

8 Unlike other states, licensure in Illinois requires no minimum standards for education or training. Family providers must only be at least 18 years of age and of "good moral character." Almost all the regulations apply to the facilities, not the family providers themselves.
## TABLE 3

<table>
<thead>
<tr>
<th>How Users First Learned of Providers</th>
<th>Newark Family Center</th>
<th>Camden Family Center</th>
<th>South Center</th>
<th>Chicago Family Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referrals from Friends/Neighbors/Relatives</td>
<td>66.5%</td>
<td>57.7%</td>
<td>53.2%</td>
<td>45.9%</td>
</tr>
<tr>
<td>Already Knew Provider</td>
<td>14.5</td>
<td>27.8</td>
<td>7.0</td>
<td>28.5</td>
</tr>
<tr>
<td>Newspapers and Advertisements</td>
<td>7.8</td>
<td>6.6</td>
<td>20.3</td>
<td>15.1</td>
</tr>
<tr>
<td>Referrals from Community Agency [not caseworker]</td>
<td>3.3</td>
<td>2.7</td>
<td>2.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Referrals from Caseworker</td>
<td>0.0</td>
<td>0.0</td>
<td>5.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Cared for Older Child</td>
<td>3.0</td>
<td>0.0</td>
<td>3.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>7.9</td>
<td>5.2</td>
<td>7.5</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Source: The Child Care Supply and Needs Survey [1988].

may both report that a long time was needed to find “adequate” market care. An important task for future research will be to distinguish between these two groups of women.

To lower search costs, policymakers frequently recommend programs to fund resource and referral agencies that help match users and providers. The success of these programs hinges on their ability to maintain comprehensive and accurate lists of providers in each neighborhood. The responses reported in Table 4 suggest that unregulated family providers are quite passive in seeking clients. More than half of the unregulated family providers report taking no steps to find clients. Consistent with the results presented in Table 3, most providers make contact with users through referrals from friends, neighbors, and relatives. A comparison of the actions taken by licensed and unregulated providers suggests that the latter are unwilling to reveal their identity to third parties. [Most striking in this regard is the difference between licensed and unlicensed providers in South Chicago.] This unwillingness works against resource and referral programs. The small size of the groups taken care of by most family providers and the informal manner in which information is obtained also work against detection. Furthermore, high turnover rates among unregulated providers make referral lists costly to maintain. In summary, high turnover rates among family providers because of low wages, and the difficulty of identifying those not registered, inhibit any referral program. These considerations suggest that government intervention on behalf of referral programs may not be effective.
The second reason that imperfect information exists for all firms (and persists for as long as the child is in care) is that consumers are imperfectly informed about the attributes of care and the effort of the provider, because, as with other services, it is difficult for consumers to monitor the producer. The provider can be interviewed and the facilities inspected, yet the consumer can never be perfectly informed about the care his or her child receives.9

A key feature of this imperfection is that consumers know less about the quality of care than do providers. Well studied in the economics literature, this informational problem is separated into two types: adverse selection and hidden action (moral hazard). In models of adverse selection, potential providers have no control over quality, but decide, depending on market conditions, whether to enter the market. Adverse selection occurs if only low quality providers enter the market (high quality providers have better opportunities outside the child care market).10

Notice that market quality of care is "low" not because providers

---

9 In his remarks made at "The Economics of Child Care" conference, May 16, 1990, at the University of North Carolina—Chapel Hill, Richard Clifford noted that study teams have observed that centers tend to change children’s diapers just prior to pickup by the parents. Also, when questioned by parents on staff shortages, center staff tend to underreport the duration of the (temporary) shortfall.

10 In these models, the value of the provider's next best opportunity is the relevant cost of quality.
only 3 percent answered yes to this question. Of those, 59 percent report having a noncash arrangement only; 41 percent report paying in cash and in kind.

The percent of families paying for care differs substantially by family characteristics. Table 2 shows some of these differences. Families with at least one child under age 6 are substantially more likely to pay for care. The average is 59 percent compared to the 13 percent of families with the youngest child aged 6 to 12. Many of the families with older children use school as the primary child care arrangement, followed, if need be, by self-care or care by an older sibling. Notice that families with a teenager are substantially less likely to pay for care.

