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ECONOMICS OF CHILD CARE: COSTS, NEEDS, AND ISSUES

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A policy on child care requires knowledge of alternative programs of different scopes, the relative benefits of these various programs, and their respective costs. This chapter discusses issues of costs and quality of child care. The first section deals with definitions and some data problems: what are we talking about in discussing the costs and need for child care of different kinds? The second section reviews the costs of child care as reported in several major studies. The third section reports data on demand for child care at different prices. The demand parents make for child care at different prices—and the costs of different kinds of care—point to a seriously wide funding gap between what parents and governments now pay for child care and what is needed to provide the kind of care they want. This final section also sets forth several major implications for national policy. Universal child care children under six would appear to require about thirty billion dollars or more annually. How this figure is determined and some possibilities for meeting these costs are discussed.

Definitions and Data Problems: What Kind of Child Care is Being Costed?

Reading child-care cost surveys can be bewildering. One study included in this chapter says that one type of child care is being delivered for $400 per child year. On the other hand reputable experts reported here argue that $2,400 per child year is rock bottom for desirable care; and yet another study reviewed in this chapter concludes that $2,400 is a desirable, average, national cost. Moreover, the reader probably knows about commercial child-care businesses charging $750 to $1,000 per child year. How is the noneconomist to understand the confusion? This section sets forth systematically the major definitional problems involved. They are:

1. What do we mean by a child-care arrangement?
2. The standard child-care day and year; costs per child hour.
3. Estimates on the basis of average daily attendance versus enrollment figures.
4. In-kind resources (volunteers and donations) and the fully costed budget.
5. Recurrent costs and start-up costs.
6. Pricing problems: local variations, inflation, and other pricing problems.

WHAT DO WE MEAN BY A CHILD-CARE ARRANGEMENT?

Child-care arrangements, for the purposes of this chapter, include arrangements made for the care of children by someone other than the child's parent, whether in or out of a child's own home.[1] Most arrangements currently are for fewer than forty hours per week; most are in a home setting; many if not most cover the hours between 8 A.M. and 5 P.M., Monday through Friday; and most are not paid for in cash.[2] However, child-care arrangements appear to be for increasingly longer hours; they occur more and more frequently outside the home and are more generally paid for in cash now than in 1965; in 1971 formal arrangements are also more common than in 1965; although available data do not permit exact comparison. Probably more than half of the nation's children under six are now regularly cared for in child-care arrangements at least part-time.[3]

These facts are important to an understanding of child-care costs and funding. Many cost studies refer only to full-time, daytime, center care paid predominantly in cash, although such arrangements represent fewer than 5 percent of all child-care arrangements nationally.[4] It will be important in this chapter to remember that most present arrangements, and available alternatives for a majority of parents, are different from the child care described in cost studies now available. The budgets that will be discussed below, and that appear in Appendix A derive from such cost studies; they represent a fully monetized (cash paid) child care that has not been common in the United States. It is important however, to study such budgets, for paid child care is becoming more and more the norm. The steady increase in the percentage of mothers with children under eighteen who work outside the home at once increases the demand for care and reduces the nonmonetized supply of day care. The extended family has vanished; for instance, only 4 percent of Massachusetts homes with children under six have any nonparental adult living in the home. Teenagers spend time with teenagers. Thus child care is becoming increasingly monetized.

However, for many people who have not yet come in contact with organized, full-time day care and know only informal arrangements, it can at first be hard to believe the apparently high costs of organized center care. The legislator who says "a good mother is priceless" may derive his understanding of child-care values from his own childhood when aunts, mothers and grandmothers were not paid in cash, or a domestic servant was paid very low wages. Such a legislator may feel child care shouldn't really cost much.

Shifting from a nonmonetized to a monetized service is always confusing; people are at a loss for yardsticks and find it hard to know how much child care *should* be worth. It is the purpose of this chapter to try to clarify cost and quality issues as our society slowly turns toward paid child care.

In considering the national trend toward organized care, many people feel a sense of deep concern for children "institutionalized so young." As with many other social changes that are aided and abetted by the general public, one may wish to plead with voters and legislators: "*Primum non nocere;* First of all do no damage." This chapter attempts to specify some of the characteristics of organized child-care programs and to provide data, so the reader can compare staffing, scope, and program elements of center care to those of traditional child care in the home.

THE STANDARD CHILD-CARE DAY AND YEAR; COSTS PER CHILD HOUR; STAFF-CHILD RATIO

In order to understand and to compare child care costs one needs a standard child day and child year. Often, for instance, one wishes to compare school costs, day care costs, and welfare costs; one must know how much service is being delivered. But our terminology is not yet standardized. Many reported Head Start cost figures, for instance, count arrangements over five or six hours per day as "full-time"; in some Head Start studies "days per year" range from 180 to 260. The Westat *Day Care Survey, 1970* [5] counted two part-time children as one full-time equivalent child, although the typical part-time child is in child care only two and a half to three hours per day (often without meals), and full-time care is often eight to twelve hours a day. The widely quoted "Standards and Costs for Day Care" [6] gives costs for a ten to twelve hour day, five days a week, fifty-two weeks year. The in-depth cost analysis by Abt Associates, *A Study of Child Care, 1970–71*,[7] found the average center studied to be open ten hours per day and to be used by the average child 8.4 hours per day. The centers ABT studied were open 225 to 254 days per year. Legislators sometimes compare these figures to those for public schools (open five to seven hours per day, 180 days per year) without realizing the problem of noncomparability.

Probably the most convenient full-time standard is a ten hour day, five day week, 250 days per year (fifty-two weeks a year, ten holidays). There is no easy way to create "full-time equivalents" from part-time children; probably the best method is to figure full-time equivalency on a per hour basis. Even so the cost per child hour for part-time care can be very different from cost per child hour for full-time care. There is no adequate study showing in what ways part-time costs relate to full-time costs. Part-time children generate about the same paperwork and administrative work with parents, but may not receive meals and health care. Licensing regulations governing part-time children are often less stringent than for full-time children, so some operators accept only part-time children, schedule them throughout the day, and achieve lower per hour costs by providing less space than that required for full-time children. In general estimating costs of part-time children must be

done ad hoc with respect to a given program; guidelines will be found in detailed figures provided below.

