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II Human Services: Organization, Finance, and Production

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2 Child Care: Private Cost or Public Responsibility?

Arleen Leibowitz

2.1 Introduction

Child care has emerged as a public policy issue because the majority of today's young mothers have taken on dual roles as labor-force participants as well as caretakers for their families. Today more than half of all mothers—even the mothers of one-year-olds—are working. The large number of mothers who are in the labor force and families' reliance on nonmaternal care for children while their mothers work have raised questions about the kinds of child care arrangements that are currently used, the quality and safety of those arrangements, the effect of child care on children, the cost of that care, and the government's role in providing or paying for child care.

Children are no longer as great a deterrent to labor supply as they have been in the past (Leibowitz and Klerman 1995). It is still true that having more children or younger children reduces the likelihood that a woman participates in the labor force (Browning 1992; Cain 1966; Carliner 1981; Gronau 1973; Leibowitz 1975; Nakamura and Nakamura 1994). However, increased labor-force participation (LFP) has been stimulated not only by lower fertility rates (Smith and Ward 1989), but also by the fact that women with children of any given age are more likely to work today than they were only two decades ago (Leibowitz and Klerman 1995). Greater market opportunities have, in turn, provided incentives for further fertility declines.

The increase in labor supply among mothers has been most dramatic for women with the youngest children. In earlier decades, LFP rose steeply at the time the youngest child entered school, because schools functioned as a source of free child care. In 1960, participation rates for married women with only school-age children (six to seventeen) were double the rates for women with

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preschool children (39% versus 19%). However, in the past three decades participation rates have grown at a fast rate even for mothers with preschoolers. In 1991, 60% of married mothers with preschoolers were in the labor force, and 75% of married women with school-age children participated (U.S. Bureau of the Census 1993). Within the preschool group, growth in labor supply has been greatest for mothers of infants and toddlers. By 1991, LFP reached high levels shortly after the birth, with more than half of the mothers (56%) working by the time their youngest child was twelve months old (U.S. Bureau of the Census 1993). Thus participation rates for mothers of one-year-olds now exceed the rates for mothers of school-age children in 1960.

This paper concentrates on the child care needs of preschool children because the increase in labor supply has been steepest for the mothers of these children and child care use has also grown rapidly for this group. Of course, the growth in after-school programs that supplement the free child care provided by schools testifies to child care needs for school-age children.[1] Nonetheless, this paper focuses on the preschool group because there is no generally available, publicly funded child care for them that functions in the way that public schools do for older children.

The purpose of this paper is, first, to understand how child care is currently provided, what it costs, how it is financed, and what defines its quality. The second purpose is to consider parental choices in an economic context, examining parents' choices of child care options (including mother care) and using data on the effect of child care on children's intellectual and emotional development to begin to describe a production function for child development. The final section of the paper addresses the question of whether there are informational, equity, or externality arguments that justify the government's taking on a greater role in public education of children who are younger than the traditional "school age."

2.2 Characteristics of Child Care

This section describes where children currently get care, the cost and financing of that care, and its quality.

2.2.1 Types of Child Care

Most preschool children whose mothers work nonetheless receive home-based child care—in their own home or in someone else's home. Data from the 1991 Survey of Income and Program Participation (SIPP; Casper, Hawkins, and O'Connell 1994) indicate that currently about a third of the preschoolers with working mothers are cared for in their own home by someone other than the mother, another third go to someone else's home, and fewer than one in ten

1. In 1990, 56% of children whose mothers worked and 28% of children whose mothers were not employed received some supplemental care (Willer et al. 1991).

Table 2.1 Primary Child Care Arrangement for Preschool Children of Working Mothers, 1977–1991

	June 1977	Fall 1987	Fall 1991
Number of children (1,000)	4,370	9,124	9,854
Type of arrangement (%)			
Child's home			
Nonmaternal	33.9	29.9	35.7
Father	14.4	15.3	20.0
Other relative	12.6	8.4	10.4
Nonrelative	7.0	6.2	5.4
Another home	40.7	35.6	31.0
Other relative	18.3	13.3	13.1
Nonrelative	22.4	22.3	17.9
Organized child care	13.0	24.4	23.0
Mother cares for child at work	11.4	8.9	8.7

Source: Casper, Hawkins, and O'Connell 1994. Data for 1977 are derived from the June 1977 Current Population Survey; data for 1987 and 1991 are derived from the Survey of Income and Program Participation.

are cared for by their mother while she works (mostly in their own home). Only one-quarter of the preschoolers attend day care centers or nursery school (see table 2.1).

Although day care centers and other forms of organized child care account for only 25% of the care arrangements, such formal care has grown rapidly over a short period of time. Table 2.1 presents data from three time points, which show that, as the number of children with working mothers has increased between 1977 and 1991, the share who were cared for by organized child care grew from 13 to 23%. Considering the increased number of children in care, this implies a fourfold increase in the numbers of children in organized child care facilities over this fourteen-year period.

Offsetting the rise in organized care has been a decline in the share of children in family day care—care provided for a small group of children in a caregiver's own home. Of course, due to a more than twofold increase in the number of children in care, the total number of children in family day care situations has grown in absolute terms. In 1977 the most prevalent type of care for children whose mothers worked was care in someone else's home, which accounted for 40% of the preschool children. By 1987 the share of out-of-home care had slid to 35.6%, with most of the decline due to reductions in care by grandmothers and other relatives. Despite a slight increase between 1977 and 1987 in the percentage of children cared for by fathers, mothers generally depended less on relatives and more on the market for child care at the end of the decade. With increasing LFP for older women, grandmother care is likely to account for a shrinking share of the child care in the future.

