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The Structure of Early Care and Education in the United States: Historical Evolution and International Comparisons

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Executive Summary

Most European governments have universal, consolidated, education-based early care and education (ECE) programs that are available from early in the morning to late in the evening throughout the year. European ECE programs are uniformly of high quality, generally last at least three years, and are funded to serve all children. The U.S. ECE system is composed of three separate programs (Head Start, Pre-Kindergarten (Pre-K), and the child care voucher program) targeted to low-income children. With a few notable exceptions, U.S. ECE programs are funded to serve less than half of the eligible children. U.S. ECE programs developed quite separately. They have different goals, different funding sources, and different administrations and policies, and they generally last for an academic year or less. Pre-K and Head Start operate only 3 to 6 hours a day and are open only during the academic year. The average quality of U.S. ECE programs is generally much lower than the average quality of European ECE programs. Further, the quality of U.S. ECE programs varies widely even within local areas. Although the United States has greatly increased expenditures on ECE, U.S. governments pay only 40 percent of the costs of ECE, while European governments pay 70 percent to 90 percent of the costs of ECE. None of the major U.S. ECE programs simultaneously provides work supports for parents, child development opportunities for children, and preparation for school for low-income children. The evidence suggests that the U.S. ECE system is neither efficient nor equitable. Consolidation of funding and administration of current U.S. ECE programs could substantially lower transaction costs for parents and provide more stable care arrangements for children. Increased funding could improve the quality of existing programs,

extend hours and months of operation, and make care available to all eligible families. Both the evaluation literature and the European experience suggest that such a consolidated, well-funded system could be successful in preparing poor children for school. Further, the benefits of such a program could well exceed the costs because it is precisely low-income children that benefit most from stable, high-quality ECE. However, such a targeted program will have neither the positive peer group effects nor the social-integration benefits of universal ECE programs.

1. Introduction

Recent economic research suggests that there is a high return to early care and education (ECE) and a much lower return to compensatory interventions later in the life-cycle. This research also highlights the importance of both cognitive and non-cognitive skills that are formed early in the life-cycle for educational achievement, earnings, and other dimensions of socioeconomic success (Carneiro and Heckman, 2003).

During the last ten years, the federal government has twice included early care and education (ECE) as a component of a broader reform agenda. In 1996, funding for child care vouchers was expanded as part of the much broader welfare reform agenda. Under welfare reform, mothers receiving cash assistance were required to work or be in other approved activities. Further, time limits were placed on the receipt of cash assistance. Child care vouchers were made available to help these mothers pay for their children's care. In 2002 under the Good Start, Grow Smart initiative, the goals of the Head Start program were directed to serve the needs of the education reform embedded in the No Child Left Behind law. Under Good Start, Grow Smart, the Head Start program is designed to prepare children to read and succeed in school. Much earlier, states had developed Pre-Kindergarten (Pre-K) programs as part of earlier school reform efforts.

In the United States, ECE has been a byproduct of other policy initiatives. It has not been seen as a central and important area for careful policy formation. As a result, the United States has what the Committee for Economic Development calls a "patchwork of early care and education opportunities" (Committee for Economic Development, 2002, p. 6). A recent OECD report goes further and states: "[T]he present patchwork of services, regulations and funding sources leads

to confusion, uneven quality and inequality of access" (OECD, 2004b, p. 184).

European governments have established ECE programs that provide work supports for parents, provide child development opportunities for children, and prepare all children for school. The United States has established three separate ECE programs (Head Start, Pre-K, and the child care voucher program) as off-shoots of other major policy initiatives. Each programs has is own funding sources, goals, administration, standards, policies, and evaluation literature.

As pointed out by the Committee for Economic Development (CED), effective policy making for early care and education is hampered by the lack of a comprehensive view of publicly funded early care and education programs. Research and data collection is generally limited to a single program and is often focused on a specific period or policy regime. In this paper, we pull together information for all three programs. We draw these diverse literatures together to provide an assessment of the U.S. system as a whole.

To preview our conclusions briefly, the U.S. ECE system does not reach all potential beneficiaries, often provides unstable care with limited education or developmental content, frequently imposes high transaction costs on low-income families, and requires three separate administrative structures. None of the major U.S. ECE programs simultaneously provides work supports for parents, child development opportunities for children, and school preparation for low-income children. U.S. ECE programs have benefits for low-income families who receive services, and there appear to be social benefits emanating from these programs as well. However, we have no convincing evidence that the social benefits of any of the three U.S. ECE programs outweigh the social costs. We do have evidence that more cohesive, stable, intensive, and higher quality ECE programs have social benefits that outweigh their higher social costs.

By providing developmental activities to low-income children and work supports to low-income families, U.S. ECE programs increase vertical equity in the United States. However, we find glaring vertical and horizontal inequities in the outcomes that result from the current U.S. ECE system. As far as vertical equity is concerned, only 45 percent of three- to five-year-old children in the United States living in low-income families are enrolled in preschool, while 75 percent of three- to five-year-olds in higher income families attend preschools. As far

as horizontal equity is concerned, fewer than half of all eligible low-income children receive services from Head Start or Pre-K programs, or have preschool care purchased with a child care voucher.

The paper is structured as follows. In the next section, we briefly review the way in which U.S. and European government policies affect the way in which preschool children are cared for. The third section provides a brief review of the development of early care and education in the United States, including Head Start, Pre-Kindergarten, and the child care voucher program. In section 4, we discuss the wide array of methods currently used to fund U.S. early care and education. In section 5, we consider major issues facing the current U.S. ECE "system": (1) the goals and structure of U.S. early care and education programs; (2) the costs of having three distinct, generally underfunded ECE programs; (3) the consolidation or coordination of different programs; (4) equality of access; and (5) the effectiveness of early care and education programs. The final section of the paper contains our conclusions.

2. Public Roles in Early Care and Education

Governments in most developed countries have played a growing role in early care and education since the 1970s, when the labor force participation of women with children began to rise rapidly. Governments affect the way in which preschool children are cared for and educated through: (1) parental leave policies, (2) tax policies, and (3) expenditure policies. To set the stage for our discussion of major U.S. policies regarding early care and education, we briefly describe and contrast major European and U.S. policies in these three areas.

2.1 Parental Leave Policies

European countries make far greater use of parental leave than does the United States. Maternity leaves were enacted in Germany and France more than a century ago to protect the physical health of working women at the time of child birth. Child rearing payments, parental leaves, and paternity leaves began during the 1960s and developed rapidly during the 1970s, as the labor force participation rates of European women began to rise rapidly. European leave policies tend to be universal rather than targeted (e.g., available only for low-income, single parents).

Today, all new parents in many European countries have the option of taking a period of paid leave after the birth of a child. Some

countries also provide childrearing payments that can extend until the child is three years old. For example, Finland provides 18 weeks of maternity leave and 26 weeks of parental leave, with the stay-at-home parent paid 70 percent of prior earnings. In Finland and Norway, parents have the option of a subsidized place in child care or a cash benefit of equivalent value for children under age three.

In Europe, parental leaves are paid for through temporary disability programs, unemployment insurance programs, family allowance systems, or as a separate social insurance benefit. See Kamerman (2000) for a description of parental leave policies and the Clearinghouse on International Development in Child, Youth and Family Policies for updated information (2002a).

The United States did not have a national family leave policy until 1993.[1] However, the Aid to Families with Dependent Children program was originally set up to allow divorced and unmarried mothers to stay home and care for their children (Helburn and Bergmann, 2002). Under the 1993 Family and Medical Leave Act (FMLA), new parents are entitled to 12 weeks of job-protected leave if they work at firms with at least 50 employees and worked at lest 1,250 hours the prior year. Fewer than half of U.S. private sector workers are eligible for leaves under FMLA. Further, leaves under FMLA are unpaid. Take-up rates for FMLA are far lower than take-up rates for the more generous European programs (Waldfolgel, 2001).