The percent of families with children under 13, paying for care, increases as the number of children needing care goes from one to two but then declines as the number of children increases beyond two. The percent of families using noncash arrangements increases substantially as the number of children increases. As the cost of formal child care increases with the number of children one has, parents with more children looking for less costly forms of child care appear to be more likely to use noncash arrangements. Alternatively, it may be that noncash arrangements, such as a live-in child care provider, make more economic sense when there are a large number of children. The fact that 8 per-
<table>
<thead>
<tr>
<th></th>
<th>Families with at Least One Child &lt;13</th>
<th>Families with at Least One Child &lt;6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Paying Cash Only</td>
<td>% Paying Cash and Non-Cash</td>
</tr>
<tr>
<td>Total</td>
<td>35.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Number of Children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>31.9</td>
<td>0.5</td>
</tr>
<tr>
<td>2</td>
<td>40.5</td>
<td>1.9</td>
</tr>
<tr>
<td>3</td>
<td>34.0</td>
<td>1.9</td>
</tr>
<tr>
<td>4+</td>
<td>30.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Another Adult Woman in the Family</td>
<td>20.0</td>
<td>3.6</td>
</tr>
<tr>
<td>No Other Adult Woman in the Family</td>
<td>36.8</td>
<td>0.9</td>
</tr>
<tr>
<td>Adult Man in Family [other than husband]</td>
<td>18.7</td>
<td>1.3</td>
</tr>
<tr>
<td>No Other Adult Man in the Family</td>
<td>36.5</td>
<td>1.2</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Families with Children</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>% of Family Income</td>
<td>% of Mother's Earnings</td>
</tr>
<tr>
<td><strong>Total Number of Children</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>35.36</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>43.64</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>46.55</td>
<td>10</td>
</tr>
<tr>
<td>4+</td>
<td>51.00</td>
<td>7</td>
</tr>
<tr>
<td><strong>Other Adult Woman Present</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36.07</td>
<td>6</td>
</tr>
<tr>
<td><strong>No Other Adult Woman Present</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>40.25</td>
<td>8</td>
</tr>
<tr>
<td><strong>Other Adult Male Present</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>29.53</td>
<td>7</td>
</tr>
<tr>
<td><strong>No Other Adult Male Present</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>40.43</td>
<td>8</td>
</tr>
<tr>
<td>Category</td>
<td>Mean</td>
<td>Min</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Teenager Present</td>
<td>32.05</td>
<td>6</td>
</tr>
<tr>
<td>No Teenager Present</td>
<td>40.95</td>
<td>9</td>
</tr>
<tr>
<td>Married</td>
<td>41.27</td>
<td>7</td>
</tr>
<tr>
<td>Not Married</td>
<td>35.65</td>
<td>13</td>
</tr>
<tr>
<td>Family Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–$9,999</td>
<td>28.47</td>
<td>27</td>
</tr>
<tr>
<td>$10,000–19,999</td>
<td>34.70</td>
<td>12</td>
</tr>
<tr>
<td>20,000–29,999</td>
<td>35.36</td>
<td>7</td>
</tr>
<tr>
<td>30,000–39,999</td>
<td>42.50</td>
<td>6</td>
</tr>
<tr>
<td>40,000–49,999</td>
<td>42.44</td>
<td>5</td>
</tr>
<tr>
<td>50,000+</td>
<td>50.89</td>
<td>4</td>
</tr>
<tr>
<td>SMSA</td>
<td>44.59</td>
<td>8</td>
</tr>
<tr>
<td>Not in SMSA</td>
<td>35.63</td>
<td>8</td>
</tr>
<tr>
<td>Regions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>44.34</td>
<td>9</td>
</tr>
<tr>
<td>Central</td>
<td>37.53</td>
<td>8</td>
</tr>
<tr>
<td>South</td>
<td>39.13</td>
<td>8</td>
</tr>
<tr>
<td>West</td>
<td>40.67</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>39.98</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: SIPP 1984 Panel, 5th Wave.
<table>
<thead>
<tr>
<th></th>
<th>% Paying Cash Only</th>
<th>% Paying Cash and Non-Cash</th>
<th>% Paying Non-Cash Only</th>
<th>Average Weekly Expenses</th>
<th>Average Hourly Expenses Per Hour Care Used</th>
<th>Average Hourly Expenses Per Hour Worked</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>32.5</td>
<td>0.6</td>
<td>1.8</td>
<td>34.97</td>
<td>1.41</td>
<td>0.96</td>
</tr>
<tr>
<td><strong>Age of Child</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–2</td>
<td>57.2</td>
<td>0.5</td>
<td>2.9</td>
<td>41.25</td>
<td>1.23</td>
<td>1.14</td>
</tr>
<tr>
<td>3–5</td>
<td>65.8</td>
<td>1.0</td>
<td>1.5</td>
<td>37.41</td>
<td>1.13</td>
<td>1.02</td>
</tr>
<tr>
<td>6–9</td>
<td>24.4</td>
<td>1.1</td>
<td>3.1</td>
<td>24.39</td>
<td>2.05</td>
<td>0.68</td>
</tr>
<tr>
<td>10–12</td>
<td>6.7</td>
<td>0</td>
<td>0.5</td>
<td>20.40</td>
<td>2.03</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Type of Care Used</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative in child's home</td>
<td>21.3</td>
<td>1.3</td>
<td>5.3</td>
<td>18.82</td>
<td>1.95</td>
<td>0.58</td>
</tr>
<tr>
<td>Relative in other's home</td>
<td>52.0</td>
<td>0</td>
<td>2.5</td>
<td>29.71</td>
<td>0.99</td>
<td>0.84</td>
</tr>
<tr>
<td>Nonrelative in child's home</td>
<td>71.4</td>
<td>9.5</td>
<td>4.8</td>
<td>39.18</td>
<td>1.46</td>
<td>1.13</td>
</tr>
<tr>
<td>Nonrelative in other's home</td>
<td>85.0</td>
<td>1.4</td>
<td>4.1</td>
<td>34.83</td>
<td>1.52</td>
<td>0.93</td>
</tr>
<tr>
<td>Group care</td>
<td>79.0</td>
<td>0.6</td>
<td>2.8</td>
<td>38.19</td>
<td>1.36</td>
<td>1.04</td>
</tr>
</tbody>
</table>