Cost per child hour, the most basic and best cost yardstick, also needs to be defined. Some studies and operators report cost per child hour as the total costs for the center per day, divided by the number of full-time children times the number of hours the center is open (typically ten hours per day)—as if all children were present from the opening to the closing of the center. The Abt study reports costs per child hour as total costs of the center per day, divided by the number of full-time children times the average hours per child day (in the Abt study the average was 8.4 hours per day). The first figure gives a cost per hour for the center (divided by the number of children served). The second gives the cost per child hour actually used. Thus the Abt figures for costs per child hour are 15 percent used. Thus the Abt figures for costs per child hour are 15 higher than they would be if all centers had been filled throughout the day.[8] Since few centers maintain the same enrollment throughout the day, the standard cost per child hour on the basis of hours of service actually delivered, rather than center hours available, may be preferable. Thus a "standard" day for a center would be ten hours. A full-time equivalent child would be one staying about 8.5 hours.[9]

Staff-child ratios are often calculated as the ratio of total staff to enrollment. This procedure is potentially very misleading, and such data are not comparable across day-care operations. Just as attendance and time-use data for children should be precise, attendance and time-use data for children should be carefully analyzed. In the opinion of the authors the standard staff-child ratio should be in terms of staff hours divided by child hours.[10]

ESTIMATES ON THE BASIS OF AVERAGE DAILY ATTENDANCE VERSUS ENROLLMENT FIGURES

The Abt study found average daily attendance (ADA) to average 12 percent less than enrollment and gives costs on an ADA basis. (Costs on an ADA basis are often used by school planners and university officials.) The average Abt figures—on an ADA basis—are, therefore, 12 percent higher than if reported for enrollment. In making comparisons with family day care, however, average costs reported on an ADA basis are much *lower* than for enrollment, because a provider mother's own children are often in daily attendance but are not officially enrolled.[11] Many people feel that the provider mother's children should be enrolled, especially since many family day-care providers are welfare mothers. A change in the definitions would cause a quick drop in the costs per child year of family day care in such homes.

IN-KIND RESOURCES AND THE FULLY COSTED BUDGET

The Abt analysis found nearly 25 percent of the total resources used by centers in the study to be donated, volunteered, or provided free by other agencies. Analyses of Head Start costs sometimes cite only local federal expenditures, failing to consider the 20 percent contribution by local agencies, the many volunteers and gifts that do not get included in the matching contribution of local agencies, and the costs of bureaucracy. One of the present authors, in consulting with proprietary and nonprofit child-care programs, has always found at least 5 percent of a program's resources to be donated, and sometimes 50, 60, to 70 percent of a child-care budget will be found to be in-kind.[12] Because the percentage of in-kind resources and volunteers varies widely from program to program, it is essential that all resources be costed in preparing and comparing child-care budgets and staff-child ratios.

Moreover, the resources now donated and volunteered may not always be available—or may become more plentiful—as day care gets better known. On the one hand it seems to be increasingly difficult to find donated space in some cities; directors willing to work an average of fifty to sixty hours per week at low salaries may also be increasingly hard to find.[13] On the other hand grandparents and teenagers are volunteering for day care in heartening numbers and might be further recruited. The average costs per child year referred to in this chapter are therefore for fully costed budgets. Fully costed budgets thus include all the resources that must be recruited; there is, however, no implication that all the resources must actually be bought for money, only that all resources be listed with costs.[14]

RECURRENT COSTS AND START-UP COSTS

The CB-DCCIDC and Abt budgets are for recurrent costs, those costs that are borne every year. These budgets include amortization of capital equipment and buildings (or the rental figures include occupancy amor-

tization). They do not include start-up costs, which are the once only costs of beginning (or expanding) a program. Thus "occupancy costs" might include a 10 percent depreciation on a building, maintenance, and the cost of interest on a loan to buy the building. They would *not* include the costs of licensing or renovating a rented building, or an estimate for the person days involved in finding the building and securing the loan. Recurrent costs do not include the expenses of program planning, of recruiting, of hiring staff before the program can begin, or renting space before opening date, or of fund-raising required for expansion. Start-up costs are usually considerable. They are often borne by volunteers and covered by donations and are very variable and hard to estimate. As a rule of thumb it is reasonable to allow $500 to $1,000 per child for fully costed start-up costs.[15] In the experience of one of the authors, volunteers (dedicated directors, friends, and trustees) usually contribute at least an aggregate person year of time to start a program of any size.

PRICING PROBLEMS: LOCAL VARIATIONS, INFLATION, AND OTHER PRICING PROBLEMS

The CD-DCCDC, Westat, and Abt budgets and cost figures represent national averages. Prices vary considerably; day-care salaries in Mississippi are about half those in large Northeastern cities. Average figures may be adjusted by use of the National Education Association teacher-salary indexes (found in Appendix A).[16] Urban-rural differences should also be allowed for; typically urban area prices for day-care resources are 15 to 30 percent higher than for nearby rural areas.

Inflation and other price adjustments are also important. Depending on the area, prices for day-care resources may be assumed to be rising. While in general directors now report little difficulty in hiring *teachers* at present salaries, the supply of *directors* at current salaries appears to be limited. The present trends toward increased hiring of men, toward payment of federal minimum wages in day care, and toward unionizing day-care workers, and the requirement of equal pay for women, all mean that day-care costs will probably rise even during high rates of unemployment.[17]

Cost and Quality Issues

In this section we will survey three studies of day-care costs upon which cost estimates for national child care are being based, analyze the reasons for differences in costs among the three studies and estimate costs appropriate for universal national day care children under six. Assuming all data problems and definitions are resolved, remaining differences in costs should be due to differences in the quality of service delivered. But what is "quality"? What would these "quality differences" be? In fact there are at present no adequate ways to measure the effects and quality of child care, and the measures we do have show no reliable "output" differences among programs (except for programs clearly unseafe or otherwise abusive to children).[18] Such measures and evaluations as we have are mostly oriented to cognitive achievement and are controversial with respect to goals [19] and methods of use.[20] The critical question of measuring social and emotional development of children is still in infancy.[21] How then may we evaluate program differences resulting in differences in costs?

Presently there is a hot debate on developmental versus custodial care, of desirable versus minimum care. In the absence of acceptable ways to measure the effects (output) of different programs, we shall discuss implicit and explicit definitions of quality used in the three major cost studies now available. It will be seen that prevailing views of quality are defined in these three studies in one or more of the following different ways: [22]

1. Presence or absence of a preschool program or explicit early childhood education activities.
2. Program scope, defined as the presence or absence of educational programs, meals, transport, medical care, staff training, community work, parent counseling, and so forth.
3. Staff-child ratios (teacher-child ratio, administrator-child ratio, supplemental program staff-child ratio); more staff time per child is considered more favorable.

THE CB-DCCDC STUDY

Perhaps the most widely quoted set of data on the cost of day care was assembled in the 1960s by Jule Sugarman, then of the Children's Bureau of the U.S. Department of Health, Education, and Welfare,[23] and Lawrence Feldman, then of the Day Care and Child Development Council of America. Separate estimates are available for:

1. Full-day care in a center (ten to twelve hours per day, fifty-two weeks per year)
2. Full-day organized family day care in which one woman cares for four to six infants and or children in her own home, approved, paid, and supervised by a government or other agency (ten to twelve hours per day, fifty-two weeks per year) [24]
3. Before and after school, and summer care for school-age children

Before analyzing the cost of these different types of day care, the HEW data are broken down by differing "quality" of care: minimum quality, acceptable quality, and desirable quality. Minimum quality was defined as "the level essential to maintain the health and safety of the child, but with relatively little attention to his developmental needs"; acceptable quality was defined "to include a basic program of developmental activities as well as providing minimum custodial care"; and desirable quality was defined "to include the full range of general and specialized developmental activities suitable to individualized development." [25] The figures in Table 8–1 represent a consensus among a number of experts of what would be required at each level of quality. The figures for desirable care represent far from the best facilities, staff, and equipment that money can buy but take into account budgetary limits." [26]

Table 8-1

Detailed CB-DCCDC budgets for these three quality levels of center care and family day care are included in Appendix A as Tables A–1 and A–2. The marginal cost of each superior quality level is presented in Table A–3. Careful analysis of the three quality levels shows that costs vary with the staff-child ratio: nearly all the increase in costs for higher levels of quality can be attributed to more staff time.