The potential impacts of parental leave are many: (1) health effects for family members, particularly the mother and child; (2) static and dynamic employment and income effects, particularly for the mother; (3) budgetary impacts for governments; and (4) business impacts for employers. Research on the nature and extent of these impacts is limited. Ruhm (1998) finds that parental leave guarantees raise the employment of women, but at longer durations, they may be paid for through the receipt of lower relative wages. In a later article, Ruhm (2000) concludes that the substantial child health benefits associated with parental leaves may make it a cost-effective way of improving child health. Overall, existing research suggests that parental leaves of more than the 12 weeks, provided by FMLA, but less than one year may be economically efficient. The European and U.S. experience suggest that leaves will have to provide substantial wage replacement (about 50 percent to 75 percent) to encourage substantial numbers of parents to use parental leaves.

2.2 Tax Policy

Child-related tax policies are not generally targeted to young children but rather are available to all children in school or below the age of majority. European countries tend to have universal child or family allowances and to make more limited use of tax deductions and tax credits. See Clearinghouse of International Developments in Child, Youth and Family Policies (2002b) for details.

By way of contrast, the United States has no child or family allowance, but it has exemptions, deductions, and credits related to children. Most of these U.S. tax policies depend on family income. For example, the U.S. Child Tax Credit is up to $1,000 per child under 17. The full credit is available to married couples with families and incomes below $110,000 and single heads of household with incomes below $75,000. The credit may be partially refundable for working families with low incomes.

In 2003, the U.S. Dependent Care Tax Credit (DCTC) allowed a nonrefundable credit of from 20 percent to 35 percent of qualifying care expenses up to $3,000 for one child and $6,000 for two children under the age of 13.[2] For a family with one child in care and an income below $15,000, the maximum amount of the credit would be $1,020. However, most families with income below $15,000 will owe no taxes, will not spend $3,000–$6,000 on child care, and thus will not benefit from the DCTC. For a family with one child in care and incomes above $43,000, the maximum amount of the credit would be $600. Most families with incomes above $43,000 will pay tax, may pay $3,000 for child care, and may claim the DCTC. Indeed, the use of the DCTC rises with income. Altshuler and Schwartz (1996) find that about 1 percent of the total DCTC payments are claimed by taxpayers in the lowest two income deciles and 32 percent of the credits are claimed by taxpayers in the top two income deciles.

Tax expenditures related to the DCTC amounted to a little less than $1 billion in 1980, but they had risen to almost $4 billion by 1988 (Hayes, Palmer, and Zaslow, 1990). In that year, the credit accounted for over half of all federal expenditures on early care and education. Unlike the Earned Income Tax Credit, the DCTC is not indexed. Accordingly, from 1981 to 2003, creditable child care expenses were limited to $2,400 for one child and $4,800 for two or more children. During the same period, the percent of eligible expenses that could be claimed ranged from 30 percent for families with incomes below $10,000 to 20 percent for families with incomes above $28,000. By

1999, the total federal credit was down to $2.7 billion. As the value of the tax credit declined, the value of direct government expenditures on child care increased rapidly.

2.3 Expenditure Policies

Most European governments invest substantially more funds in early care and education than does the United States. In 1999, the United States was in a seven-way tie for thirteenth place out of 30 OECD countries in the percent of gross domestic product (GDP) devoted to early care and education. The United States spent .4 percent of GDP on early care and education, while Norway, Hungary, and Denmark spent .8 percent of GDP.[3] (See Heymann et al., 2004.)

European and U.S. approaches to early care and education are quite different. European governments tend to support universal, publicly provided early care and education (ECE) for all children three to six years old. The quality of care tends to be relatively uniform within a country, and quality tends to be high overall. However, child/staff ratios vary widely across countries, with some countries (e.g., Finland) having ratios substantially below those in the United States and other countries having ratios substantially higher (e.g., France). Staff credentials are uniformly higher in Western European countries than they are in the United States. For example, Germany provides universal ECE for all children age 3–6 through the education ministry, and 85 percent of 3- to 6-year-olds participate in the program. The maximum child/staff ratio allowed ranges from 10 to 14 children per teacher across regions. Teachers are required to have 3 to 4 years of post-secondary education.

Some European governments require no parental co-payment for ECE, while others require parental payments of from 10 percent to 30 percent of the cost of ECE. For example, Germany requires that parents pay from 16 percent to 20 percent of ECE costs, with the payment depending on family income. European ECE programs tend to be open year-round and to run from early in the morning until late in the evening. For example, the Swedish ECE program is open from 6:30 A.M. to 6 P.M. all year. See Clearinghouse on International Developments in Child, Youth and Family Policies (2004a, 2004b) for details regarding ECE policies.

European programs for children ages 0 to 3 are usually distinct from those for older preschool children. Given parental leave policies, there is less need for ECE for many younger children. For example, in France

ECE for children age 0–3 is provided by the health and welfare system, while ECE for children 3–6 is provided by education system. Publicly provided ECE for children 0–3 is available only if there is a need for such care (e.g., parents are working).[4] In France, 29 percent of children 0 to 3 are enrolled in ECE, the highest level of enrollment in Western Europe.

ECE programs in the United States are overwhelmingly targeted to children in economically disadvantaged families. The U.S. government funds three major ECE programs: (1) Head Start, (2) Pre-Kindergarten, and (3) the child care voucher program. These three programs have different sources of funding, different administrative structures and policies, and different minimum standard regulations. With few exceptions, the programs do not provide ECE for all eligible children whose parents want their children to participate. U.S. parents pay a much larger portion of the cost of ECE than do European parents. For example, in 1995, families provided 60 percent of the cost of childcare (Mitchell et al., 2001). The OECD estimates that the federal government paid 25 percent and state and local governments paid 15 percent of the remaining costs (OECD, 2002). Finally, as we will detail below, U.S. ECE programs often do not provide full-day, full-year care and are of highly varying quality.

Figure 1 gives U.S. federal expenditures on ECE from 1962 through 2002 in billions of 2002 $US. We provide estimates of spending on

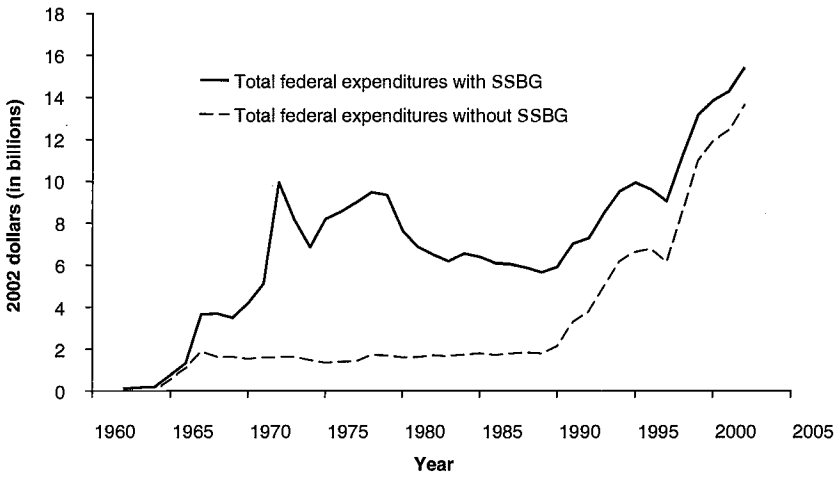

Figure 1
Federal Expenditures for Head Start and Child Car Vouchers from 1962–2002

child care that both exclude and include funding for the Social Service Block Grant (SSBG). We know that a portion of SSBG funds is spent on child care, but we don't know what proportion is spent on an annual basis. In 1990, 16 percent of SSBG funding was used for ECE (Stoney and Greenberg, 1996). Thus, actual expenditures on ECE are closer to the bottom than to the top line on the graph.