Source: SIPP 1984 Panel, 5th Wave.
FIGURE 1
Percentage of States With Child Care Regulations Meeting Professionally Determined Accreditation Standards: 1986

Source: Derived from information in Morgan (1987).

the standards for family day care allow group sizes ranging from six to ten and allow as few as one but as many as four children under age 2 in a setting. Standards for centers include maximum group sizes for 1-year-olds that range from six to twelve children, staff–child ratios for 1-year-olds that range from 1:4 to 1:12, and between one and four inspections a year. Equally important is the fact that the coverage of regulations for family day care varies widely across states [see Figure 2], with the result that more than three-fourths of care is not regulated at all—none of the relative care is regulated, and about 90 percent of nonrelative family day care is unregulated.

THE COST OF CARE

In addition to the quality of care, the affordability of paid child care arrangements is an important dimension of the supply of
child care. In order for parents to use out-of-home care, it must be available at prices that they can afford. Child care fees often seem quite high to parents who are paying for care, and they consume significant proportions of some families' incomes.

Nationally, parents who pay for their child care arrangements pay an average of between $40 and $60 per week for full-time care (Hofferth 1988). The average price of care varies among different types of care, ranging from $1.15 per hour for relative and family day care to about $1.40 per hour for center-based care. Infant care costs about one-third more than does care for older children (Grubb 1988).