Family day care is often thought to be inexpensive. It will be seen here to be approximately as expensive as center care because the adult-child ratio is more favorable (a critical fact since most organized infant care is in family day care). That this is accomplished without raising costs above those of center care is due to the fact that the provider mothers' salaries in family day care are only slightly above poverty level (in many individual cases below poverty level).

With respect to centers, about 60 percent of "increases in quality" between minimum care and desirable care can be attributed to more staff teaching and supervising in the classroom. Another 30 percent of the increase in quality is to be accomplished through expanding the program's scope: an extra meal, transport medical care, parent and community work, and teacher training. Expanding program scope may be seen principally to benefit adults; the children receive directly only the meal and medical care. A final 10 percent in quality improvement is to be accomplished through extending space, supplies, and especially, administration. Seen another way, the improvements in quality that affect the children directly are considered to be almost entirely in providing extra staff who work directly with the children. That is, quality increases in the CB-DCCDC program are presented chiefly in terms of a more favorable staff-child ratio.

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THE ABT ASSOCIATES STUDY

A study by Abt Associates provides a second major source of data and information on child-care centers.[27] This study involved an in-depth description and analysis of twenty day-care centers and systems that the directors of the study believed were among the better centers and systems of their kind in the country." [28]

In selecting these centers quality was not rigorously defined, but rather it was assumed that "well-known child care centers are doing a good job, and that these centers could be described." [29] First, 132 "good" centers were nominated by the Office of Economic Opportunity, the Department of Health, Education, and Welfare, the Department of Labor, the National Federation of Settlements and Neighborhood Centers, the Child Welfare League, the Urban League, and the Day Care and Child Development Council of America.[30] Forty-two centers were chosen for further study, and finally twenty centers were selected. "Final selection was based on overall project quality, presence and variety of quality program elements, and coverage of 'special case' situations." [31] Final selection represented "good" centers in different geographical locations serving groups of diverse ethnic and economic backgrounds.

BUDGET ANALYSIS: FUNCTIONAL BUDGETING IN THE ABT STUDY

In analyzing the varied costs of the programs covered by the survey, the Abt team imputed costs to all major in-kind resources, except the services of trustees and adjusted for regional and fiscal year differences. Line item budgets were then transformed into functional budgets [32] to permit analysis of major activities and a breakdown between personnel

and nonpersonnel costs. (In functional budgeting cost data are collected from line item budgets—so much money for a director, for crayons, and so forth—and then allocated to program activities: teaching, medical care, etc. A worksheet for functional budgeting is in Appendix A as Figure A–1.) Functional budgeting is essential to determine which activities all child-care programs provide and the depth of the activities; which are supplementary, for whose (direct) benefit they are intended, and what percentage of the budget is allocated for them. It is also essential for comparing budgets on these points.

The functional budgets used by Abt reduce all (recurrent) expenditures to child care and teaching, administration, occupancy, feeding, health, transportation, and supplemental programs. The first four functions are standard core activities performed by all full-day programs. Health is a varying core function provided by some programs; transportation and supplemental programs appear if at all in a highly varied form.[33]

Based on their study of these twenty centers and systems, Abt also outlined and estimated the cost of model programs for day-care centers of twenty-five, fifty, and seventy-five children. These programs were considered to be "good" and were designed to include "early childhood education." An average teacher-child ratio of 1:5 was considered "sensible," with more favorable ratios for very young children.[34]

The three different sizes of day-care programs are assumed to be nonprofit and existing in an urban setting. They operate from 7:30 A.M. to 5:30 P.M., Monday through Friday, fifty-two weeks a year. They involve care for children three to five years old, not including any severely handicapped children. All include an equal number of classes for ten children and fifteen children, the older children in the larger classes. There is one teacher and one assistant teacher in each class, with a floating aide for every two classes. It is assumed that no volunteer labor is available (these budgets, like the CB-DCCDC budget, are fully costed, but a budget could be fully worked out and then some staff positions filled by volunteers or equipment donated). Each center uses a single building with adequate indoor and outdoor space. The staff training program consists of initial orientation and in-service training. No formal educational requirements are set since "formal education does not seem to be a reliable indicator of staff quality."[35]

Services at these centers include child care and teaching and minimal health services. All children would be required to have medical and dental examinations before admission and annually thereafter, but would receive all inoculations and immunizations as needed. All centers would serve hot lunches and morning and afternoon snacks.

Here we will concentrate on a day-care center with an average daily attendance (ADA) of twenty-five children. The staff of ten includes:

ONE director, full-time
ONE secretary, one-fourth time (ten hours per week)
TWO teachers, full-time
TWO assistant teachers, full-time
ONE aide, full-time
ONE cook, part-time (twenty hours per week)
ONE custodian, part-time (ten hours per week)
ONE nurse, part-time (four hours per week)

Table 8-2

Table 8-2 shows a model functional budget.

In Appendix A, Table A–5, the detailed budget is presented. Personnel costs amount to 76 percent of total costs, while 6 percent is for food and 9 percent for rent. According to the Abt study, "costs are representative of what was found in our sample of quality centers. [However, costs] may vary considerably from these estimates depending on local market conditions." Personnel costs are based on the average salaries paid at the sampled centers.

CB-DCCDC AND ABT BUDGET COMPARISON

The desirable CB-DCCDC budget and the Abt budget appear quite similar in cost per child, but it should be remembered that the Abt budget costs are on an ADA basis. Thus the average Abt cost per enrolled child is not $2,349, but about $2,067. Moreover, inflating the CB-DCCDC budget (which was drawn from 1960s data) to 1971 figures would probably raise the cost per child for the desirable program to $2,500–$2,600. (An exact figure cannot be given without analysis of the data used to construct the budgets.) With these two points in mind, the higher cost of the CB-DCCDC budget would be largely accounted for by transportation, the social worker and specialized classroom personnel provided in the CB-DCCDC budget, and a more favorable staff-child ratio in the CB-DCCDC program. Otherwise, functional analysis of both budgets shows similar percentages spent for staff functions (the job titles are different, but the functions are similar).

Construction of the Abt model programs and budgets followed analysis of the data from the twenty centers and systems studied. Abt Associates found warmth of center (measured in terms of teacher response to children) to be highly significantly correlated with the teacher-child ratio and the administrator-child ratio. Scope of progarm (presence of supplemental programs) was not clearly related to warmth of center. The Abt model program is, therefore, intended to represent just standard child-care activities for the direct benefit of children. (Supplemental programs can easily be added to the standard budget; a discussion of these programs and their costs from the Abt study is presented as Appendix B. The range in additional cost due to supplemental prgorams and transportation was 0 to 37 percent.)