As can be seen in Figure 1, U.S. federal government spending on early care and education has grown rapidly since the beginning of welfare reform in the late 1980s. These increases stemmed both from expansions of the child care voucher program and expansions of Head Start. Federal government expenditures on Head Start and on the child care voucher program were $1,206 million in fiscal year (FY) 1988. By FY2002, federal expenditures on Head Start and the child care voucher program were between $13 and $15 billion, with approximately half of these expenditures being for Head Start and half for the child care voucher program. Spending on the child care voucher program includes spending from the Child Care Development Fund (CCDF), transfers from Transitional Aid to Needy Families (TANF) to CCDF, and direct child care expenditures by TANF (Trowbridge and Witte, 2004a).[5]

There is far less information on state expenditures for ECE. Some states supplement federal funding substantially for Head Start. For example, in 1998, states provided $174 million to Head Start programs, in part to meet federally required local match requirements (Novack, 1999). However, a number of states, such as Ohio, provided substantial funding above match requirements.

Federal rules encourage states to provide CCDF funding by maintenance of effort (MOE) and matching fund requirements for some CCDF funding. CCDF funding is of three types. Two types of funding, called mandatory spending and discretionary spending, are 100 percent federal funds. The third type of funding, called matching funding, requires that states maintain the level of child care spending in either FY1994 or FY1995. This requirement is known at the maintenance of effort (MOE) requirement. States that meet the MOE requirement are eligible for matching funding. To obtain this funding, states must match federal expenditures at the federal medical assistance percentage (FMAP) rate. In FY2002, states expended $989 million in general revenue to meet the MOE. In the early years of the CCDF program, all states met their MOE requirements, but by FY2002, eight states failed to meet the MOE requirement. The MOE shortfall in FY2002 was $129

million. Further, many more states used Pre-K expenditures to meet the MOE requirement in FY2002 than they did in the early years of the CCDF program. States provided $898 million in matching funds in FY2002 and failed to obligate $23 million in matching funds.

We know that some states provide funds to the CCDF voucher program in excess of their MOE and matching requirements either to ensure that all eligible families who request a voucher receive one (e.g., Illinois, Rhode Island) or to increase the quality of care purchased with CCDF vouchers. However, we have information on the amount of such state funding for only seventeen states (Collins et al., 2000). In FY1999, these seventeen states allocated both state general revenue and revenue from child protective services to child care vouchers. In total, these seventeen states allocated $858 million in general revenue and $43 million in child protective service funding to the child care voucher program.

In 1996, when previous child care voucher programs were consolidated and all direct voucher funding was passed to the states in a block grant, there was fear that there would be a "race to the bottom." We have not seen a race to the bottom but rather a race to the wings, with some states failing to use all federal funding available to them and other states providing substantial state funds to supplement the federal CCDF program.

In addition to responding to federal initiatives in highly varying ways, states have also developed their own Pre-Kindergarten (Pre-K) programs. In fact, the bulk of spending on Pre-K comes from state and local governments, not from the federal government. We have information on state expenditures on Pre-K programs that goes back to the 1987–1988 school year. In that school year, twenty-three states reported spending $202.6 million on Pre-K programs (Marx and Seligson, 1988). By the 2001–2002 school year, 37 states reported spending $2,435 million on Pre-K programs (Barnett et al., 2003). These numbers for state spending on Pre-K include some flow-through money from federal sources. While we do not know exactly how much flow-through money is included in reported state spending, the federal Department of Education estimated that, in FY2002, approximately $200 million in federal education spending was spent on Pre-K programs (http://www.ed.gov/programs/titleiparta/index.html).[6]

Our best estimate is that in FY2002, state and federal spending on early care and education was between $20 and $22 billion. Approximately two-thirds of this spending came from the federal government.

There is also substantial spending on ECE by some local governments (e.g., Palm Beach, Broward, and Miami-Dade counties in Florida). However, we do not know the total amount of local spending nationwide.

3. U.S. Early Care and Education Policy

As noted earlier, U.S. early care and education policy is highly fragmented in terms of funding, policies, and regulations. To understand how this situation emerged, we briefly review the history of federal and state ECE programs.

U.S. governments have shown sustained interest in early care and education only since the 1960s.[7] As part of the War on Poverty, the federal government established the Head Start program, and state and local governments established Pre-Kindergarten (Pre-K) programs.

3.1 Head Start Programs

Head Start was designed to provide comprehensive services on a part-day (3 to 6 hours), part-year (generally the school year) basis to three- to five-year-old children living in poverty (i.e., children living in families with incomes below the federal poverty level [FPL]). Head Start has never been funded to serve all eligible children. Even today, it serves less than 40 percent of eligible children. Until the Good Start, Grow Smart initiative of 2002, Head Start was seen mainly as a child development program and family intervention program. It provides a wide array of services (e.g., medical and dental screenings) in addition to ECE services.

Traditionally, most children in Head Start came from families that were either current or former cash assistance recipients because of Head Start income limits and because Head Start required active parental participation in the program. Consistent with the civil rights movement's distrust of some state governments, Head Start grants were given directly to mainly non-governmental local groups such as anti-poverty programs called Community Action Programs. In 2003, there were 19,200 Head Start centers serving 909,608 children, with an average cost per child of $7,092. The majority of these centers were community programs, and 115 centers were sponsored by faith-based organizations.

Both welfare reform and the Good Start, Grow Smart initiative of 2002 have caused changes in Head Start. The decline in welfare

caseloads after welfare reform meant that Head Start now serves more working families and fewer TANF recipients. In 1997, 45 percent of Head Start families were receiving TANF. By 2001, only 24 percent of Head Start families were TANF recipients.

The Good Start, Grow Smart initiative seeks a number of changes in Head Start. First, Head Start is to follow a new accountability system that will assess every Head Start center's performance in developing literacy, language, and numeracy skills. Second, Head Start is being asked to align their activities with state K–12 standards. Finally, Head Start is being asked to upgrade the education and training of its staff.

Major changes in Head Start include the following. First, Head Start is now serving greater numbers of younger children, including infants and toddlers, in the Early Head Start program. In 1997, 61 percent of the children in Head Start were 4 years old. By 2001, only 54 percent of Head Start children were 4-year-olds. Second, Head Start is now either directly funded or obtaining funding from other sources (mainly CCDF vouchers for wrap-around care) to provide full-day, full-year care to the growing number of working families it serves. In 1997, 38 percent of Head Start families needed full-day, full-year child care, while in 2001, 49 percent of Head Start families required such care. In 1997, 9 percent of Head Start families requiring full-day, full-year care received it at Head Start facilities, and an additional 4 percent of these families received full-day, full-year care using other public subsidies, mainly child care vouchers for wrap-around care. In 2001, 41 percent of Head Start families requiring full-day, full-year care received it at Head Start facilities, and an additional 13 percent of these families received full-day, full-year care at providers other than Head Start using other public subsidies, mainly child care vouchers for wrap-around care. Finally, Head Start teachers have gradually become more educated. In 1997, 34 percent of Head Start teachers had an associate degree or higher in ECE or a related field. By 2001, 41 percent of Head Start teachers had such degrees.

While basic funding for Head Start comes from the federal government, grantees are expected to provide 20 percent matching funds. Eighteen state governments help local groups to meet the federal match requirement. Nine of these states (e.g., Ohio, Minnesota) provide funds above the federal matching requirements to expand the number of children served by Head Start (Education Commission of the States, 2004; Novak, 1999). Individual local organizations apply for funding, and grants are awarded by the Department of Health and

Human Services regional offices on a three-year basis. Each year, funding is disbursed by the regional offices, but first the federal government allocates money to the states based on a formula that takes into account the number of children from birth to age 4 who are living in families with incomes below the poverty line in each state (Currie and Neidell, 2003).

In a recent paper, Currie and Neidell (2003) found that poorer counties (counties with a poverty rate greater than the national median, 11 percent) receive lower levels of Head Start funding than do richer counties. Since poor counties frequently have large concentrations of black and Hispanic children, on average, black and Hispanic children attend larger and more poorly funded Head Start programs than do white children (Currie and Neidell, 2003).