The period between 1987 and 1991 saw reversals in the trends of the prior decade, which may be attributable to the depressed economic situation in 1991. The use of care types that are less likely to be free (organized care and nonrelative care, both inside and outside the home) declined, while relative care in the home grew. Father care shot up to account for one-fifth of all child care arrangements for preschoolers. Thus, by 1991 children were more likely to be cared for in their own home than in someone else's home.

The ideal type of child care setting depends on the child's age. Child development experts recommend that child care for very young children be in small groups with low ratios of children to providers (Kahn and Kamerman 1987; National Research Council 1990). Older children can develop well in larger groups with larger child/teacher ratios. Indeed, the majority of infants receive home-based care, which has on average smaller groups and fewer children per caretaker. About 8% of infants under one year old are cared for by their mothers at work (most often in their own home), and another 40% are cared for at home by someone else. Care in someone else's home is provided for another 40% of infants. Only 11.5% of infants are cared for in institutional settings. In contrast, a third of three- and four-year-olds are in organized care facilities (Casper, Hawkins, and O'Connell 1994).

Child care centers provide environments especially adapted to children. Nearly all child care centers are licensed, and three-quarters meet criteria set by their state regarding group size and child to staff ratios for different age groups of children (Willer et al. 1991). Most states also require childhood education for the staff (Scarr and Eisenberg 1993). In contrast, only a minority of family day care homes are licensed. As of 1988, only twenty-seven states required family day care providers to be licensed, and thirty-six states exempted from regulation family day care homes serving fewer than four unrelated children (Willer et al. 1991). It is believed that between 82 and 90% of family day care homes are unregulated (Willer et al. 1991).

Despite the lack of state regulatory oversight, unlicensed family day care homes often meet the state requirements because they care for small groups of children and use high ratios of adults to children on average (Waite, Leibowitz, and Witsberger 1991). Unlicensed family day care providers typically lack formal training in childhood education as well as advanced schooling of any kind. Licensed family day care homes tend to serve larger numbers of children than unlicensed homes, but fewer than a child care center. The National Child Care Survey and the Profile of Child Care Settings found an average group size of 7.0 children per regulated family day care home and 6.4 per unregulated home (Willer et al. 1991). Although licensed facilities must meet the state group size and safety regulations, few states impose education or training requirements on family day care providers (Scarr and Eisenberg 1993). Because most family day care is unlicensed and there is no requirement that care by relatives be licensed, much of the child care delivered is outside the purview of state regulatory authorities.

Table 2.2 **Costs of Child Care by Income Level, 1990**

	Working Poor	Working Class	Middle Class
% who pay for care	27	32	43
Weekly cost ($) if > 0	38	45	60
Child care cost as % of weekly income	33	13	6

Source: Hofferth and Chaplin 1994a.

2.2.2 Cost and Financing of Child Care

Many lower-wage women rely on free child care supplied by husbands or relatives. The National Child Care Survey indicates that only 27% of low-income women paid for child care and only 43% of middle-income women did so (see table 2.2). In 1991 the weekly cost of child care for a preschool child averaged $62 (Casper, Hawkins, and O'Connell 1994). Day care centers charge more ($65) than relatives ($53), but about the same as home care by nonrelatives ($62). In day care centers infant care costs more than care for preschoolers (Whitebook, Howes, and Phillips 1989).

Lower-income women are also more likely to get free care from public providers. Only 3% of Head Start programs charge fees for their services. In contrast, 39% of public-school-based programs and nearly all other programs do so (Kisker et al. 1991). Although lower-income women paid less per week for child care, their costs accounted for a larger share of their weekly income. Families earning less than $15,000 per year spent 23% of their income on child care, when they paid for care (Willer et al. 1991). Child care costs accounted for 7% of annual earnings for families with incomes between $35,000 and $49,999; it accounted for 6% of income for those earning $50,000 and more (Willer et al. 1991).

Despite the increase in the demand for child care, the hourly cost (about $1.60 per hour in 1990 for either center or family day care) remained virtually constant in real terms through the 1990s (Kisker et al. 1991). The average wages of child care workers are low and did not rise in real terms over the period 1976–86, a time of great expansion in the demand for care (Blau 1992; Phillips, Howes, and Whitebook 1991).[2] Although this constancy in prices would be consistent with a competitive market for child care services, it is not clear that the quality of child care has not declined over time. As Walker (1991) points out, it is possible that increasing demand has led lower-quality providers to enter the market.

Federal and state governments subsidize both the providers and consumers

2. Connelly (1992) suggests that the low wages of child care workers may partly result from the nonmonetary benefit of caring for one's own children at the same time.

of child care through a variety of programs. Robins (1990) calculated that the single largest government child care program is the child care tax credit, which accounted for 60% of all federal spending on child care by 1988 ($3.8 billion). This subsidy is available only to working mothers. Other federal government programs, which are expenditure-based, are available to children whether or not their mothers work.

Head Start is perhaps the most visible federally funded expenditure-based program for early childhood. When it was established in 1965, the program served primarily three- and four-year-olds with a developmentally enriching program that also met health care, nutrition, and social service needs. Although Head Start is undoubtedly one of the most popular social programs ever enacted in the United States,[3] it has never been funded at a sufficient level to reach all the children whom the legislation made eligible. In 1987 Head Start was estimated to be serving only 16% of the eligible children (Select Committee on Children, Youth, and Families 1987). Expanding the Head Start program was a priority of the Clinton administration, and the number of children served has risen in recent years from about 450,000 in 1989 to over 700,000 in 1993 (Committee on Labor and Human Resources 1994). In 1993 expenditures for Head Start grew to $2.8 billion (Executive Office of the President 1994).