Child care expenditures by parents of preschool children consume a substantial proportion of their income (10 percent of family income and 23 percent of the mother's income), comparable to the proportion of income spent on food (Grubb 1988; Hofferth 1988). Although there is considerable geographic variation

**FIGURE 2**

*Extent of Regulation of Family Day Care in the United States: 1986*

Source: Derived from information in Morgan (1987).
The Relationship Between Quality and Cost

There is a strong relationship between quality and the resource cost of care, as a result of the fact that quality depends heavily on the number, quality, and stability of staff providing care. For example, higher staff-child ratios, more staff training, and low staff turnover are related to higher quality care, and higher salaries are associated with the ability to both attract and retain better-trained staff (Hayes et al. 1990). Although child care teachers with higher levels of education earn only slightly more than teachers with lower levels of education, annual turnover rates are high due to low wages (Whitebook et al. 1990). Therefore, in considering policies that will raise the quality of care provided, it must be remembered that improving the quality of care available comes at a price and, for the benefits of improved care to filter down to children, parents (or someone) must be willing to pay this price.
of fifteen minutes to their travel time to work. Finally, evidence from the three-site study suggests that parents consider weekly child care costs of $50 to $70, costs that are comparable to average prices paid by parents nationally, as reasonable costs for care.

AREAS OF PUBLIC CONCERN AND POLICY OPTIONS

Parental child care is not a realistic option for many mothers, particularly poor single mothers. Their need for nonparental child care gives rise to three major areas of public concern. First, the supply of child care is inadequate to meet the needs of some families. Although the NAS Panel on Child Care Policy concluded that, in a narrow economic sense, there is no overall shortage of child care services, they found that several types of care, including organized infant and toddler programs, before-and-after school care, programs for handicapped children, comprehensive programs for economically disadvantaged children, and care during nonstandard hours, are in short supply (Hayes et al. 1990). In addition, the NAS panel found evidence of a significant shortage of quality child care. Second, the quality of care is highly variable, often inadequate, and often unregulated. Poor quality care is of particular concern for children from disadvantaged backgrounds who would likely benefit significantly from
FIGURE 1
An "Educator's Model" of Child Care Quality

<table>
<thead>
<tr>
<th>Output</th>
<th>Production Process</th>
<th>Inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Child Development</td>
<td>Staff time spent with children; staff turnover</td>
</tr>
<tr>
<td></td>
<td>—Peabody Picture</td>
<td>Staff qualifications: education, experience, specialized training</td>
</tr>
<tr>
<td></td>
<td>—Vocabulary Test</td>
<td>Facilities and materials</td>
</tr>
<tr>
<td></td>
<td>—Language skills</td>
<td>Group size, child–staff ratio, age-mix of children</td>
</tr>
<tr>
<td></td>
<td>—Perceived competence</td>
<td>Type of care</td>
</tr>
<tr>
<td></td>
<td>—Sociability</td>
<td>—relative family day care home</td>
</tr>
<tr>
<td></td>
<td>—Attachment security</td>
<td>—day care center or preschool</td>
</tr>
<tr>
<td></td>
<td></td>
<td>—profit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>—nonprofit</td>
</tr>
<tr>
<td></td>
<td>Teacher–Child Interactions:</td>
<td>Curriculum</td>
</tr>
<tr>
<td></td>
<td>—continuity</td>
<td>—teacher-initiated activity</td>
</tr>
<tr>
<td></td>
<td>—frequency</td>
<td>child-initiated activity</td>
</tr>
<tr>
<td></td>
<td>—teacher responsiveness</td>
<td>parent involvement</td>
</tr>
<tr>
<td></td>
<td>—language facilitation</td>
<td>Child and family characteristics</td>
</tr>
<tr>
<td></td>
<td>—respect for children</td>
<td>child's age, parents' education, income, marital status, etc.</td>
</tr>
<tr>
<td></td>
<td>—child-child interactions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>—child-materials interactions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 1

Percent Distribution of Child Care Arrangements, by Age of the Child. Youngest Child of Women who Are Employed, in School, or in Training

<table>
<thead>
<tr>
<th>Type of Child Care Arrangement</th>
<th>Age of Child</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Other Parent</td>
<td>0</td>
<td>18.3</td>
<td>18.7</td>
<td>16.4</td>
<td>14.9</td>
<td>11.0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Other Relative in Child’s Home</td>
<td>2</td>
<td>16.7</td>
<td>15.9</td>
<td>14.5</td>
<td>15.1</td>
<td>14.7</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>14.5</td>
<td>15.1</td>
<td>14.7</td>
<td>16.3</td>
<td>13.4</td>
</tr>
<tr>
<td>3. Nonrelative in Child’s Home</td>
<td>4</td>
<td>4.2</td>
<td>3.2</td>
<td>3.5</td>
<td>2.9</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Relative in Relative’s Home</td>
<td>6</td>
<td>25.6</td>
<td>21.6</td>
<td>23.6</td>
<td>19.6</td>
<td>17.4</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>18.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Nonrelative in Nonrelative’s Home</td>
<td>8</td>
<td>20.5</td>
<td>24.0</td>
<td>20.2</td>
<td>15.2</td>
<td>13.0</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Day Care Center or Preschool</td>
<td>10</td>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Mother, at Work</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. School</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Other</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Children</td>
<td></td>
<td>904</td>
<td>1,169</td>
<td>1,062</td>
<td>757</td>
<td>563</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age of Child</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>13.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6–13</td>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated from the National Longitudinal Survey of Youth.