3.2 Pre-K Programs

While Head Start was a federal creation, Pre-K programs are state and local creations serving mainly disadvantaged four-year-olds. States like California began Pre-K programs in the mid 1960s, but the major expansion of Pre-K programs occurred in the 1990s. In 1988, 23 states had small Pre-K programs (Marx and Seligson, 1988). All of these states have expanded their programs, many markedly, since 1988. In addition, 17 states have established Pre-K programs since 1988. Since 1988, states have become more flexible in regard to what types of organizations they will use to distribute money for Pre-K programs. Pre-K programs have also increased the amount of money spent per child. In 1988, the average amount of money spent per child was between $700 and $1,000; today, the average amount spent per child is between $3,000 and $5,000.

States and local areas have created quite distinct programs. In eight states (e.g., Louisiana, Pennsylvania, and Wisconsin), Pre-K programs are provided only by the public schools. In 17 states, funding flows to the public schools, but the school may contract with other entities (e.g., private child care facilities, YWCAs, Head Start programs) to provide Pre-K services. Sixteen states allow organizations other than the public school both to receive Pre-K funding and to provide Pre-K services. One state (Nevada) had all Pre-K services provided by a private entity (Classroom on Wheels of Nevada). Whether publicly or privately provided, the major goal of most Pre-K programs is to prepare poor children for school. While most Pre-K programs are targeted to disadvantaged children, two states (Georgia and Oklahoma) make Pre-K

services available to all four-year-old children. New York is phasing in a universal Pre-K program.

We have more comprehensive information on school-based Pre-K programs than on programs outside the public schools. By FY2000–2001, 35 percent of public elementary schools offered either half-day or full school-day Pre-K programs. Nineteen percent of schools offered half-day Pre-K (generally three hours), and 13 percent offered full school-day Pre-K (generally six hours). Three percent of schools offered both half-day and full school-day programs. See Smith et al. (2003) for details.

Interestingly, public-school-based Pre-K (particularly full-day Pre-K) is far more likely to be available in the Southeast than in other parts of the country. Thirty-six percent of public schools in the Southeast offered full school-day Pre-K programs in FY2000–2001, while only 4 percent of public schools offered Pre-K programs in the central area of the country. A similar pattern of availability is found for public kindergarten programs. Eighty-four percent of public schools in the Southeast offer full school-day kindergarten, while only 37 percent of public schools in the Northeast make full school-day kindergarten available.[8]

States using private entities to provide Pre-K services have widely varying programs. We describe four examples of the programs. In our more detailed work (Trowbridge and Witte, 2004b), we provide a description of all Pre-K programs currently operating or planned.

The Massachusetts Pre-K program, the Community Partnerships for Children, is run by local councils. These councils have representatives from the public schools, Head Start, and the CCDF child care voucher program. Funding comes from federal (e.g., TANF transfers), state, and local sources. Services are provided for children ages three to five living in families with incomes up to 125 percent of the state median income. Preference is given to low-income families on the waiting list for child care vouchers. At least one-third of services provided must operate full-day, full-year, and participating programs must be accredited.

Georgia offers free pre-kindergarten to all four-year-olds in the state through a lottery-funded program administered by an independent state agency (the Office of School Readiness). Participation is voluntary, and slightly less than 60 percent of children participate in the program. Funding and policy decisions are made at the state level. Public and private child care and preschool providers are eligible to receive

state payments for every enrolled four-year-old, if they agree to use one of several approved curricula and meet other state standards. Programs are required to operate 6.5 hours a day, five days a week, 180 days of the year.

The New Jersey Early Childhood Program Aid provides funding to 128 districts in which at least 20 percent of students are low income. This funding ensures that kindergarten is extended to a full school-day for all five-year-olds, and half-day preschool is offered to all resident three- and four-year-olds. Services must be offered five days a week for the entire school year. In 1999, about 44,186 children were served in the targeted districts, whose children account for about 40 percent of the state's children. Funding decisions for districts are made at the state level and are based on a modified K–12 enrollment and poverty level formula. The program is intended to foster collaboration with local child care providers, and public school districts may provide preschool directly and/or may contract with Head Start, licensed private nonprofit agencies, and licensed child care centers.[9]

The Texas Pre-Kindergarten Program is unique because it is the only state pre-kindergarten program that requires a school district to provide a Pre-K program if 15 "educationally disadvantaged" four-year-olds reside in the district. "Educationally disadvantaged" refers to children whose families are low-income, unable to speak English, or homeless. In 1999, 13,411 three-year-olds and 125,018 four-year-olds were served. Funding is done through the Foundation School Program (regular education aid), with each district claiming reimbursement for its Pre-K program based on the average daily attendance of enrolled children. The Pre-K programs can be operated only by school districts and within public school facilities, although subcontracting is permitted. Pre-K programs must meet at least three hours a day for the full school year and be taught by a certified teacher.[10]

3.3 The Child Care Voucher Program

The federal government established a child care voucher program as part of welfare reform, which began in the late 1980s. The Family Support Act of 1988 provided active Aid to Families with Dependent Children (AFDC) recipients (i.e., those working or engaged in other approved activities such as the Job Opportunity & Basic Skills (JOBS) program) and working former recipients during their first year off welfare with an entitlement to child care vouchers for children less than

age 13. Child care vouchers were expanded to include low-income families without recent AFDC receipt by the 1990 Omnibus Reconciliation Act. This act created the At-Risk Child Care Program to provide child care vouchers to low-income families who were at risk of becoming cash assistance recipients. The At-Risk Child Care Program was funded by the Child Care Development Block Grant (CCDBG). CCDBG also provided states with funds to undertake activities to improve the quality and supply of child care for all families. Child care vouchers funded under these and subsequent programs were seen primarily as a support that allowed low-income single parents to work.

Impatient with the pace at which welfare reform proceeded in the early 1990s, Congress passed the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996. This act changed many social welfare programs, most radically the AFDC program. The act also called for dramatic changes in the child care voucher program. The main funding stream for vouchers was renamed the Child Care Development Fund (CCDF).[11] The program was seen as an important element in allowing cash assistance recipients to achieve financial independence. Funding for child care vouchers was increased dramatically and consolidated into a single block grant to the states. The entitlement to child care under the Family Support Act was abolished and states were given substantial latitude to develop programs that best suited their particular circumstances.

Because of the substantial changes in the economic and political milieu from the 1960s to the late 1980s, the child care voucher program developed very differently than did the Head Start program that began in the 1960s. While direct federal grants to provide services were central to Head Start, the federal child care voucher program is a block grant to states mainly to provide child care vouchers. Under the child care subsidy program, parents are given vouchers that they can use to purchase ECE from licensed formal providers (e.g., centers and family child care homes) or from informal sources (e.g., family and friends) that can pass minimal screening requirements (e.g., criminal record checks). Most vouchers are used to purchase formal care. For example, in FY2000, 74 percent of children receiving child care vouchers were cared for in regulated settings (i.e., centers and family child care homes), with 58 percent being cared for in child care centers (Child Care Bureau, 2003).

Child care centers in the United States are overwhelmingly run by non-governmental entities. These entities have differing goals and dif-

ferent funding sources and often run quite different types of programs. In 1990, the latest period for which national data are available, about 10 percent of child care centers were public, and 90 percent were private. Of the private centers, two-thirds were nonprofit and one-third was for profit. Among the nonprofit centers, 25 percent were independent nonprofits, 15 percent were sponsored by a religious organization, 8 percent were run by large nonprofit organizations (e.g., the YWCA), 8 percent were public schools, and 9 percent were Head Start providers. Within the for-profit sector, 6 percent of centers were part of child care chains and 29 percent were independent entities (Willer, Hofferth, and Kisker, 1991). Family day care is almost all private (OECD, 2004b).