While the Head Start program was designed as developmental child care for children living in poverty, other federal programs have the primary goal of facilitating women's exit from Aid to Families with Dependent Children (AFDC). These include the Job Opportunities and Basic Skills (JOBS) program, child care block grants to the states, and At Risk and Transitional Child Care, which supported an additional $2.2 billion in child care programs in 1993. Phillips (1991) notes that, although Head Start serves children from similar backgrounds, it differs fundamentally from programs like JOBS that seek to get women off AFDC. Head Start was designed as a high-quality, developmental program that attempted to meet a comprehensive range of children's needs. In contrast, JOBS and other programs like it were designed to reduce the cost of AFDC. The child care associated with these programs also tends to be low cost, and Phillips (1991) argues, of low quality.

The AFDC program itself can be considered a large government subsidy of child care by mothers. Originally established in 1935 to allow widows to stay home to care for their own children as most married women did, today it serves primarily unmarried and divorced mothers. Because AFDC income support is reduced when family income rises above a set ceiling, the program discourages market work and presumably increases mothers' child care activities at home. In recent years, however, welfare reforms have attempted to modify the discouraging effect of welfare on work by modifying child care provisions. The

3. In recent Senate hearings, Senator Edward Kennedy stated, "Head Start is widely regarded as one of the nation's premier social programs, on a par with Social Security and Medicare" (Committee on Labor and Human Resources 1994, 1).

Omnibus Budget Reconciliation Act (OBRA) of 1990 required states to not count as earned income for the purposes of calculating AFDC benefits up to the first $175 per month of child care expense. Further, it is likely that child care will have a prominent place in the Clinton welfare reform package.

2.2.3 Child Care Quality

Although the number of child care places has increased to meet the increased demands of working mothers, it is less clear what has happened to the quality of child care. The quality of child care is often measured by structural characteristics, such as child/provider ratios, group size, and educational levels of providers. Many economic studies (e.g., Hofferth and Wissoker 1992; Kisker and Maynard 1991; Leibowitz, Waite, and Witsberger 1988; Waite, Leibowitz, and Witsberger 1991) also use these measures, which were incorporated into the Federal Interagency Day Care Requirements. A 1988 study of child care centers found that structural measures of quality were related to process measures of quality based on the interactions between teachers and children. They found that small group size as well as having teachers with specialized early childhood education predicted positive and appropriate interaction between teachers and children (Whitebook, Howes, and Phillips 1989). Classrooms with lower child to teacher ratios were found to have more developmentally appropriate activity (85).

While most centers meet the licensing standards regarding group size and child/provider ratios, many provide care that fails to meet "process" standards. About one-third of all classrooms studied by the National Child Care Staffing Study fell at or below a minimally adequate rating in the ability to provide developmentally appropriate activity, while only 12% met or exceeded the "good" rating (Whitebook, Howes, and Phillips 1989). Similarly, about a quarter of the classrooms fell at or below the minimal quality rating for appropriate caregiving—a measure of teacher sensitivity, harshness, and detachment (Whitebook, Howes, and Phillips 1989).

Despite analysts' expectation that families will prefer and should pay more for "high-quality" child care, research often has not found an empirical relationship between the prices parents pay for purchased child care and its assumed quality as measured by the factors such as child/provider ratios (Waite, Leibowitz, and Witsberger 1991). Walker (1992), using data from three cities, found that parents did not pay more for child care in smaller groups or with fewer children per adult caretaker. Further, he found no price premium for providers who had more education or experience within the profession.

The lack of association between price and the regulated features of care (group size, staff ratios, and caregiver training) reflects the fact that parents report that they place greater value on other care characteristics. Parents interviewed in the National Child Care Survey in 1990 reported that they place greatest value on the interactions between caregivers and children (Hofferth and Chaplin 1994b). Indeed, an observational study of child care settings, which directly measured the quality of the interactions between children and providers, found that centers with care that was rated as "appropriate" charged higher fees. Kisker et al. (1991) also found that price is positively related to quality measured more broadly to include teacher qualifications and turnover.

The lack of a relationship between the prices parents pay and the attributes of care that are regulated by states raises the question of whether licensing provides information about characteristics that parents value. The results of the two studies that assessed the quality of the interaction between teachers and children did find a relationship to price. But Walker's analysis found that state-licensed providers did not charge higher rates.[4] This lack of association contradicts the expectation that licensing provides a signal of higher quality (Leland 1979) and suggests that the characteristics that state licensing regulates reflect only poorly the attributes that parents value in child care.

2.3 An Economic Perspective on Child Care

2.3.1 The Demand for Child Care

Whether to care for children at home or to make other arrangements for the care of their children is a choice that families face. Therefore it is useful to consider an economic model that integrates the decision to use child care with other choices, such as whether the mother should work outside the home.

We begin with a utility framework that assumes that parents value family consumption of goods and services (X), their own leisure (L), and the healthy development of their child(ren), (D):

$$U = U(X, L, D).$$

Child development is produced with time inputs from parents (t_h), and inputs from nonparental child care arrangements (Q_c), as well as goods that affect child development (X_c):

$$D = D(t_h, X_c, Q_c).$$

Both parents' time contributes to child development. For simplicity, however, we drop the index that distinguishes parental time provided by mothers versus by fathers.

The usual constraints apply: the sum of parents' time at work, with children, and in leisure cannot exceed the total time available ($T = t_w + t_h + L$); total expenditures on consumption goods (Xp_x) and child care ($t_c p_c$) cannot exceed the sum of nonearned income and earnings derived from time in the market ($t_w \times w$, where w represents the wage rate). Q_c encompasses the time and qual-

4. However, Whitebook, Howes, and Phillips (1989) made cross-state comparisons of the stringency of regulations for day care centers, which are almost universally licensed. They found that parents paid higher fees in states with stiffer requirements.

ity of the child care purchased. The amount of child care purchased must be at least as great as the amount of time the parent who is the primary caretaker works. However, child care can have value because of its ability to produce child development, so even parents who do not need the custodial aspects of child care might choose to send their child to nursery school or another child care arrangement that enriched their child.