---

Because of the longitudinal nature of the survey, many families are included more than once as the child ages.

The arrangement given for school-aged children is the arrangement used when the child is not in school. The arrangement is given as school if the child is in an after-school child care program at school.

Other includes self-care, care by a sibling, and unspecified arrangements.

---

Relative (types 3, 5, and 6 in Table 1) rises from 29.7 percent at age zero to 48.8 percent at age four and then drops to 35 percent at age five and 18 percent at age six as children enter school.

The 1985 and 1986 surveys included questions on the group size, child-staff ratio, training of the provider, and family expenditure on the arrangement. The means of these variables are given by type of arrangement and age of the child in Table 2. The child-staff ratio [as reported by the respondents] averages 1.7 for all forms of relative care, 3.1 for family day care homes, and 6.8 for day care centers and preschools. Training is reported to be rare for all types of care except day care centers and preschools, where it is close to universal. Roughly half the respondents report paying no direct expenditure for a day care center,
### TABLE 2

**Characteristics of Child Care Arrangements, by Type of Arrangement and Age of Youngest Child, NLSY: 1985–1986**

<table>
<thead>
<tr>
<th>Type of Child Care Arrangement</th>
<th>Group Size</th>
<th>Child--Staff Ratio</th>
<th>Training</th>
<th>Exp. &gt;0</th>
<th>Weekly Exp.</th>
<th>Exp. per Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Other Parent</td>
<td>1.9</td>
<td>1.7</td>
<td>—</td>
<td>.06</td>
<td>14.25</td>
<td>.98</td>
</tr>
<tr>
<td>2. Other Relative in Child’s Home</td>
<td>1.9</td>
<td>1.7</td>
<td>—</td>
<td>.23</td>
<td>27.43</td>
<td>1.46</td>
</tr>
<tr>
<td>3. Nonrelative in Child’s Home</td>
<td>1.9</td>
<td>1.8</td>
<td>.08</td>
<td>.45</td>
<td>41.12</td>
<td>1.41</td>
</tr>
<tr>
<td>4. Relative in Relative’s Home</td>
<td>2.0</td>
<td>1.7</td>
<td>—</td>
<td>.33</td>
<td>24.69</td>
<td>.97</td>
</tr>
<tr>
<td>5. Nonrelative in Nonrelative’s Home</td>
<td>3.5</td>
<td>3.1</td>
<td>.12</td>
<td>.56</td>
<td>33.35</td>
<td>1.30</td>
</tr>
<tr>
<td>6. Day Care Center or Preschool</td>
<td>16.2</td>
<td>6.8</td>
<td>.92</td>
<td>.51</td>
<td>33.00</td>
<td>1.42</td>
</tr>
</tbody>
</table>