Beginning in the late 1990s, state child care voucher programs began to evolve quite differently. During the early years of the child care voucher program, states tended to retain separate child care voucher programs for current and former cash assistance recipients and other low-income families. Even today, many states give priority for child care vouchers to active cash assistance recipients and to former cash assistance recipients during their first year off cash assistance (e.g., Florida, Massachusetts). Other low-income families are placed on waiting lists for child care vouchers. By way of contrast, some states provide vouchers to all eligible applicants and have consolidated their child care voucher program for current and former cash assistance recipients and other low-income families (e.g., Illinois, Rhode Island). States also vary widely in both the level and definition of income used to determine eligibility, the level of parental co-payments, the proportion of providers that accept child care vouchers, and the type of care purchased with vouchers. Some states have devolved most policy making and administration of the voucher programs to local governments (e.g., Florida, Texas) while other states retain state-run programs (e.g., Illinois, Massachusetts). See Loprest et al. (2000) for a more detailed description of the operation of the CCDF block grant and Collins et al. (2000) for a more detailed examination of differences across state programs.

4. Public Funding for U.S. Early Care and Education

While federal government funding for early care and education has come from general revenue, state and local governments have used a wide array of revenue raising and revenue enhancing methods to

increase funding for early care and education. The methods include taxes; fees; lotteries and gaming; and partnering with the private sector, philanthropy, or local community groups. We will describe, in turn, important examples of each of these methods of increasing funding for early care and education. Mitchell et al. (2001) provides a detailed account of financing methods.

4.1 Taxes

States have used general revenue, income tax check-offs, sales tax revenue, and excise tax revenue to increase funding for early care and education. The vast majority of states use general revenue to provide Pre-K services. Typically, states put a separate line item in the budget for Pre-K, have Pre-K as a line item in the education budget, or embed Pre-K in the state education aid formula. Some states, such as Rhode Island, substantially supplement federal CCDF child care voucher funds with state general revenue. Many other states (e.g., Minnesota, Ohio) substantially supplement federal Head Start funding with general revenue.

State taxation earmarked for early care and education is used frequently, with sin taxes being particularly popular sources of earmarked revenue. Two states (Arkansas and South Carolina) have increased state sales taxes to fund Pre-K programs. Arkansas placed a surtax on beer to fund preschool, and California passed Proposition 10, which placed a tax on tobacco to fund universal Pre-K in a number of counties.

Local governments have also raised taxes to support early care and education. For example, Florida allows counties to set up children services districts to fund programs for children of all ages. In ten Florida counties, the children services districts are funded by the general revenue of the county, while districts in eight counties (Broward, Hillsborough, Martin, Miami-Dade, Okeechobee, Palm Beach, Pinellas, and St. Lucie) have independent taxing authority. The districts with independent taxing authority typically levy an add-on to the property tax. For example, Pinellas County levies $1 per $1,000 of assessed valuation for children's programs, and Palm Beach County levies $.47 per $1,000 of assessed valuation.

4.2 Fees

A number of states and municipalities have fees that are used for child care. Some fees are imposed and others are voluntary. Whether

imposed or voluntary, fees have not been a major source of revenue for child care. For example, the Santa Cruz, California, Child Care Developer Fee Loan Program requires that new developments make payments to offset the increase in child care costs that they impose on the county. These funds are used to provide loans or grants to child care providers. However, the annual loan volume is generally less than $100,000. Kentucky allows any person registering or reregistering their vehicle to donate $1 to the Motor Vehicle Child Care Assistance Account. This account is used to provide child care assistance to low-income families that have incomes just exceeding the limit for child care vouchers. Donations have not exceeded $50,000 and are usually far less.

4.3 Lotteries and Gaming

The "voluntary" taxes associated with gambling have been an important source of state child care funding for some states. For example, Georgia funds its voluntary, universal Pre-K program with lottery dollars ($224 million in FY2000). Missouri funds its Early Childhood Development, Education and Care Fund (ECDEC) with riverboat gambling fees. ECDEC fund appropriations were approximately $21 million in FY1999–2000.

4.4 Public Partnerships

The most successful examples of the public sector partnering with private sector organizations, including for-profit employers, have occurred in the Southeast. We will highlight two quite different programs, one in North Carolina and one in Florida.

North Carolina (NC) has had by far the most successful public-private partnerships for early care and education. Two successful public-private partnerships for early care and education, Smart Start and T.E.A.C.H., have operated in North Carolina since the early 1990s. With support from national foundations, North Carolina's Smart Start and T.E.A.C.H. programs have expanded to many other states.[12]

4.4.1 Smart Start Smart Start, passed by the NC legislature in 1993, is a comprehensive initiative to make early care and education services available to all children under age 6 whose families need and want such services. An amendment passed in 1995 required that the local, private, not-for-profit boards that administer Smart Start raise a 10 percent match for state funding. At least half of the matching funds must

be in cash, not in kind. State funding for Smart Start was $192 million in state FY2004. The state and local Smart Start programs raised over $200 million from the private sector since its founding.[13]

4.4.2 **Child Care Partnerships** Florida passed the Child Care Partnership Act in 1996. The act was designed to encourage businesses to pay a portion of the cost of child care for their employees who earn low wages. The act created a nine-member executive partnership composed of corporate leaders who established specific guidelines and eligibility criteria for the program.

Under the executive partnership, the state matches $1 for each $1 employer contribution to provide child care vouchers for their low-income employees. The combined state and employer funds are placed in a purchasing pool administered by the same local child care agency that administers child care voucher program. Employees earning less than 200 percent of the FPL are eligible to use funds from the pool. During the first year of the program, the state contributed $2 million to purchasing pools. In FY2003–2004, the state contributed $19 million.

A study documenting which companies employed large numbers of child care voucher recipients helped martial business support for the Child Care Partnership Act (Lee, Ohlandt, and Witte, 1996). The study has been replicated in a number of other states and the District of Columbia; however, to date, no other state has passed a bill comparable to Florida's Child Care Partnership Act.[14] This might suggest that there is limited opportunity to have employers bear directly some of the child care costs of their employees. However, in the Netherlands, employers have borne for many years approximately one-third of the costs of child care for their employees.

5. Major Issues for U.S. Early Care and Education

As should be clear from the writeup above, the current early care and education system in the United States has grown by increments. Today's "system" is a hodgepodge of different federal, state, and local programs. In this section, we will consider: (1) the goals and structure of U.S. early care and education programs, (2) the costs of having three distinct ECE programs, (3) consolidation or coordination of different programs, (4) equality of access, and (5) the effectiveness of early care and education programs.

5.1 Goals of Early Care and Education

Unlike early care and education (ECE) in Western European countries, U.S. ECE is neither a cohesive system nor is it universal, even for disadvantaged children. U.S. ECE is a conglomeration of programs established across the last 40 years with different funding sources, different standards, different structures, and—until recently—different goals. Expenditure programs established during the 1960s (e.g., Head Start and Pre-K established prior to the 1990s) were targeted at low-income children. These programs focused mainly on the child. Head Start sought comprehensive child development, while Pre-K generally sought to prepare disadvantaged children for school.

Programs established in connection with the reform of welfare in the 1980s and 1990s provided child care vouchers so that poor, single parents could work. They were seen primarily as work supports and were focused more on the parents than on the children.

In the mid- to late 1990s, three states (Georgia, New York, and Oklahoma) established universal Pre-K programs to prepare children for school and to further the testing goals of the elementary and secondary schools reform movement. These programs come closer to the European model, but services are available only during the school day for a single year, while cohesive European programs are often available all day for three years.

We will consider and provide information on two major issues regarding the goals of early care and education that governments have addressed. First, will U.S. early care and education be targeted or will it be universal? Second, what relative weight will U.S. governments place on child development, school readiness, and providing child care so that parents can work?

5.1.1 Targeted Versus Universal Early Care and Education

Today most U.S. early care and education funding is targeted rather than universal. Georgia and Oklahoma currently offer universal access to one-year Pre-K programs, and New York is phasing in a one-year universal Pre-K program. There is strong advocacy for universal Pre-K programs in a number of other states. In Florida, this advocacy led to the passage of a state constitutional amendment in 2000 that states:

> Every four-year-old child in Florida shall be provided by the State with a high quality pre-kindergarten learning opportunity in the form of an early childhood development and education program which shall be voluntary, high quality, free and delivered according to professionally accepted standards.