An advantage of this formulation is that it incorporates the quality of child care (as measured by its productivity in promoting child development) into the choice of whether to work. It is important to note that Q_c may depend on the characteristics of the other children in the setting as well as the characteristics of the teachers, the numbers of children, and the physical surroundings. Thus the children in child care provide (positive or negative) externalities to their classmates.

This choice framework draws attention to the fact that parents weigh other attributes in addition to child care's developmental potential in choosing a particular arrangement for their child. For example, child care that is less convenient affects the amount of leisure time available to the adults in the family, and the cost of the care affects the amount of resources the family has to devote to other consumption goods (Johansen, Leibowitz, and Waite 1994).

While in theory the number of child care options available to a mother is infinite, in practice child care options fall into a small number of discrete categories. Particular child care providers supply differing proportions of characteristics that parents value—such as a developmental program, convenience, and cost. Parents, too, are heterogeneous in the value they place on these different attributes. Thus the market supplies a diversity of modes of care that "package" combinations of attributes and that are, therefore, more and less developmentally enriching, convenient, and costly (Walker 1991). For example, on average, group sizes are smaller in family day care than in child care centers, but centers are more likely to have staff with training in early childhood education.

Using this model makes it easy to understand the causes underlying the increases over time in mothers' labor supply. Not only have women's wages risen in real terms, but they have also grown relative to men's wages (Leibowitz and Klerman 1995). In addition, the price of formal child care has remained steady, which implies that women's wages also rose relative to the price of formal child care. However, it appears that free or reduced cost child care from relatives has become less available as women's wages in the market have grown generally, so it is less clear how the price of child care available from all sources (both formal and informal) has moved relative to wages.

There has been a great deal of discussion in the popular press of a lack of availability and "affordability" of child care services. The growth in market work by mothers and the related increase in number of preschool children in child care provide evidence that child care places are available. The lack of increase in the hourly cost of care suggests that new providers have entered the market to supply the additional demand. Although child care accounts for a large share of family budgets in low-income families, the economic perspective suggests that parents have found it "affordable" in the sense that they believe themselves to be better off working and using child care than not working and providing parental care.

As we would expect, there is often excess demand for subsidized child care (e.g., provided by churches or by Head Start). These sources of care may also be highly sought after because of their high quality. Thus the problem may be not accessibility, but the availability at subsidized rates of high-quality care, which the National Child Care Staffing Study found to be more costly to produce. However, that study also found that children from both low-income and high-income families attended child care centers of greater quality than did children of middle-income families, because of subsidies for poor children in high-quality centers.

2.3.2 Child Care as an Input to Child Development

How does child care enter into the production function of child development? Dr. Benjamin Spock, in the first edition of his classic book, *Baby and Child Care* (1946), stated the then commonly held belief that nonmaternal care had potential to harm children, and that mother care was best. More recent research shows that good care not only does no harm, but can actually provide cognitive and social benefits for children, particularly if the child comes from a disadvantaged environment.

Psychologists have identified three waves of child care research. Scarr and Eisenberg (1993) characterize the question underlying the first wave as, "How much damage is done to infants and young children by working mothers?" The second wave examines the relationship between the quality of child care and the child's outcomes. The third wave seeks to understand how other characteristics of the child or the environment (e.g., gender, center staff turnover) affect the child's experience of child care.

The first wave of studies documents the effects of day care on children's socioemotional development, particularly attachment to the mother. Belsky and Rovine (1988) find that children in day care have an insecure attachment, which they hypothesize leads to "heightened aggressiveness, noncompliance, and withdrawal in the preschool and early school years" (Belsky 1988). These findings generated a great deal of controversy, particularly because they focus on one outcome whose long-term significance was not well understood (Phillips et al. 1987).

Despite Belsky's negative findings about the detrimental effects of child care on one socioemotional outcome, there is evidence that children who attend child care centers have better outcomes in other domains, including greater verbal ability and social competence than children reared at home. Clarke-Stewart (1991) reviews the literature on development of children exposed to center care versus care in the home—by parents, sitters, or family day care providers. She concludes that children who are exposed to child care in a center are, "on the average, socially and intellectually advanced over their peers who have only been at home" (118). However, the timing of the out-of-home care may have an impact on outcomes. Blau and Grossberg (1992), for example, found that three- and four-year-old children whose mothers worked in the first year of the child's life had lower scores on a test of verbal ability. However, there was an offsetting positive effect of maternal employment (and therefore child care) during the child's second and later years.

Although many of the studies lack adequate controls for the selection of higher-quality child care for children from families of higher socioeconomic status (Zaslow 1991), similar conclusions come from analyses that randomly assign children to early childhood education programs.

The Infant Health and Development Program (IHDP) represents one of the most intensive early childhood interventions conducted as a randomized trial. In the IHDP, 377 low-birth-weight infants were randomly assigned to receive intensive home visits that helped their parents foster the child's intellectual, physical, and social development. From the time they were one year old until they reached age three, the children in this intervention group also attended a full-day, developmental child care program. The children's intellectual, behavioral, and physical progress was measured at age three and compared to that of 608 low-birth-weight infants who were randomly assigned at birth to a group that received physical monitoring only, but no child development intervention. When they were three years old, the intervention group scored significantly higher on the Stanford-Binet Intelligence Scale—a mean of 93.5 compared to 84.5 in the control group. The children receiving early intervention were only one-third as likely to score in the "mentally retarded" range on the IQ test (5.6% versus 16.9% of the randomly selected controls; Ramey et al. 1992). In addition, the mothers of the group who received home visits and day care reported fewer behavior problems with their children (IHDP 1990).