**Age of Child**

<table>
<thead>
<tr>
<th>Age</th>
<th>Group Size</th>
<th>Child--Staff Ratio</th>
<th>Training</th>
<th>Exp. &gt;0</th>
<th>Weekly Exp.</th>
<th>Exp. per Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2.6</td>
<td>2.0</td>
<td>.07</td>
<td>.29</td>
<td>33.59</td>
<td>1.37</td>
</tr>
<tr>
<td>1</td>
<td>3.6</td>
<td>2.6</td>
<td>.11</td>
<td>.33</td>
<td>31.20</td>
<td>1.21</td>
</tr>
<tr>
<td>2</td>
<td>4.6</td>
<td>2.9</td>
<td>.14</td>
<td>.34</td>
<td>28.95</td>
<td>1.19</td>
</tr>
<tr>
<td>3</td>
<td>6.1</td>
<td>3.3</td>
<td>.24</td>
<td>.36</td>
<td>32.20</td>
<td>1.29</td>
</tr>
<tr>
<td>4</td>
<td>9.1</td>
<td>4.4</td>
<td>.35</td>
<td>.38</td>
<td>30.71</td>
<td>1.11</td>
</tr>
<tr>
<td>5</td>
<td>6.3</td>
<td>3.3</td>
<td>.19</td>
<td>.29</td>
<td>30.45</td>
<td>1.43</td>
</tr>
<tr>
<td>6–11</td>
<td>3.8</td>
<td>2.6</td>
<td>.06</td>
<td>.19</td>
<td>22.06</td>
<td>1.73</td>
</tr>
</tbody>
</table>

**Source:** Calculated from the National Longitudinal Survey of Youth.

*Among those with expenditure > 0.

preschool, or family day care home. This may appear surprising, but is a common finding in surveys of child care consumers. Many consumers evidently receive subsidies from state and local programs or directly from the providers. The expenditure information in Table 2 must be interpreted carefully since it does not necessarily reveal the total cost of the service, given the apparent prevalence of subsidies. Reported expenditures are generally highest for care in the child’s home, followed by day care centers, preschools, and family day care homes. Expenditures are highest for infants, but do not decline much with age after age one, until school age. The child–staff ratio and provider training rise with age until age four and decline thereafter.

---

<table>
<thead>
<tr>
<th>Table 3: Determinants of Child–Staff Ratio and Provider Training^a</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Intercept</td>
</tr>
<tr>
<td>Age of Youngest Child^b</td>
</tr>
<tr>
<td>One</td>
</tr>
<tr>
<td>Two</td>
</tr>
<tr>
<td>Three</td>
</tr>
<tr>
<td>Four</td>
</tr>
<tr>
<td>Five</td>
</tr>
<tr>
<td>Six +</td>
</tr>
<tr>
<td>Mother's Age</td>
</tr>
<tr>
<td>Mother's Educ.</td>
</tr>
<tr>
<td>Black</td>
</tr>
<tr>
<td>Other Race</td>
</tr>
<tr>
<td>Mother's Hourly Wage^c</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Husband's Earnings/10000^d</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Nonwage Income/1000</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Married</td>
</tr>
<tr>
<td>Number of Children in Household aged&lt;sup&gt;e&lt;/sup&gt;</td>
</tr>
<tr>
<td>----</td>
</tr>
<tr>
<td>2–3</td>
</tr>
<tr>
<td>4–5</td>
</tr>
<tr>
<td>6–8</td>
</tr>
<tr>
<td>9–11</td>
</tr>
<tr>
<td>12–14</td>
</tr>
<tr>
<td>15–18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Other Adults in Household&lt;sup&gt;d&lt;/sup&gt;</th>
<th>.19 [.16]</th>
<th>-.14 [.25]</th>
<th>.03 [.03]</th>
<th>-.01 [.02]</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMSA</td>
<td>.49 [.26]**</td>
<td>.81 [.60]</td>
<td>.06 [.04]</td>
<td>.02 [.05]</td>
</tr>
<tr>
<td>Legal Maximum Child–Staff Ratio&lt;sup&gt;s&lt;/sup&gt;</td>
<td>.043 [.18]**</td>
<td>.127 [.077]</td>
<td>.0065 [.0029]**</td>
<td>.002 [.006]</td>
</tr>
<tr>
<td>State Requires Training&lt;sup&gt;s&lt;/sup&gt;</td>
<td>.22 [.22]</td>
<td>.43 [.46]</td>
<td>.048 [.036]</td>
<td>.082 [.037]**</td>
</tr>
<tr>
<td>(R^2[F])</td>
<td>.11 (2.03)</td>
<td>.12 (1.98)</td>
<td>.11 (1.70)</td>
<td>.10 (1.28)</td>
</tr>
</tbody>
</table>

**n:** 451 403 373 320

**Source:** Calculated from the National Longitudinal Survey of Youth.

<sup>a</sup>The estimates reported are linear regression coefficients and, in parentheses, standard errors.