Since the administrator-child ratio was found to be an even better predictor of warmth of center than the teacher-child ratio,[36] the Abt model programs emphasize the director. In actual fact the director usually combines in one person many of the staff functions separately presented in the CB-DCCDC budget. The pie charts for directors' time in the Abt study show staff training, parent counseling, community work, and business functions to be normal (not supplemental program) activities by directors.

The Abt study found that cooks are often important teachers who buy, prepare, and serve food with the children. The presence of a cook and some price differences (notably rentals) complete the other differences between the desirable CB-DCCDC and Abt budgets.

In summary those who designed these two model budgets agree upon an operational definition of quality that emphasizes personnel inputs and consists primarily of child-care and teaching personnel in a favorable teacher-child ratio. An important but secondary emphasis is placed on support personnel, whose major function is to support teachers in working with children.

ECONOMIES OF SCALE; POSSIBLE ADVANTAGES FOR CENTERS ORGANIZED IN SYSTEMS

For the model (Abt) child-care centers with an ADA of fifty and seventy-five children, total cost comes to $111,135 and $164,186 respectively, with per child cost dropping to $2,223 and $2,189 (ADA). Cost per child hour decreases to $1.06 and $1.04.

The twenty in-depth studies suggested that as the number of children in the center increases, the amount of staff time necessary for teaching and the time required of nurses rises proportionately, but for cooks and maintenance staff, the time rises slightly less than proportionately. For larger centers the support staff remains the same but works longer hours.[37] The need for administrative staff rises slightly less than proportionately.[38] The actual cost estimates indicate that the economies of scale are modest: $2,223 and $2,189 for fifty and seventy-five (ADA) centers respectively, compared to $2,349 for the center with an ADA of twenty-five.

It is possible that these figures underestimate the possible gain in efficiency. It was assumed not only that occupancy cost per square foot remains constant as the size of the center increases, but also that the total square feet of space required per child does not change with the number of children served. Although this assumption was made, the study suggests that the space required may decrease somewhat.[39] The size of the kitchen, administrative offices, and the outdoor playground area may not need to increase proportionately.

However, even the small decrease in per child cost for the larger centers may be illusory. The authors of the Abt study believe that "the larger centers seem to find it harder to provide quality child care *even when they can maintain favorable staff ratios.*" [40] It is suggested that administrative problems may be the cause. Thus for a given level of quality there may be no gain in efficiency from larger size, within a single center.

POSSIBLE GAINS TO BE DERIVED FROM SYSTEMS OF CENTERS (ADMINISTRATIVELY LINKED CENTERS)

The Abt survey included only seven systems, one of which is a family day-care system. On the average system costs were lower than costs for single centers (see Appendix A, Table A–4), but the range in costs was very wide. Possibly due to the small size of the sample, no statistically significant difference in costs was found between centers organized in systems and independent centers (nor was there a significant difference between them in warmth). Further research is needed to ascertain if

there may not be administrative economies associated with systems of centers. Clearly fund-raising and the ability to attract top professional staff are among the advantages of systems.

There also may be major cost advantages from mixed, home-care–center-care systems. Experience with such systems is at present too scanty to be sure, but some of the following points may obtain.[41]

Center care and home care each respectively cost less for certain categories of children (for example, certain kinds of disabilities, infants and isolated children). A mixed system might permit most children to be cared for least expensively. A mixed system can probably respond faster and with less expense to changes in demand; it can reduce transport costs, and it can widen the pool of volunteers and donations. (Some volunteers and donations are more easily recruited by homes, others by centers.) Staff training, health care, and career parent support in family day care are probably less expensive when associated with a center; top professionals may be more easily attracted to mixed systems (especially men); emergency care is simpler in a mixed system; facilities costs may be lower in some instances. All of these considerations lead to the speculation that well staffed child care in mixed, home-care–center-care systems might be delivered for about $2,000 per child year (recurrent costs, 1971 dollars).

THE WESTINGHOUSE-WESTAT SURVEY

A third source of data and information on day care is found in another survey conducted for the Office of Economic Opportunity in 1970.[42] The study included a survey of 289 day-care centers, 577 parent users, and an area probability sample of 134 day-care homes and 1,812 families that were potential users of day care, each having at least one child under nine years old and each with a family income below $8,000. It makes no attempt to evaluate centers, but more completely describes what *exists* in the form of full-day care (not part-day child care, Head Start, or part-day kindergartens) than any other study.

Three different types of day care were distinguished in the Westat study. Type A is defined as "custodial [offering] food, shelter, and supervision, but makes no attempt to provide education or other services, such as health care and family counseling." Type B is defined as "educational [offering] food, shleter, adult supervision, and some kind of educational progarm." And Type C is defined as "developmental" [offering] food, shelter, adult supervision, and educational program, and all or some of the following components—health care, parent participation, counseling, social and creative activities." [43] The centers of the sample were categorized as A, B, or C by an expert in child care on the basis of the facility, staff, equipment, program, and the ancillary services. It should be emphasized that designations A, B, and C were not interpreted as poor, good, and excellent. The survey did not involve an evaluation of centers; they were classified on the basis of program goals rather than success at achieving goals.

The survey results indicate that median Type A day-care costs are $324 a year; Type B, $540 a year; and Type C, $1,368 a year per full-time equivalent child.[44] Comparing proprietary and nonproprietary centers, where proprietary is defined as a center "operated for profit," average cost for the former was $456 and for the latter was $1,140. These cost figures are not comparable because the nonproprietary figure on cost includes the cost of management, whereas that is not the case for most proprietary centers. The average revenue in the case of proprietary centers was $576,[45] a figure that is roughly comparable to the $1,150 figure and more comparable to the other cost figures discussed in this section.

WESTAT, CB-DCCDC, AND ABT BUDGET COMPARISON

The Westat cost figures seem strikingly different, but unfortunately cannot easily be compared with the CB-DCCDC and Abt budgets. The cost interview was necessarily brief and did not include the days of data search performed in the narrower Abt survey. Only a brief attempt was made to ascertain in-kind resources.[46] Many cost interviews were filled out incompletely.[47] The cost of management (especially of managers "paid" via profits and rentals on buildings), as explained above, was not included in the cost of proprietary centers. Staff overtime was generally not included. The reckoning of "full-time equivalent" children was not done on an hourly basis, but by combining two part-time children, which leads to an underestimate of costs. It is also not clear just how

food and health costs were handled for part-time children. For these reasons it is very difficult, if not impossible, to make valid comparisons between Westat cost figures and the CB-DCCDC and Abt budgets.