The Florida legislature hurriedly passed a bill "implementing" this amendment during its 2003–2004 session. The bill seems to have pleased no one and makes no provisions for funding the programs established. The bill calls for a three-hour-a-day program beginning in September 2005 that has minimal quality requirements. Florida's overcrowded elementary schools have no room to house the new program, so services are to be provided by child care centers that currently serve children with child care vouchers. These centers are of markedly varying quality. The bill asked the governor to figure out how to fund the programs and report back to the legislature. The governor vetoed the bill.

The situation in Florida points out the major difficulty in establishing high quality, universal Pre-K programs. High quality, universal programs are very expensive and, as the National Governor's Association and the National Association of State Budget Officers have pointed out, state finances remain "fragile," even in a recovering economy (National Governors Association and National Association of State Budget Offices, 2004).

Further, the push for universal Pre-K has not come to grips with the fact that many states do not have universal kindergarten. Only nine states (Alabama, Arkansas, Georgia, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, and West Virginia) currently require that districts offer full school-day (generally six hours) kindergarten (Education Commission of the States, 2004). Nine states (Alaska, Colorado, Idaho, New Hampshire, New Jersey, New York, North Dakota, Pennsylvania, and Washington) do not require that school districts offer any kindergarten. Total enrollment in kindergarten peaked in 1992 at 4 million and declined to 3.7 million in 2001; correspondingly, the percentage of four- to six-year-olds in kindergarten has declined from 35.4 percent in 1992 to 31.2 percent in 2001 (Wirt et al., 2004).

5.1.2 Work Support, Child Development, and School Readiness

Both the European and U.S. literature agree that the goal of early care and education programs should encompass: (1) providing work supports for parents; (2) providing situations conducive to the cognitive, social-emotional, and physical development of children; and (3) preparing children to enter elementary school (Boocock, 1995; Bowman et al., 2000). While a number of cohesive European programs achieve all three of these goals, the United States has established separate programs to concentrate on child development and school readiness

(Head Start and Pre-K) and to provide child care while parents work (the child care voucher program).

In his 2002 State of the Union address, President Bush highlighted the importance of ECE to his education reform plan, No Child Left Behind. Under his Good Start, Grow Smart initiative, Head Start was asked to concentrate on preparing children to read and succeed in school. Head Start is to be evaluated on how well it achieved these goals. States were asked to try to better coordinate ECE programs. The initiative did not address the need to provide care while low-income parents work.

5.2 Costs of Multiple Programs

The separately operating Head Start, Pre-K, and child care voucher programs are administratively costly, impose high transaction costs on parents (e.g., each program has its own eligibility requirements and application procedures), and fail to provide stable early care and education for children. While there has been much discussion of the high administrative costs and high transaction costs of the current U.S. ECE system, there has been less discussion of the implications of the systems for the stability of care received by children.

Consider a not-unlikely scenario for a new single mother who receives cash assistance under the Transitional Aid to Needy Families (TANF) program in Florida. To continue to receive TANF benefits, the mother must go to work or participate in other approved activities when her child is three months old. She uses a child care voucher to help her pay for center care of her three-month-old child. The job, the voucher, and the child care arrangement last six to nine months. The mother returns to work when her child is 12 months old. Her earnings make her ineligible for TANF. She has a child care voucher for a year and places her one-year-old in center care. The center, like most centers in the United States, has a 40 percent annual turnover rate for staff, so the child may well have more than one caregiver during the year. Further, the child's caregiver is likely to have limited education or experience in ECE. The mother continues to work, but she loses her child care voucher. She pays a neighbor to take care of her two-year-old while she works. After a year, the neighbor moves and the mother places her now three-year-old child in a family child care home. When the child turns four, she is eligible for Pre-K. The Pre-K program operates either three or six hours per day. The mother enrolls the child in Pre-K and has a neighbor pick up the child after Pre-K ends. When the

child is five, she goes to kindergarten at the local public school for six hours per day. A different neighbor picks the child up at the end of the kindergarten day. By the time the child enters elementary school, the child has had nine different care settings and perhaps twelve or thirteen different caregivers. She has had two years of part-day, part-year early care and education.

Contrast this with a not-unlikely scenario in a Western European country. The new, single mother receives a ten-month paid parental leave after the birth of her child. She has the choice of receiving payments until the child is three and staying home, or placing her child in a government-provided early care and education program. The child transfers to the ECE education system when she is three and remains in the system until she goes to elementary school. By the time the child enters elementary school, the child has had two or three different care settings and probably less than six different caregivers. She has had at least three years of full-day, full-year early care and education.

5.3 Consolidation or Coordination

Since at least the mid 1990s, federal, state, and local governments have attempted to coordinate early care and education programs, rather than push for consolidation of ECE. However, most efforts at coordination have come recently, particularly in connection with the recent recession. Unfortunately, these efforts have not been successful by and large, with existing programs often spending more energy protecting their own turf than coordinating their activities. See Groginsky (2002) and Shumacher et al. (2001) for details.

In its 2001 survey of the states, the National Conference of State Legislatures found that 21 states required a state entity to facilitate coordination or collaboration among programs, agencies, policies, or funding for early care and education (Groginsky, 2002). The Center for Law and Social Policy chose to highlight the coordination efforts of three states (Georgia, Massachusetts, and Ohio). While we cannot speak authoritatively about the coordination efforts of Georgia and Ohio, we can speak about coordination efforts in Massachusetts.

Massachusetts is more successful in using child care vouchers to provide wrap-around care for children in Head Start programs than are many other states. The wrap-around care provides care after the Head Start program ends and allows the combined voucher and Head Start program to provide support to parents who work full time.

The Commonwealth of Massachusetts also requires that at least one-third of the children in its Pre-K program—the Community Partnership for Children (CPC)—receive full-day, full-year services. This is a far higher proportion of full-day, full-year care than is available in most state Pre-K programs. For example, Georgia's Pre-K program requires only a minimum duration of 6.5 hours for a five-day week, 180 days a year. It sets no requirement for full-day, full-year care.

In spite of being in the forefront of coordination efforts, the Massachusetts legislature was sufficiently dissatisfied with the level of coordination in the Commonwealth that it set up the Council on Early Care and Education in 2003 to report back to the legislature on how to improve coordination of early care and education programs. The council, run by the state Department of Education (the CPC program), the Department of Health (early intervention services), and the Office of Child Care Services (CCDF-funded child care vouchers), released its report in March 2004 (Department of Education, Department of Public Health and Office of Child Care Services, 2004). The report called for "bold action to coordinate services and resources, streamline administrative procedures, and reduce fragmentation in Massachusetts' early education and care policies and programs" (Department of Education, Department of Public Health and Office of Child Care Services, 2004, cover letter). The report provides many examples of the lack of coordination (e.g., different payments to providers for care under the CCDF program and the CPC program, different application procedures, different sets of performance standards). At a number of points, the report talks about the need to coordinate efforts with Head Start. However, given the current structure of Head Start, neither the Commonwealth nor any other state is in a position to require Head Start programs to coordinate with state Pre-K programs or with the CCDF subsidy program.

In a recent paper, Edie et al. (2004) describe seven possible models for a coordinated U.S. early care and education system. The models are: (1) an expanded Head Start model, (2) a Pre-Kindergarten collaboration model, (3) a School of the 21st Century model, (4) a system based on the military model, (5) a Smart Start model, (6) an enhanced CCDF child care voucher model, and (7) a "Ready to Teach" model. We briefly describe the Schools of the 21st Century model and the military model here because they are not commonly known.