Because the IHDP combined home visits with developmental child care, it is impossible to determine how much of the gains relative to the control group relate to child care itself. Nonetheless, this study, like the Carolina Abecedarian Project that preceded it, suggests the gains in cognitive and behavioral outcomes for high-risk children that may be attainable through early childhood education. Further research is needed to determine the success of this type of early intervention with children who are at high risk of suboptimal development for reasons other than low birth weight.

Although preschool does seem to promote school readiness, some of the most important long-run effects may be in the realm of behavior. The one controlled trial with a long follow-up period, the Perry Preschool Project, found that low-IQ, low-income, black children who were randomly assigned to a developmental nursery school program and weekly home visits at age three and four showed IQ gains over the control group when they were tested at age five. The child care group did not retain beyond second grade their early cognitive gains relative to the control group. Despite the loss of gains on intelligence tests, the intervention group scored significantly higher on achievement tests and teacher ratings when they were retested at age nineteen. They also had strikingly better social and behavioral outcomes—they were significantly more likely to have graduated from high school and to be employed, and significantly less likely to have been arrested or to be receiving welfare. The girls were half as likely to have had a pregnancy (Berrueta-Clement et al. 1984). Thus it appears that the longest-lasting improvements were in the effort the children put into their studies and in the behavioral realm. Another intensive early intervention program with low SES mothers and their infants also found effects primarily in behavior rather than in improved cognitive abilities (Olds, Henderson, and Kitzman 1994).

The second wave of research emphasizes that quality of care is more important than the type of care (center versus home). Zaslow (1991) reviews a number of studies that show that higher-quality child care has significant positive effects on both short-term and long-term outcomes for children. As expected, higher-quality child care results in more positive daily experiences and better developmental outcomes for youngsters. The gain in children's school readiness and language development over the school year was found in the National Day Care Study to depend on structural quality measures such as group size and teacher qualifications (Ruopp et al. 1979). School readiness is an important outcome because it is an input to the production of learning in school, as suggested by Fuchs and Reklis (1994), who found that the single most important determinant of a state's average mathematics achievement scores was the percentage of students who were judged "ready to learn" by their kindergarten teachers.

The third wave of research addresses the fact that more advantaged children tend to be in higher-quality child care centers, by looking for interactions among child, family, and child care attributes. These analyses suggest that child care is particularly beneficial for children at risk for poor outcomes because of health risk or lack of family resources (Clarke-Stewart 1991). Child care may, however, have negative consequences for more advantaged children and for boys (Mott 1991). For example, using secondary data from the National Longitudinal Survey of Youth (NLS-Y), Caughy, DiPietro, and Strobino (1994) found that low-income children in the NLS-Y who participated in day care in their first year of life had better reading recognition scores at age five or six. Children from higher-income families and more enriched environments scored lower if they began day care in their first year. As in the wave two studies, many analyses do not account for selection bias.

Currie and Thomas (1995) deal with selection bias statistically by correcting for fixed effects of mother characteristics. After correcting for selection, they find that participation in Head Start or other preschool is significantly related to higher verbal test scores for white and Latino children, but not for African-

American children. Randomized trials also document the impact of child care for at-risk children (IHDP 1990; Ramey et al. 1992).

2.4 Is There a Government Role in Child Care?

Since the dawn of the twentieth century, Americans have generally accepted the norm of elementary education for all children (Folger and Nam 1967; Skocpol, chap. 11 in this volume). Can a similar case be made for a public role in providing or financing child care services for preschool children? Despite the research on the educational value of child care, most families see day care as a means of freeing the mother's time for market work. Because the mother's decision to work is a private one, it is generally assumed that the responsibility for child care services is primarily private. The largest governmental program that supports child care is the child care tax credit—which fundamentally treats child care as a work-related expense for employed mothers. Thus child care costs are seen as equivalent to union dues—a cost that one must pay in order to work.

What is the government role in this heretofore private choice? Because high-quality child care can have lasting, positive effects on the child, particularly for disadvantaged children, three rationales exist for the government role: the first relates to information, and would arise if the government had better information than parents have about the effects of child care quality on children; the second is an equity argument that all children deserve equal opportunities to receive the benefits of preschool education; and the third concerns the positive externalities for the population as a whole that could result from high-quality child care. I discuss each of these below.

2.4.1 Information

Walker (1991) identifies the lack of information as the "most striking difference between the child care market and the idealized perfect market" (65). He notes that most parents use providers whom they knew beforehand or get information about child care informally, from friends and relatives. These personal recommendations may be important to parents because of the weight they place on the process aspects of care, which are most easily observed by a person who has used the care. Even after using the child care service, however, it is often difficult to assess its quality. It is hard to monitor the behavior of the provider when the parents are not present, so there is always a potential for shirking on the part of providers. Parents prefer to rely on relatives for child care (Mason and Kuhlthau 1989). One reason for this may be that parents believe relatives may be less likely to shirk, because they can be more easily monitored and they may also value good outcomes for the child.

Although economists have focused on the problems caused by imperfect information about particular providers in the market, there is another sense in which information is also lacking. Parents may value child development, but lack the knowledge of the link between (more costly) high-quality child care and child development. This link is difficult to document by observation, since a child is exposed to many influences, and it is nearly impossible to attribute particular outcomes to any one source. Drawing conclusions about the effects of child care by looking at the experience of children who were exposed to child care by earlier generations of working mothers may not be valid. The growth in child care use has been so great that the children whose mothers work today are a less selective population than those of women who worked in earlier years, and child care may be of very different quality today than formerly.