Aside from data problems, it seems very unlikely that the reported differences in costs between Types A and C are solely attributable to differences in scope of activities despite the fact that the types are nominally differentiated in terms of scope. An "educational service," say a Bereiter-Engelmann program, regularly taught by a Type A teacher might conceivably double the cost of the Type A program (materials, teacher training, and so forth), but certainly would not quadruple the costs. Moreover, as we have seen, health, parent programs, and the like add only marginally to child-care budgets. The differences are probably basically due to differences in staff-child ratio (where most of the extra staff in the more costly programs are classroom-oriented rather than in supplemental programs) and to salary differences.[48]

The Abt model budget was based on a child-related staff-child ratio of 1:5. The Westat survey, on the other hand, shows Type C centers to have an average, child-related staff-child ratio of about 1:10 and Type A center to have an average ratio of about 1:19.[49] This is a critical matter for national planners, since Type A, and many Type B and C centers would not meet Federal Interagency Guidelines on the books in 1971.[50] Moreover, many people feel that on the principle of "first do no damage" they prefer centers with a homelike staff-child ratio.

The second major difference has to do with salaries. The national median salary reported by Westat for staff and directors was just above poverty level, and most Category A workers were below the poverty level for a family of four. According to the survey, 94 percent of the teachers receive less than $7,200 per year, and 65 percent receive less than $4,800 (see Table A–6, Appendix A). In the case of teachers' aides port staff (cooks, custodians, and the like) 85 percent receive less than $4,800.

Presumably the federal government, in any federally supported child-care program, must expect to pay salaries well above the present norm because of federal minimum wages, equal employment opportunity laws, projected unionization of teachers, and further teacher training and certification. Thus the CB-DCCDC and Abt budget salaries must be seen as far more realistic for national planning.[51]

Returning to the three indicators of quality mentioned earlier, it will be seen that the three have very different cost implications. An "educational program package" could be added to a fifty-child custodial program; (for one to two hours a day for each child) for about three dollars per week per child. This cost would include materials and an increase in salary (over the national median) for a specially trained teacher but would not much affect the teacher-child ratio. It is doubtful that such an addition would affect children's cognitive development, but our present measures are too inadequate for us to be sure. We also do not know how educational programs work, if they work. It may be that the expectations of teachers, interaction with teachers, or presence in a schoollike environment is what causes such changes that do occur. Possibly such programs work if and when they do, by increasing the staff time devoted to certain individual children.[52]

One can also enormously expand educational opportunities for children throughout a full day. Doing this would usually mean adding significantly to staff time and is, therefore, discussed below as a change in teacher-child ratio.

"Expanding the scope" of a standard core custodial core program (adding supplementary programs) would add more to costs, perhaps as much as 20 to 30 percent to a standard core budget of any initial level. These additional funds would be used primarily for the (direct) benefit of adults rather than for increasing staff time with children.

Improving the teacher-child ratio adds much more to costs,[53] but, as we have seen, favorable ratios are the implicit mechanism of ensuring quality as seen by the CB-DCCDC staffs and the directors of most of the centers and systems surveyed by Abt. In addition the salient cost differences between Type A and Type C centers in the Westat survey are probably primarily teacher-related, as are differences in warmth and costs among the centers in the Abt study. Improving teacher-child ratios usually also implies that the extra teachers are motivated to provide a

stimulating, educational environment and program for children and may also add to program scope.[54] The teacher-child ratio thus appears by far the most powerful influence on both costs and quality, as defined in the studies cited.

In summary the Abt model budget[55] provides an excellent basis for estimating the costs of a federal day-care program. As explained above, it is a basic core budget designed from in-depth studies of twenty good day-care centers and is based on recent (1970) data. Cost differentials around the country are accounted for, although the sample (twenty centers and systems of centers) is small. To repeat, this budget yields an annual cost per child of $2,488 on an ADA basis, or $2,221 on the basis of children enrolled. This cost is for an educational program with a child-related staff-child ratio of 1 to 5.

In contrast we can consider a modified Abt budget a "modest" or custodial budget. If instead of two teachers, two assistant teachers, and one aide, we consider a center with one teacher, one assistant, and one aide, with more than nine children per teacher on an enrollment basis, and with a very hard-working director who manages the secretarial and custodial as well as the administrative duties, cost could be decreased by 26 percent. Annual cost per child for such a program would be $1,845 (ADA) or $1,647 (enrolled).[56]

Which type of day care will be chosen for a national program, if any, is, of course, a political decision depending in part on other national priorities. There is no hard evidence to the effect that staff-child ratios of 1 to 5 are absolutely necessary or that 1 to 9 would be harmful. On the other hand, considering again the "first of all, do no damage" criterion, the higher quality program might be recommended.

Policy Issues: Costs and Funding for a Universal National Child-Care Program

In the previous section we concluded that well-staffed, full-day, family and center care for children under six costs upward of $2,000 per child year (in 1971 dollars), exclusive of start-up costs and the costs of federal, state, and local bureaucracies. We also concluded that much of presently provided center care does not meet federal standards. What would it cost to provide universal care that would meet federal standards? This section discusses:

The demand for child care for children under six.
Present funding of child care
Costs for a universal program
Payment of child-care costs—by whom?

THE DEMAND FOR CHILD CARE

Parents want child care to be inexpensive, geographically convenient, at the right hours, and of the right type. It is only when the first three critical points are met that most parents can afford the luxury of considering the right type (for example, home care versus center care, educational, or ethnically appropriate). These facts can be seen from looking at present arrangements and parent surveys.

The cash price of child care is probably the principal determinant of effective demand for formal care.[58] This is true for most services, but may be especially true for child care because the alternative to expensive, formal care is in general child care that is not paid for at all in cash. Most child care is performed by a parent or sibling who is not reimbursed in cash; nonparental child care is also often bartered or free. Thus a parent who lacks money for expensive care that he or she likes may not choose inexpensive care that he or she finds inacceptable, but may barter for care, leave the children alone, simply stay home, or keep home an older sibling. This is one important reason why parents do not pay much money for care; the chosen alternatives may cost no cash, even if the human cost is sometimes very high.

Most parents do not in fact pay much money for their child-care arrangements, although the supply of nonmonetized (noncash) arrangements does not begin to meet the present demand. In the 1968 Low and Spindler survey only 20 percent of all arrangements were assumed to be

cash paid, and even of these 20 percent another quarter were in fact not cash paid. Only about 5 percent of all arrangements were paid for at ten dollars or more per week. In the 1970 MEEP survey only 6 percent of Massachusetts parents paid more than ten dollars per week for child care. In the 1970–71 Vermont survey 8 percent of low-income parents were found to pay more than ten dollars per week, and none paid over twenty dollars per week. In the 1968 San Diego survey of poor and near-poor parents only 14 percent paid more than ten dollars per week. These facts assume more weight when we realize that the quarter of surveyed San Diego parents who paid six to ten dollars per week were estimated to be paying out one-fifth to one-third of their family incomes for child care. (Since these families had to spend much of their incomes on housing, food, and clothing and had no "free alternatives," they had no choice but to buy low-cost child care.) Even a family earning $10,000 (the national median) would pay 40 percent of its income for child care if it paid the full-day costs for two children at $2,000 per child.