The Schools of the 21st Century model would use the public schools as a base for providing year-round early care and education services

for children age three to five and after-school and vacation care for children age five to 12 (Zigler, Finn-Stevenson, and Marsland, 1995). While this model is comprehensive and could provide more stable care settings, it builds on the public schools, which have seen increasing criticism. However, this model does have some evidence of short-term effectiveness in preparing children for school and providing work support for parents.[15]

The military model is based on the early care and education program developed by the U.S. military. Except for personnel matters and funding, the military system operates somewhat like the child care voucher program. Military families needing child care receive vouchers and go to a resource and referral agency, which provides information on the child care options available (centers, family child care homes, before- and after-school programs). The military rigorously enforces minimum standards in its 800 centers and 9,000 family child care homes operated by military spouses or family members. The military provides half of all ECE costs directly, with the other half of the costs being split between the military and low-income military families. Ongoing training is required of all teachers/caregivers. There is a well-defined career ladder, with increased compensation after completion of each level of training and evidence of demonstrated competence.

5.4 Equality of Access

The U.S. system of early care and education does not provide access to early care and education that is either horizontally or vertically equitable. As far as vertical equity is concerned, the OECD estimates that only 45 percent of three- to five-year-old children in the United States living in low-income families are enrolled in preschool, while 75 percent of three- to five-year-olds in higher income families are enrolled (OECD, 2004b).

Due to poor coordination and underfunding, ECE programs for low-income children are also horizontally inequitable. Subsidized care opportunities for children younger than age four are generally limited to child care vouchers. Four-year-olds living in families with incomes below the FPL are eligible for Head Start, Pre-K, and child care vouchers. However, because almost all of these programs are underfunded, only some of these children will actually receive subsidized ECE.

Fewer than one in four children eligible for CCDF vouchers will actually receive vouchers. Parents who receive vouchers will pay anywhere from 0 percent to 20 percent of their gross income for the CCDF subsidized care. Caregivers are likely to have limited education and ECE experience.

Less than 40 percent of eligible four-year-old children will receive comprehensive services (including health and dental care) from Head Start for part of the day, part of the year. The parents of these children will pay nothing for the services their children receive. Head Start caregivers are likely to have a Child Development Associate (CDA) credential, which generally requires about a year of post–high school education, or an A.A. degree.

Other four-year-olds will be in Pre-K programs that run from 3 to 6 hours a day. The programs will often be staffed by qualified teachers and will aim to prepare the children for school. The parents will pay nothing for the Pre-K program.

5.5 Effectiveness of Early Care and Education Programs

The major ECE programs in the United States have rarely been subjected to rigorous evaluation. When Head Start was last reauthorized in 1998, Congress ordered a random-assignment evaluation of the impacts of Head Start. The results of this evaluation are not yet available.

The existing literature on Head Start is mixed. In some situations and for some students, Head Start has significantly positive effects, at least in the short term. Head Start's part-day, part-year program costs approximately $7,000 per child. See Haskin and Sawhill (2003) for a recent survey of the Head Start literature, or Schweinhart (2001) for a somewhat older but more detailed survey.

The evaluation research on the impacts of Pre-K programs is more limited than is the research on Head Start. Gilliam and Zigler (2000) provide a thorough survey of the literature through 1998, and Schweinhart (2001) provides a briefer review of the literature through 2000. Gilliam and Zigler conclude that the evaluations of Pre-K programs provide modest support for positive program effects on children's developmental performance, school performance, school attendance, and percentages of children held back a grade.

More recently, Gormley and Gayer (2003) provide a strong quasi-experimental evaluation of Oklahoma's universal Pre-K program, and

Henry et al. (2003) provide a comprehensive evaluation of Georgia's Pre-K program. Both evaluations provide evidence of significant positive effects through the beginning of kindergarten. These two evaluations are quite different. While the Oklahoma study compares results for students who attended Pre-K with those who did not, the Georgia study compares the results for children who attended its Pre-K program with results for children who attended Head Start and for children who attended private preschool. The Georgia study finds that the Georgia Pre-K program prepared children for school more effectively than did either Head Start or private preschools. The study attributes Pre-K's better results to better teacher quality, a strong focus on preparing children for school, and frequent feedback and monitoring. The Georgia study also finds substantial learning loss in the period between Pre-K and kindergarten, particularly for Afro-American children.

A recent paper (Magnuson et al., 2004) uses data from the Early Childhood Longitudinal Study and finds that *typical* Pre-K programs increase reading and mathematics skills at school entry, but they reduce self-control and increase behavioral problems. The positive effects on skills dissipate by the end of the first grade, but the behavioral problems continue. The largest and most lasting effects are found for disadvantaged children and for those attending schools with low levels of academic instruction.

Child care vouchers have been around for a shorter period of time than either Pre-K or Head Start. Further, the programs vary substantially, not only across states but within states. See Child Care Bureau (2003) for details. The majority of care is provided in child care centers (57 percent in FY2000) or family child care homes (29 percent). The majority of care is full-time (eight to ten hours per day), but the average duration of care is short, generally less than six months (Myers et al., 2002). Annual expenditure per child served in 1999 ranged from $2,321 in Virginia to $5,913 in Minnesota (Witte and Queralt, 2002).

To date there have been few evaluations of the impacts of child care vouchers. And until recently, child care vouchers were seen primarily as a work support; consequently, existing evaluations tend to assess impacts on parental work or welfare receipt rather than child outcomes. Witte and Queralt (2003) find that the combined effect of Rhode Island's reform of its cash assistance and child care voucher programs was to almost triple the probability that current and former cash assistance recipients would work 20 or more hours per week and to cut

in approximately half the probability that a single mother would be on cash assistance and neither working nor in some other approved activity. The impact of North Carolina's Smart Start program, a state-enhanced version of CCDF child care voucher program, on children has been evaluated using a quasi-experimental design. The latest report (Bryant et al., 2003) indicates that Smart Start significantly improved the quality of child care providers. Further, the report indicates that children in higher-quality centers scored significantly higher on measures of skills and abilities deemed important for success in kindergarten than did children from lower-quality centers.

In 2001, the Child Care Bureau funded a project to evaluate the impacts of different child care voucher strategies using four random assignment experiments. To date, only one experiment is underway. This experiment is testing the impact on school readiness of using different curricula for subsidized children in child care centers. The experiment is being carried out in Miami-Dade County, Florida. Preliminary results of the project should be available in 2005.[16]

The overall conclusion of the literature is that the large-scale ECE programs in the United States have had, at best, short-term positive impacts on the children who participated in the programs. However, rigorous evaluations of smaller-scale, more intensive, and more expensive programs show more positive and longer-term impacts. See Table 6 of Carneiro and Heckman (2003) for descriptions of the programs. The two most cited of these studies are the experimental evaluations of the High Scope/Perry Preschool program and the Carolina Abecedarian program. We will briefly describe and assess the results of these evaluations.

The High Scope/Perry Preschool program operated from 1962 until 1967 in Ypsilanti, Michigan. The program provided weekly home visits with parents and intensive, high-quality preschool services for one to two years to low-income children with average IQs of 80. The program was evaluated using a random assignment experiment that followed participants through age 27. For almost three decades, the study followed the lives of 123 children from African American families who lived in the neighborhood of the Perry Elementary School in Ypsilanti, Michigan, from 1962 to 1967. The median percentage of missing cases in each year that the survey was administered was only 4.9 percent (Schweinhart, Barnes, and Weikart, 1993). The internal validity of this study isn't questioned, but our ability to make generalizations outside the experimental group is limited due to the small sample size and the

non-random nature of the sample. In 1990 dollars, the average cost per child of the High Scope program was $13,400 ($15,844 in 2002 dollars). Evaluation results indicate that the experimental group had significantly fewer special education placements and significantly higher graduation rates than the control group did. Further, experimental group members had significantly higher earnings, higher percentages of home ownership and second-car ownership at age 27, higher levels of schooling completed, lower percentages receiving social services at some time in the previous 10 years, and lower arrest rates than control group members did. Measured through age 27, the program returned $5.70 for every dollar spent. A substantial fraction (65 percent) of the returns to the program is attributable to reductions in criminal activity. The experimental group averaged significantly fewer lifetime arrests (2.3 versus 4.6) and significantly fewer undropped misdemeanor cases, and fewer months on probation or parole. Such large-scale criminal justice impacts can only be expected in high-crime areas like the area served by the Perry Preschool. Recently, Rolnick (2004) has estimated that the average real rate of return to the project was 4 percent to the individuals involved and 12 percent to the public. See Schweinhart, Barnes, and Weikart (1993) for details about the program.