This lack of information provides a rationale for the government's increasing knowledge about child care in general. In addition, the government could facilitate the operation of the market for child care services, by increasing information about the quality and availability of particular providers (Blau 1991). The government could also stimulate parental demand for high-quality child care by subsidizing programs that were known (to the government) to be high quality. This is perhaps the reason that the child care tax credit cannot be used for child care by relatives, which is of unknown quality (at least to the government). However, the rationale for the government's intervening through subsidy or direct provision of services relies primarily on equity considerations or on the presence of externalities.

2.4.2 Equity

Research on the early determinants of later cognitive and behavioral outcomes has begun to document the influence of early child care on children. Does the evidence that school success depends on earlier preschool experiences mean that equity demands that all children have access to an enriched preschool environment, so that they can begin school on an equal basis? We also know that parental characteristics affect school success and that child care can offset some of the deficits associated with disadvantaged backgrounds. To what extent should the government spend resources to equalize educational opportunity at the preschool level?

The economic model above suggests that parents choose the level of investments in their children, so it is expected that higher-income parents spend more resources on their children. We saw that low-income families are already spending a large fraction of their income on child care when the mother works. Whether the government should pay for early childhood education because it is a good investment is an economic question that is taken up in section 2.4.3. Whether the government should intervene to level the playing field is a political question that should be addressed by the political process.

2.4.3 Externalities

The empirical evidence that high-quality day care makes children more ready to learn when they go to school and that it also can have positive effects in discouraging antisocial behaviors suggests that there may be public gains over and above the private gains captured by families. If children who have been exposed to high-quality day care are easier to teach, require less remedial education, and are less likely to come into contact with the juvenile justice system or to become teenage parents, the savings to public programs in reduced schooling expense, reduced police and prison costs, and lower welfare payments might justify public support of quality day care early in life. In addition, children who are easier to teach provide positive externalities to the other children in their classroom, yielding further societal gains. Interventions early in life have the potential to be very cost-effective, because the child brings the improved human capital as an input to all future activities.

One recent evaluation of an early intervention with mothers and infants indicated that even an expensive program can be cost-effective if it is targeted at a high-risk population. Olds et al. (1993) evaluated an intensive home-visit program given to poor, unmarried, teenage mothers. Although the program was expensive ($3,246 per family), the government had net savings by the time the children were four years old because of reduced costs for AFDC, food stamps, Medicaid, and Child Protective Services and higher tax revenues from greater maternal employment, which more than offset the discounted cost of the program for poor mothers. That benefits outweigh costs, even without counting any benefits that will accrue after the child is four years old, provides a very strong argument for funding such programs. The key to the high yield of the home-visit program is targeting families who have a high probability of receiving public transfers.

Some of the greatest problems facing our society today are exactly the social and behavioral outcomes that high-quality child care seems to affect most, and the "culture of poverty" that supposedly fosters them (Wilson 1987; McLanahan and Garfinkel 1989). Indeed, if poor socialization into the norms of the overall society stimulates antisocial behaviors, high-quality child care, which has been shown to generate more positive social behaviors, might prove a cost-effective means of preventing these problems.

The costs of dealing with "acting out" behaviors such as teenage pregnancy and juvenile criminal behavior are high, yet few programs targeted at teenagers have succeeded in discouraging these behaviors. In contrast, the limited evidence available suggests that high-quality child care at early ages may help children avoid these undesirable behaviors when they are older. Thus, it is possible that child care may prove a cost-effective tool in lowering rates of teen pregnancy and criminal activities. In contrast to current punitive programs to reduce teen pregnancy and crime, for example by reducing welfare benefits or increasing jail terms, improving access to high-quality child care would actually enrich childrens' lives while reducing behaviors with negative externalities.

The Perry Preschool Project provides encouraging evidence of long-term effects, even for a high-risk group of children. However, it is important to recognize that this was a small and unique intervention. Not only was it very expensive (an average per child cost of $6,300 annually in 1986 dollars), but it also targeted children at high risk for mental retardation. Before proceeding, we would need the results of well-designed studies on larger samples of children to determine how child care affects average children and to learn how early behavioral outcomes (e.g., ability to follow the teacher's instructions) link to later actions (e.g., being law abiding).

In thinking about using high-quality child care to counteract the "culture of poverty," it is important to define child care very broadly. Child care is not just care for children of working mothers. The AFDC program can be construed as a child care program wherein the government pays low-income women to stay home to provide care for their children. As we discussed above, however, child care centers do a better job of increasing young children's intellectual skills and social development than does home care—even care by the child's mother. And this is particularly true when the mother has little education and few job skills, since children from disadvantaged families seem to gain most from high-quality day care.

When the AFDC program began, most women stayed home with their children. Equity considerations suggested that widows, the original recipients of the program, should have the same advantage. In 1946 Dr. Spock called for a program like AFDC, arguing that "[i]t would save money in the end if the government paid a comfortable allowance to all mothers (of young children) who would otherwise be compelled to work" (475). Although AFDC conformed to the prevailing beliefs about the effect of mother care and the dangers of child care, current knowledge about the benefits of child care may lead to a different conclusion. Rather than improving children's well-being by allowing even poor children to be cared for by their mothers, AFDC may now serve to promote low-quality child care by poorly skilled providers at home. One can argue on both equity and externalities grounds that child care outside the home be promoted, especially for children beyond infancy.