There are thus two major reasons why most parents cannot and do not pay the full costs of formal child care as we have reviewed them. The first is that noncash arrangements are still available to most parents, although many are very undesirable or inconvenient (see Chapter 1), and even though demand appears to be growing far more swiftly than supply (due to the decline of the extended family, the increasing paid employment of women, and other factors). The second is that even six to ten dollars per week is a huge financial burden for poor, and near-poor families and will be borne only if there are no alternatives. If good child care costs on the average $2,000 per child year (about forty dollars per would buy such care on a fully costed basis.

With respect to location most parents presently use arrangements at or near home. The Low and Spindler survey indicates that at least 60 percent and perhaps nearly 80 percent of all arrangements are at or around the home, or in another home. The San Diego survey shows that of all the arrangements that did occur outside the home, over half were within three blocks. In Massachusetts two-thirds of children under six are cared for at home; of those cared for out of home, a minimum of 65 percent travel fewer than ten minutes. Moreover, over half of Massachusetts parents with children under six would prefer to pay fifteen dollars per week for an "ideal program next door for all the children, than to travel half an hour to the same 'ideal' program that was free." Available evidence suggests that only about 5 percent of parents would now regularly use child care twenty or more minutes away from home (although the figure might be extended by excellent transportation services).[59]

Child care at the right hours for the right length of time is obviously critical. Probably at least a fourth of all working parents now make multiple arrangements for each child. The need for extended hours is further indicated by the San Diego and Vermont studies showing over half of all arrangements occurring at least in part outside standard working hours. Some of these arrangements occur out of hours because only on weekends and at night can a father babysit while his wife works, but other such arrangements are necessary to help parents who can find work only on swing, graveyard, and weekend shifts. And the Westat survey shows over half of working mothers to be away from home at least eight hours.[60]

The demand for part-time care is also important, although it is difficult to project demand, in the absence of being able to offer acceptable part-time or full-time jobs and child care to parents so they can make a real choice. The Low and Spindler survey showed 28 percent of all arrangements are for fewer than ten hours, 28 percent for ten to nineteen hours, 18 percent for twenty to thirty-nine hours, and 26 percent for more than forty hours.

Only with the three critical problems solved can parents freely choose a preferred program. In the authors' judgment about half of all parents would choose home care for their young children if they had a choice. But another half would probably choose center care, or center care some of the time, or for some children, if the choice were available.[61] Home care is often considered especially suitable for infants, some children with special needs, young afterschoolers, and children from isolated families and from very large families. Center care is often considered especially suitable for preschoolers (especially if for only part of the day), older children after school, only children, and children with different kinds of special needs. It seems clear that mixed home-care—center-care systems could facilitate parent choice and offer both kinds of care for some children. The nursery school–home-care combination now used by many wealthy parents could then become possible for families with less money.

In summary parents want inexpensive, geographically convenient care at the right hours and of the right kind. How many will actually choose such care? Experience of one of the authors with overseas child care indicates that perhaps 90 percent of all parents would use child care at least part-time if it met the basic four criteria. Over half of all Massachusetts children under six are already cared for regularly, at least part-time, in some arrangement or arrangements; we can expect the use of child-care arrangements to grow steadily, especially if they are desirable.

PRESENT FUNDING OF FORMAL CHILD CARE

In the Abt survey over half the total costs of child care were borne by federal, state, and local governments. Almost a quarter of total resources were from in-kind donations and volunteers; the range was from about 5 percent to about 70 percent. About 10 percent of resources came from private organization and agencies, and only about 15 percent came from parents' fees. The Westat results were not dissimilar. Ignoring in-kind resources, but estimating funds from all other revenue sources, Westat reported for nonproprietary centers about 62 percent of all resources from government agencies, including public assistance agencies, about 22 percent from parents' fees, 9 percent from community organizations, and the rest from other sources.[62]

It is particularly interesting that the government's share in both studies is so large. Children included in the twenty centers and systems of the Abt survey were nearly all poor or near-poor. In the Westat survey about 52 percent of child-care users were reported to earn family incomes under $8,000 (well under the median). These family incomes bias the results a little; presumably if wealthier families were to use more formal child care, they could afford to pay more. But the fact is clear that the government is heavily supporting present users of formal child care, and that many parents could not otherwise use the services.

FULL COSTS FOR A UNIVERSAL NATIONAL PROGRAM FOR CHILDREN UNDER SIX

In March 1970 there were about 21.3 million children under the age of six. Our previous sections concluded that:

1. As many as 90 percent of all parents might use free or very inexpensive child care of their choice at least part-time, that is, for 19.2 million children.
2. Adequate full-time care for children under six is not likely to average less than $1,600 to $2,300 per child year on a fully costed basis.

Making some heroic assumptions, we may guess that about a third of the 90 percent would use part-time care costing no more than $800 per year. This would be 6.4 million children at $800 per child, or about $5.1 billion a year. Another sixth might use care costing more, say, $1,100 per year (half-time care including a meal and some other services): 3.2 million children at $1,100 per child, or another $3.5 billion. Another half[63] may very well choose care so close to full-time as to cost the full $2,000: that is, 9.6 million children at $2,200 per child, or another $21.1 billion. All in all, fully costed care for young children would, given these assumptions, represent a $29.7 billion industry. To ascertain a lower limit we might assume that only 60 percent rather than 90 percent of the children would make substantial use of day-care facilities, or 12.7 million children. Considering now custodial care rather than developmental care, and assuming that half would be involved part-time at $600 ($3.8 billion) and the other half full-time at $1,600 ($10.2 billion), we arrive at a total of $14.0 billion. Since prices and wages have been rising, we can safely conclude that a universal national program would cost between $15 and $30 *billion* depending on the quality of the care and the extent of the usage. These figures may be contrasted to the $750 to $850 *million* being spent for all child-care programs in 1971 and the $1 to 2 billion per year envisioned in 1971 under the Mondale and Brademas bills.

To these figures one would add start-up costs—if fully costed and paid for, at $500 to $1,000 per child—and federal, state, and local bureaucratic costs, which would hardly be less than 5 percent of the total

funds given out by governments.[64] But we have continually used the words *if* fully costed and paid for. What in fact is the real likelihood for funding universal care? And how much would be paid for in cash?

MEETING CHILD-CARE COSTS FOR A UNIVERSAL NATIONAL CHILD-CARE PROGRAM FOR CHILDREN UNDER SIX

We have seen that two basic facts of current child-care funding are:

1. Most child care is not paid for in cash.
2. Multiple sources of funds are used to finance current formal programs.

The discussion that follows is of necessity political. The use of national resources always implies priorities, and child care is no exception.

Should a national child-care program remain partially nonmonetized and be funded from various sources? One possibility is to build on the experience of 25 percent funding in-kind, now used by the centers and systems surveyed by Abt. Extending such a system means determinedly locating child-care centers in high schools, near old-age homes, near universities, and near other sources of able volunteers.[65] Conscientious objectors, delinquents, retarded adults, the handicapped, rehabilitating patients and prisoners, and home-based retirees are other groups who might contribute much to child care. Federal funding might be made contingent on the demonstration of mobilized state agencies and professional help to support child-care programs in the area of work with special children, and similar problems, although poor areas should be exempted from such provisions.