The Carolina Abecedarian program operated from 1972 to 1985 in Chapel Hill, North Carolina. The program provided intensive full-day, year-round services to children from infancy to five years of age in low-income families. The program was evaluated using a random assignment experiment that followed 112 participants, mostly of Afro-American descent, through age 21. In 2002 dollars, the average cost per child of the experiment was $67,225. The experimental group had significantly higher IQs than did the control group through age 12. Significant increases in reading and mathematics scores continued until age 21. The experimental group also was significantly less likely to be retained in grades or to receive special education placement than was the control group. Further, experimental group members were significantly more likely to attend college by age 21 than were control group members (36 percent of experimental group members attended college versus 13 percent of control group members). The program did not have a significant impact on the number of arrests, possibly because Chapel Hill is not a high-crime area.

Masse and Barnett (2002) have carried out a benefit-cost analysis of the Abecedarian program. Their analysis estimates most benefits because many factors, such as the earnings of participants, were not

followed. They conclude that the return overall to the program, including all estimated benefits, is no less than 3 percent and may be higher than 7 percent. They also estimate that the return to the public (excluding participants) is −3 percent. That is, most of the gains from the program accrue to program participants.

Taken as a whole, the U.S. evaluation literature provides some support for the belief that intensive preschool programs (i.e., programs lasting two years or more that are full-day and full-year) provide significant, long-term net benefits.

5.5.1 Evaluations of European ECE Programs Evaluations of European ECE programs rely on random assignment experiments much less than do U.S. evaluations, possibly because European ECE tends to be universal and because random assignment thus raises ethical issues. Overall, evaluations of high-quality, well-integrated, universal European ECE programs conclude: (1) there is no strong or consistent evidence that the form (pedagogic approach, daily schedule, or setting) of universal, high-quality, stable programs influences long-term outcomes for children; (2) ECE programs have stronger effects on more disadvantaged students; (3) European-style ECE programs can narrow the achievement gaps faced by disadvantaged children, though most of these effects tend to diminish over time; and (4) maternal employment and out-of-home care in universal, high-quality, stable, full-day, full-year programs after the first year appear to yield benefits to both the child and the mother. See Boobock (1995), Waldfogel (2001), and Groot et al. (2004) for details.

5.5.2 Evidence from Canada Cleveland and Krashinsky (1998) make a convincing case that in Canada, a comprehensive public program providing relatively high-quality, licensed, full-day, full-year child care to all children age two to five years with working parents, and enriched nursery school for children cared for by their parents at home can provide benefits worth approximately twice the costs. The system that Cleveland and Krashinsky evaluate costs approximately $8,500 (1998 Canadian dollars) for full-day, full-year care. Under the system, caregivers would be paid about $30,000 and fringe benefits would add 20 percent to costs, so the total cost per caregiver would be $36,000. This amount far exceeds the average pay of the typical child care worker in the United States, but it is substantially less than the pay of the typical public school teacher. In carrying out their analysis,

Cleveland and Krashinsky estimate both static and dynamic benefits for parents and children.

6. Conclusions

Recent economic research suggests that there is a high return to early care and education (ECE) and a much lower return to compensatory interventions later in the life-cycle. This research also highlights the importance of both cognitive and non-cognitive skills that are formed early in the life-cycle for educational achievement, earnings, and other dimensions of socioeconomic success (Carneiro and Heckman, 2003).

Most European governments have universal, consolidated, education-based ECE programs that are available from early in the morning to late in the evening throughout the year. European ECE programs are uniformly of high quality, generally last at least three years, and are funded to serve all children. European programs yield benefits to both the mother and the child. They also narrow the achievement gap faced by disadvantaged children, though most of these effects tend to diminish over time.

The U.S. ECE system is composed of three separate programs (Head Start, Pre-Kindergarten, and the child care voucher program) that are targeted to low-income children. With a few notable exceptions, U.S. ECE programs are funded to serve less than half of the eligible children. U.S. ECE programs developed quite separately. They have different goals, different funding sources, and different administrations and policies, and they generally last for an academic year or less. Pre-K and Head Start operate only three to six hours a day and are open only during the academic year. The average quality of U.S. ECE programs is generally much lower than the average quality of European ECE programs. Further, the quality of U.S. ECE programs varies widely even within local areas. Although the United States has greatly increased expenditures on ECE, U.S. governments pay only 40 percent of the costs of ECE, while European governments pay 70 percent to 90 percent of the costs of ECE. None of the major U.S. ECE programs simultaneously provides work support for parents, child development opportunities for children, and the cognitive and non-cognitive skills that low-income children need for success in school.

The evidence suggests that the U.S. ECE system is neither efficient nor equitable. Consolidation of funding and administration of current U.S. ECE programs could substantially lower transaction costs

for parents and provide more stable care arrangements for children. Increased funding could improve the quality of existing programs, extend hours and months of operation, and make care available to all eligible families. Both the evaluation literature and the European experience suggest that such a consolidated, well-funded system could be successful in preparing poor children for school. Further, the benefits of such a program could well exceed the costs because it is precisely low-income children who benefit most from stable, high-quality ECE. However, such a targeted program will have neither the positive peer group effects nor the social-integration benefits of universal ECE programs. Further, and perhaps more important, targeted programs are likely to have less broad-based popular support than are universal programs.

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Notes

1. Some states enacted leave statutes prior to 1993. In 1989, 12 states had maternity leaves and 11 states had parental leaves (Clearinghouse on International Developments in Child, Youth and Family Policies, 2002a).

2. Many states also offer dependent care tax credits or deductions. These credits/deductions are generally a proportion of the federal credit, and some states (e.g., Colorado, Nebraska, and New York) have refundable credits. See pp. 35–37 of Mitchell, Stoney, and Dichter (2001) for details of state tax programs related to early care and education.

3. These numbers do not control for the proportion of the population under age six. With its higher fertility rate, the United States has a larger proportion of children under age six compared to most European countries.

4. Two-year-olds are gradually being shifted into the universal care program.

5. The numbers include TANF spending on child care subsidies. The numbers given do not include federal funds used for Pre-K programs because we were unable to find any annual reporting of federal funding for Pre-K.

6. Title 1 of the Elementary and Secondary Education Act (ESEA) provides direct, formula-based funds to local schools with large numbers of poor children. In late 2001, only about 30 percent of schools used Title 1 funding for Pre-K programs, while 80 percent used state or local education funds for this purpose (Smith et al., 2003).

7. During World War II, the federal government provided child care for an estimated 550,000 to 600,000 children so that their mothers could work to support the war effort.

8. Note that the data for kindergarten are for academic year 1998–1999. These are the latest data available. See Watson and West (2004).

9. See http://www.state.nj.us/njded/genfo/toc.htm for more information regarding pre-kindergarten programs in New Jersey.

10. See http://www.tea.state.tx.us/curriculum/ece.html for further information.

11. Although vouchers are now said to be funded by the Care Development Fund, the block grant to the states is still called the Child Care Development Block Grant.

12. See http://www.smartstart-nc.org/national/states.htm for a list of states and communities implementing Smart Start. See http://www.childcareservices.org/TEACH/T.E.A.C.H.-TA-Center.htm for a list of states implementing T.E.A.C.H.

13. See http://www.smartstart-nc.org/overview/donors.htm for a list of donors.

14. See http://www.hhs.oregonstate.edu/familypolicy/occrp/publications/2001-Parents-Receiving-ChildCare-Subsidies.pdf for a description of the studies carried out.

15. See www.yale.edu/bushcenter/21C/research.html.

16. See http://www.mdrc.org/project_16_38.html for a brief description of the project.

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