<sup>b</sup>The omitted category is age zero.

<sup>c</sup>The mother's hourly wage is imputed from a selectivity-corrected regression using all women and all years in the NLSY. See Blau and Robins (1989b) for the wage equation estimates.

<sup>d</sup>Husband's earnings equal zero if no husband is present.

<sup>e</sup>The children are not limited to those of the respondent; they may include her siblings as well as children of other household members.

<sup>f</sup>Other than the respondent and her spouse, if any.

<sup>s</sup>The regulations differ for centers and home-based care. They are taken from Morgan (1987).

<sup>*</sup>Coefficient estimate is statistically significant at the 10 percent level.

<sup>**</sup>Coefficient estimate is statistically significant at the 5 percent level.

<sup>***</sup>Coefficient estimate is statistically significant at the 1 percent level.
TABLE 4
Sample Means of Variables Used in the Regression Analysis

<table>
<thead>
<tr>
<th></th>
<th>Child–Staff Ratio Equation</th>
<th>Provider Training Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Family Day Care Homes</td>
<td>Day Care Centers and Preschools</td>
</tr>
<tr>
<td>Child–Staff ratio</td>
<td>3.2</td>
<td>7.0</td>
</tr>
<tr>
<td>Provider Training Age of Child in Years:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>.27</td>
<td>.12</td>
</tr>
<tr>
<td>Two</td>
<td>.21</td>
<td>.17</td>
</tr>
<tr>
<td>Three</td>
<td>.14</td>
<td>.24</td>
</tr>
<tr>
<td>Four</td>
<td>.08</td>
<td>.29</td>
</tr>
<tr>
<td>Five</td>
<td>.06</td>
<td>.10</td>
</tr>
<tr>
<td>Six +</td>
<td>.07</td>
<td>.03</td>
</tr>
<tr>
<td>Mother’s Age</td>
<td>24.9</td>
<td>24.9</td>
</tr>
<tr>
<td>Mother’s Educ.</td>
<td>12.3</td>
<td>12.6</td>
</tr>
<tr>
<td>Black</td>
<td>.23</td>
<td>.44</td>
</tr>
<tr>
<td>Other Race</td>
<td>.04</td>
<td>.04</td>
</tr>
<tr>
<td>Mother’s Wage</td>
<td>4.59</td>
<td>4.63</td>
</tr>
<tr>
<td>Husband’s Earnings/10000</td>
<td>1.1408</td>
<td>.8629</td>
</tr>
<tr>
<td>Nonwage Income/1000</td>
<td>.217</td>
<td>.384</td>
</tr>
<tr>
<td>Married</td>
<td>.63</td>
<td>.49</td>
</tr>
<tr>
<td>Number of Children in the Household Aged:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–1</td>
<td>.50</td>
<td>.21</td>
</tr>
<tr>
<td>2–3</td>
<td>.42</td>
<td>.47</td>
</tr>
<tr>
<td>4–5</td>
<td>.31</td>
<td>.52</td>
</tr>
<tr>
<td>6–8</td>
<td>.26</td>
<td>.20</td>
</tr>
<tr>
<td>9–11</td>
<td>.10</td>
<td>.07</td>
</tr>
<tr>
<td>12–14</td>
<td>.03</td>
<td>.04</td>
</tr>
<tr>
<td>15–18</td>
<td>.03</td>
<td>.07</td>
</tr>
<tr>
<td>Number of Other Adults in Household</td>
<td>.34</td>
<td>.55</td>
</tr>
<tr>
<td>SMSA</td>
<td>.71</td>
<td>.78</td>
</tr>
<tr>
<td>Legal Maximum Child–Staff Ratio</td>
<td>4.8</td>
<td>8.8</td>
</tr>
<tr>
<td>State Requires Training</td>
<td></td>
<td>.49</td>
</tr>
<tr>
<td>n</td>
<td>452</td>
<td>403</td>
</tr>
</tbody>
</table>

Source: Calculated from the National Longitudinal Survey of Youth.

Notes: The samples described in this table contain observations with no missing data on the dependent and independent variables. There was a large amount of missing data on the child–staff ratio and, particularly, training.