What can parents reasonably be expected to pay? What would constitute very inexpensive care to a parent? Of our projected 19.2 million user children, about 3.7 million live in families below the poverty line, most of whom would use full-time care and none of whom could reasonably be expected to pay much for care. Another 3.1 million are in near-poverty families who might also be expected to seek full-time care and who might *perhaps* be able to pay as much as ten dollars a week, or $500 a year per child. Even if these calculations are grossly off, and fewer than 90 percent of low-income families seek full-time care at these rates, the basic point is clear. The low family budget group most in need of care can reasonably contribute only about a sixth of the costs of the care it needs.[66]

What of higher income groups? Universal care, in all likelihood, will be universal for families earning over $7,000 only if there are heavy subsidies to families earning up to $15,000. Even wealthy parents are not now indicating an effective demand for formal child-care services at anything that approaches the full costs of care. Those able to pay $3,000 to 5,000 a year for care are most likely to hire a housekeeper. Parents able to pay $2,000 a child year often have more than one child; they are in the medium income brackets, which excludes them from subsidies, and so they must stay home. Is there money enough to help families earning $7,000 to 15,000?

Suppose that governments did agree to expand child-care services while continuing to supply 50 percent of recurrent costs (and perhaps help with start-up costs and contribute bureaucratic costs in addition). *If* 15 to 25 percent of all needed resources can be mobilized in-kind, *if* private agencies and businesses can find perhaps another 5 to 10 percent in cash, and *if* gifts, donations, and volunteers can cover remaining start-up expenses, then parents may very well pay the additional 15 to 25 percent in fees. The alternatives are to lower day-care quality, as defined in studies reported here, or not to have universal child care and services.

Some want universal day care to help with income maintenance for low-income families.[67] Many feel equal employment opportunity and equal civil rights require that parents have freely available child care. Our manpower needs for skilled workers and some professionals suggest that skilled women should be able to work outside the home. Many legislators and others hope to get women off welfare rolls by providing day care.[68] Many people feel children, especially poor, abused, or malnourished children, have more opportunities in American society if they have been to middle-class day-care centers that emphasize language and so-

cial development and provide nutritious meals. Whether any or all of the foregoing arguments change national priorities enough to build a service requiring from twenty to thirty billion dollars or more of the nation's resources, and providing employment and child care in a universal national program, will depend on the extent to which legislators and other decision-makers accept these arguments for day care.

NOTES

1. The term also ordinarily includes arrangements made by working parents whereby a parent cares for a child or children at work or the father cares for children while the mother works, or the mother cares for the child after school (and work) hours. One or another of such arrangements are apparently used by nearly half of all working mothers, but are not costed here except for organized family day-care providers who also care for their own children. See Seth Low and Pearl G. Spindler, *Child Care Arrangements of Working Mothers in the United States*, Children's Bureau, no. 461 (Washington, D.C.: U.S. Government Printing Office, 1968), Table A–11.

2. Low and Spindler, *op. cit.*; Massachusetts Early Education Project, *Child Care in Massachusetts*, A Study for the Massachusetts Advisory Council on Education, February 1972, hereinafter referred to as MEEP Report; San Diego County Department of Public Welfare, *Preliminary Summary of Findings, Child Care Report*, Project No. 339, 1968 (mimeo); State of Vermont Family Assistance Planning Unit and Mathematica, Inc., *Child Care Data Extract*, from the Report on the Baseline Survey and Cost Projections, State of Vermont Family Assistance Program Planning Papers, March 1971 (mimeo).

3. More than half of Massachusetts children under six were reported by their parents to be regularly cared for in such arrangements in 1971. MEEP Report. Since the proportion of Massachusetts mothers (with young children) who work is lower than the national average, the Massachusetts proportion of young children in child-care arrangements may also be lower than the national average.

4. Calculated from Low and Spindler, *op. cit.*, Table A–1, A–36, and A–47. See also the discussion below on parent payments for child care.

5. Westinghouse Learning Corporation and Westat Research, Inc., *Day Care Survey 1970*, report to the Office of Economic Opportunity pursuant to contract OEO Boo–5160. April 1971.

6. "Standards and Costs for Day Care," compiled in 1968 by the Day Care and Child Development Council of America, 1426 H St., N.W., Washington D.C. 20005, and the then Children's Bureau of the U.S. Department of Health, Education, and Welfare (now the Office of Child Development in HEW). This budget will be called the CB-DCCDC budget in this chapter; it was based on cost figures collected in the 1960s.

7. Abt Associates, *A Study in Child Care, 1970–71*, pursuant to OEO Contract No. OEO–Boo–5213, April 1971, available from the Office of Education, from the Office of Economic Opportunity, and from Abt Associates, Inc., 55 Wheeler St., Cambridge, Mass. 02138.

8. This difference does not apply to average costs per child year.

9. This figure from the Abt study also conforms well to Westat data on the number of hours of out-of-home care needed by working mothers. See Westinghouse Learning Corporation and Westat Research, Inc., *op. cit.*, Tables 3.11 and 4.14.

10. The Abt study also gives estimates for staff-child contact hours: staff hours in contact with children divided by child hours.

11. The provider mother's own children *are* included in setting licensed capacity under Federal Interagency Guidelines for Day Care and most state regulations.

12. Volunteered and donated resources were not comprehensively reported in the Westat survey; nor were costs imputed to such in-kind resources as were reported. In the words of their report: "It is certain that complete costs have not been reported in many cases. No attempt was made to impute the value of donated goods and services or rent-free space" (page xiii). This fact plays an important part in the cost analysis of the second section.

13. As reported respectively in the Abt and Westat studies.

14. Techniques for fully costing programs, including imputing costs, will be published in 1972 by Abt Associates.

15. In addition, to get started a program must, of course, have sufficient working capital to cover expenses until fees, reimbursements, or other support comes in. This would typically be at least enough to cover two months' salaries.

16. Staff costs typically account for 70 to 80 percent of day-care costs. For example, variations in staff-child ratio and regional salary variations together accounted for about 80 percent of the variations in costs of standard activities in child-care centers and systems studied by Abt. See Appendix A, Table A–4.

17. The best hopes for lowering child-care costs with rising prices lie in eliminating licensing red tape (which leads to high start-up costs) and in possible efficiencies associated with systems of centers and homes, especially mixed home-care–center-care systems. The latter possibility is discussed below.

18. See, for instance, the well-known discussion of this point by Professor Carl Bereiter, "An Academic Proposal for Disadvantaged Children: Conclusions from Evaluation Studies," a paper presented at the Johns Hopkins University, February 1971.

19. See, for instance, Michael Cole and Jerome S. Bruner, "Preliminaries to a Theory of Cultural Differences," Rockefeller University and Harvard University, n.d., (mimeo).

20. See, for instance, Donald Campbell and Albert Erlbacher, "How Regression Artifacts in Quasi-Experimental Evaluations Can Mistakenly Make Compensatory Education Look Harmful," in Jerome Hellmuth, ed., *The Disadvantaged Child* (New York: Brunner-Mazel, 1971), 3: 185–210.