The proposed welfare reforms that would require that AFDC mothers seek work or training and put their children in child care may have direct positive effects on children—because day care has particularly favorable effects for disadvantaged children. However, as Phillips (1991) points out, child care that is designed primarily to facilitate an exit from welfare has tended historically to be of poorer quality than child care like Head Start, which was designed to be developmental. Although it may impose short-term costs, providing high-quality child care for children whose mothers are leaving AFDC may yield long-term gains that will offset the cost differential. Providing high-quality child care so that AFDC recipients can enter the labor force has additional benefits. The child care provides benefits directly to the children yet presents the mothers with no disincentives to work and, in fact, may stimulate work.

2.4.4 Who Should Pay for Child Care?

Should the government provide and finance child care, as it does for public education from kindergarten to twelfth grade, or simply subsidize its private purchase by parents, perhaps through the use of vouchers or tax credits? Or is child care a private cost that should be borne by working women or their employers? We first discuss the family's and employer's role and then discuss the government's role in paying for or providing child care.

If payment for child care were considered solely a family responsibility, child care would likely reinforce existing differentials in opportunities for preschool children. Currently, higher-income families purchase better-quality child care. The fact that low-income families have better access to more stimulating child care centers than middle-income families (Whitebook, Howes, and Phillips 1989) results from public and private subsidies that allow children from poor households to attend stimulating child care such as that provided by Head Start. Lower-income households are already spending a higher proportion of their income on child care. This suggests that, without subsidies, relying completely on private family financing of child care will tend to reinforce existing disparities in school readiness among children of different income groups.

If families alone cannot afford the type of child care that will equalize opportunities, can employers perform this function? In the United States, employers provide many social welfare benefits that governments supply in other countries. Pensions and employer-based health insurance are two prominent examples of this arrangement. As in the case of health insurance, mandating employers to pay for child care benefits may appear attractive to legislators because the costs for the service do not appear on the government ledgers (although they may erode the tax base). However, the cost of employer-mandated benefits is shifted back to the employees who receive the benefit (Gruber 1994), so that, in the long run, there is little net financial gain to the recipients. Employment-based child care would be regressive, because the mothers with the highest wages are most likely to be in the labor force (Fuchs and Reklis 1992). Yet the children who appear to benefit most from child care are those whose mothers have low levels of education and little income. Since these mothers are less likely to be employed, their children would have less access to employer-based child care.

This leaves public subsidy or provision as the two means by which government can increase the use of high-quality child care. If parental child care choices are subsidized by government—through tax credits, vouchers, or other means—we can conceptualize parents' choices using the model outlined above. According to that model, parents choose child care, as they choose their other consumption, with several goals in mind. One goal is to promote their child's development. Conflicting goals for the family include finding child care that is convenient or less costly and leaves more resources for parental leisure or consumption. A voucher lowers the cost of child care, but the entire value of the voucher may not be targeted to improving child care quality. Parents may choose to increase the convenience to themselves of the child care they choose, or they may use some of the extra resources for other purposes that increase their own utility. Because parents have these other goals, a child care subsidy becomes "fungible" and will not necessarily lead to the purchase of higher-quality child care.

Even if parents value child development as much as the government does, they may lack the information about what constitutes the most developmentally appropriate child care and may therefore be less effective agents for their child. However, the development of cognitive skills is not the only goal parents have for children. Parents also value transmission of cultural values consonant with their own; parents are probably in the best position to make these choices. Nor is it likely that governmental agencies have better information than parents about what is productive for a particular child. Parents appear to be better placed to monitor at close hand the quality of child care their preschooler receives. The lack of association between child care licensing requirements and child care prices suggests that government agencies would have great difficulty in implementing regulation that would lead to care that parents value.

Although the equity and externality arguments for child care echo the rationale for free public education at higher grades, it is probable that a combination of improved information and public finance of early childhood learning is more in keeping with the family's primacy in providing preschool experiences. The division between the public sphere and that of the family is nowhere more sensitive than with regard to young children. Certainly, in this era of "family values," we will not easily move the choice of instruction for impressionable young children far away from the family. Although families will certainly have an important role in choosing the type of care their children receive, the recent research evidence suggests that it is not necessarily optimal for families to serve as full-time caretakers for children. As I have argued above, both equity and externality considerations argue for the provision of high-quality child care to children, whether or not the mother works.

The suggestive evidence of negative effects of child care for middle-class children implies that our public subsidies of child care, which have primarily been through the child care tax credit, have primarily been designed to provide financial relief for the cost of child care. Because middle-class children benefit less than poorer children from child care, it is hard to make the case that the largest government subsidy of child care has been designed primarily to stimulate child development. Armed with emerging information on the potential benefits of child care, we should use public funds to promote quality care for disadvantaged children as well.

2.5 Conclusion

Many preschool children spend their days in child care. The quality of that care is an important determinant of children's later success in life. This paper has argued that for equity reasons and because child care may be a high-yield investment in children, government should have a role in improving the quality of the child care children receive and in encouraging quality preschool experiences for disadvantaged children, even those whose mothers do not work. The evidence that quality preschool is especially beneficial for disadvantaged children suggests that we need to sever the link between subsistence support for low-income children and the provision of child care for them. Children growing up in AFDC homes are doubly disadvantaged—they lack the advantages of having greater financial resources, and they often suffer from not being exposed to more enriched preschool environments available to children in out-of-home care. The expansion of the Head Start program for toddlers is a valuable step in this direction. The large payoff from programs that intervene with high-risk children in infancy suggests that it may be beneficial to begin even earlier.

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Comment Francine D. Blau

Arleen Leibowitz does an excellent job summarizing what we know about the provision of financing of child care and outlining the equity and efficiency arguments for a larger government role in this area. As she points out, from a policy perspective, the issue of child care is often examined in the context of its impact on working parents, especially mothers. Leibowitz instead focuses on the effect on children and in so doing clarifies an important aspect of the potential government role in this area. As I indicate below, it is my view that additional insights can be achieved by putting the parents back in, since child care is intrinsically a "woman's issue" as well as a "children's issue." However, this is not meant in any way to minimize the important contribution that Leibowitz makes with her "child-centered" approach.

Taking children as her focus, Leibowitz constructs equity and efficiency rationales for government intervention in this area that clearly and persuasively parallel the justifications for government support of primary and secondary education. Additionally, as Leibowitz points out, interventions early in life have the potential to be particularly cost-effective in that children bring their augmented human capital to all their future activities. Especially promising in my view is the potential for early intervention to reduce antisocial behaviors such as teen pregnancy and crime, which not only have high negative externalities, but have proved particularly intractable to other forms of intervention. Also extremely important for similar reasons is evidence she cites suggesting that high-quality child care can boost the learning readiness of disadvantaged children and hence improve their educational outcomes. Based on her summary of the accumulating evidence that child care is particularly beneficial for at-risk, low-income children, Leibowitz argues that the externalities as well as the equity argument for government intervention to provide or subsidize child care for this group is also strongest. In this respect her reasoning echoes that

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of Hanushek and Poterba in questioning whether the externality argument for government intervention in education has been applied with too broad a brush to justify government support of all levels of education. Both considerations argue for a more targeted approach, although it might be premature to adopt one without a fuller probing of potential externalities arguments applicable to higher educational levels and other income groups.

Turning to the system of child care provision in the United States, Leibowitz depicts an extremely heterogeneous system where informal arrangements, care in the child's own home or the home of a relative or nonrelative, predominate over organized care. This contrasts starkly with the much more uniform governmental provision of primary and secondary education in this country, as well as the extensive governmental provision of child care itself in some other countries, such as Sweden. Leibowitz's discussion implies that this heterogeneity is both a great strength and a great weakness of the current situation. On the one hand, as she points out, it addresses the different preferences of families and the potentially different developmental needs of young children at different ages. To this I would add that the widespread disaffection with our system of public education suggests that an excess of uniformity in provision can pose certain difficulties even for older children. On the other hand, the informal care that accounts for the majority of child care arrangements is unlicensed in the vast majority of cases and consequently, at least from this perspective, of uncertain quality.

Thus, a crucial policy issue that we face is how to maintain a desirable degree of diversity and choice in the provision of child care while assuring minimum levels of quality or, better yet, providing incentives for increasing quality of care. While Leibowitz's paper sheds considerable light on this issue, I think we still have a long way to go before it is fully resolved. A related point is the need for more research linking the inputs into the child care production process that both regulators of child care and researchers focus on as indicators of quality—for example, child/provider ratios, group size, and educational levels of providers—to measurable outcomes for children. The research that Leibowitz summarizes is certainly encouraging in this regard, but the empirical examination of this question is still in its infancy. The issue of developing appropriate, relatively easily applied indicators of child care quality will further increase in importance if government involvement in this area is expanded. More research on the relationship between child care quality and children's outcomes would also be helpful in better understanding the negative findings that have emerged for alternative care in the first year of life, which contrast with the positive results obtained for alternative care during the rest of the preschool years (e.g., Blau and Grossberg 1992). These findings may be due to the difficulty of obtaining high-quality care for infants.

Until the issues involved in providing good alternative care to infants are better understood, encouraging diversity in the types of arrangements available is especially important for this group. This includes facilitating parental care for some of this period. Indeed, in her otherwise comprehensive review of current government involvement in child care, Leibowitz has neglected the government mandates that have recently entered the picture in the form of the Family and Medical Leave Act (FMLA) of 1993, which requires up to twelve weeks of unpaid leave for new parents. (The United States in this respect has lagged behind other industrialized countries, which adopted such mandates earlier, usually with more generous leave provisions than those required under the recent U.S. legislation.)

Consideration of the FMLA raises the question of the appropriate role for employers in the provision and financing of child care, and its relationship to the broader issue of women's work status. A major factor lowering women's pay relative to men's is women's shorter and more discontinuous labor-force attachment, while employer's expectations of this pattern provide a rationale for their reluctance to hire women for jobs requiring substantial on-the-job training. Facilitating child care availability and/or lowering its cost encourages female labor-force participation, and particularly the continuity of that participation. Additionally, mandated parental leave of relatively short duration also most likely increases women's labor-force attachment. Thus, government intervention in these areas has the potential to raise female earnings relative to male earnings. This type of equity issue—the reduction of gender differences in earnings—spans the income distribution and thus might provide an equity rationale for a broader government provision or subsidy of child care rather than interventions aimed at the disadvantaged.

In failing to examine child care as a worker's issue as well as a children's issue, Leibowitz may also be too quick to dismiss a significant role for employers, though I agree with her that extensive government mandates may not make a great deal of sense. Government subsidies or tax breaks to firms for child care would encourage an expansion of the number of firms offering such benefits, either through the direct provision of child care itself or through various pecuniary benefits. This would have the indirect effect of encouraging firms to increase their investments in the firm-specific capital of their female workers, thus lowering the gender pay gap.

Along with other types of heterogeneity, the greater direct employer provision of child care that would be encouraged by subsidies might have advantages to children, as well, in the form of more effective monitoring of quality—both by the employer and by the employees who would be in closer proximity to their children than is typically the case with other child care arrangements. An additional benefit of direct employer provision is that it would encourage greater sharing of family responsibilities between parents, if, for example, child care is available at the father's place of work but not the mother's. This would mean that the father would assume responsibility for dropping off and picking up the child and that he would likely be the one on call in emergencies.

Many believe that a greater sharing of family responsibilities between parents is crucial to the advancement of gender equality in labor market outcomes. So the equity goal of reducing the gender pay gap is also furthered.

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