21. Personal communication with Dr. Dan Ogilive, Cambridge, Mass., a leading researcher in the field.

22. It is not the intention of the present authors to support the following operational definitions of quality to the exclusion of others. These three points may be considered as indicators of and pointers toward quality. Moreover, a favorable staff-child ratio may be a necessary but probably not sufficient factor in child-care quality. Finally, since quality is "in the eyes of the beholder," it seems likely that different parents will for a long time have different views of quality.

23. The Children's Bureau has since become the Office of Child Development, HEW. Jule Sugarman is now Human Resources Administrator in New York City.

24. See Chapter 15 by Janet Burton.

25. "Standards and Costs for Day Care," p. 1; their italics.

26. Lawrence C. Feldman, executive director, Natconal Committee for the Day Care of Children, "Memo to Staff, Senate Finance Committee, Re: Day Care Programs Authorized by H. R. 12080," p. 3.

27. A discussion of the cost of such additional program elements, based on the Abt study, may be found in Appendix B.

28. Abt Associatives, *op. cit.*, 1:5.

29. *Ibid.*, p. 4.

30. *Ibid.*, 2:6.

31. *Ibid.*

32. The technique for doing this is to be published in 1972 by Abt Associates. See also the similar but far more detailed plan for functional budgeting prepared by Keith McClellan and available from the Welfare Council of Chicago, 64 East Jackson Blvd., Chicago, Ill. 60604, July 1971. The former system is simple to use and suitable for rule of thumb analysis in all types of child-care operations. The latter method is a more sophisticated management tool requiring excellent records and considerable expertise.

33. Appendix A, Table A–4, summarizes the expenditures in each category by percentages of each of the twenty centers and systems included in Abt Associates, *op. cit.*

34. *Ibid.*, 3:44.

35. *Ibid.*, p. 47.

36. Both were highly significantly correlated with warmth.

37. Abt Associates, *op. cit.*, pp. 44, 50.

38. *Ibid.*, p. 43.

39. *Ibid.*, p. 63.

40. *Ibid.*, 1:8. Italics ours. Quality throughout Vol. 1 of that study is defined chiefly in terms of warmth of center.

41. The discussion that follows derives from the consulting experience of one of the authors.

42. Westinghouse Learning Corporation and Westat Research, Inc., *op. cit.*

43. *Ibid.*, p. 8.

44. *Ibid.*, p. xiii.

45. *Ibid.*, p. 89.

46. *Ibid.*, p. xiii. The interested reader may wish to refer to the Westat and Abt questionnaires available from those two companies. One of the present authors, in costing dozens of child-care programs (proprietary and nonproprietary), has yet to find a program with fewer than 5 percent of the resources in-kind.

47. From a conversation with an Office of Economic Opportunity staff member, 1971.

48. Increases in cost due to supplemental programs and activities are primarily staff costs, so there is an overlap between the increase in cost due to scope of activities and the increase due to a more favorable overall staff-child ratio. It is, however, the teacher-child ratio improvement that is at issue here and that probably accounts for more of the differences in costs between Type A and Type C centers than does scope of activities.

49. From an OEO report in preparation by William Prosser. Earlier reports gave these figures as 1:6 and 1:15, which may be closer to the truth considering problems in counting volunteers and estimating full-time equivalents.

50. As of this writing, the projected 1972 Federal Interagency Requirements, though subject to change, include a staff-child ratio of 1:4 for children under age three and 1:8 for preschoolers age three and above. These required ratios are likely to be no less favorable than 1:5 and 1:10 respectively, and may be more favorable.

51. In addition to the staff-child ratios, the low salaries, and the data problems discussed above, the Westat survey cost figures are lower than the anticipated cost of a federal program because their cost data are based on a shorter average day than should be contemplated for a national program. *It* should further be remembered that none of the three budgets includes start-up costs or the costs of federal, regional, and local government administration.

52. There is some evidence comparing "Sesame Street" to real teacher programs that suggests that educational activities accomplish more when there is "human" (as distinguished from TV) teaching time involved. See Herbert A. Sprigle, "Can Poverty Children Live on 'Sesame Street'?" in *Young Children 26*, no. 4 (March 1971): 202–218.

53. The increase in costs for given changes in ratios and salaries has been worked out in a computer model published as *Potential Cost and Economic Benefits of Industrial Day Care*, a Report prepared by the Inner City Fund for the U.S. Department of Labor, May 1971.

54. Conversely adding educational activities and widening program scope do not necessarily make much difference to the teacher-child ratio.

55. See Table A–5, Appendix A.

56. These cost figures are based on child-related staff to enrolled child ratios of 1:5 and 1:8. The original Abt cost figures based on a small to average daily attendance child ratio of 1:5 were adjusted by increasing the child-related staff personnel costs by the appropriate amount, but assuming other costs were unchanged.

57. Material for this section is derived chiefly from the Massachussetts Early Education Project, San Diego, Vermont, and the Low and Spindler studies cited above.

58. Effective demand is what people actually buy; potential demand is what people might buy if they had more options or more resources.

59. Excellent transportation adds $150 to 180 per child year to program costs, so starting a new center may be cheaper.

60. Westinghouse Learning Corporation and Westat Research, Inc., *op. cit,* Tables 4.14 and 4.15

61. See, for instance, the discussion in Part 4 of Florence A. Ruderman, *Child Care and Working Mothers,* (New York: Child Welfare League of America, 1968).

62. In the case of proprietary centers close to 99 percent of the resources comes from parents fees. Combining all kinds of centers and considering welfare payments to be a government contribution, parents pay for about 40 percent of resources used in all centers surveyed by Westat. Westinghouse Learning Corporation and Westat Research, Inc., *op. cit.*, Table 2.63, p. 92.

63. About one-third of all children live in families earning less than the Bureau of Labor Statistics low family budget of $6,960. These families may be expected to search hard for full-time work if full-time care is available. Moreover, in 1971 a third of all mothers with children under six were already working, despite difficulties in finding arrangements.

64. See, for instance, Gilbert Y. Steiner's estimate that in fiscal year 1965 (admittedly a year of heavy licensing activities) 43 percent of the appropriated day-care funds went to licensing, "and only 36% was used to provide day care services in homes or centers." Gilbert Y. Steiner, *The State of Welfare* (Washington, D.C.: The Brookings Institute, 1971), p. 61.

65. Various plans and curricula for engaging high school students are now available, e.g., from the Educational Development Center in Newton, Mass.

66. Under a day-care program families are likely to be required to contribute on the basis of their ability to pay, according to their income and their family size.

67. Others question such indirect aid; for instance, see Steiner, *op. cit.*

68. This is a proposition particularly in need of good research. While 83 percent of present day-care users are working mothers, according to the Westat survey (and probably another 5 percent are working fathers), most available studies indicate that going to work means day care, not the reverse. Day care appears to be a necessary but not sufficient inducement to self-support by parents.