Policies to Assist Parents with Young Children

Christopher J. Ruhm

Summary

The struggle to balance work responsibilities with family obligations may be most difficult for working parents of the youngest children, those five and under. Any policy changes designed to ease the difficulties for these families are likely to be controversial, requiring a careful effort to weigh both the costs and benefits of possible interventions while respecting diverse and at times conflicting American values. In this article, Christopher Ruhm looks at two potential interventions—parental leave and early childhood education and care (ECEC)—comparing differences in policies in the United States, Canada, and several European nations and assessing their consequences for important parent and child outcomes.

By and large, Canadian and European policies are more generous than those in the United States, with most women eligible for paid maternity leave, which in a few countries can last for three years or more. Many of these countries also provide for paid leave that can be used by either the mother or the father. And in many European countries ECEC programs are nearly universal after the child reaches a certain age. In the United States, parental leave, if it is available, is usually short and unpaid, and ECEC is generally regarded as a private responsibility of parents, although some federal programs help defray costs of care and preschool education.

Ruhm notes that research on the effects of differences in policies is not completely conclusive, in part because of the difficulty of isolating consequences of leave and ECEC policies from other influences on employment and children's outcomes. But, he says, the comparative evidence does suggest desirable directions for future policy in the United States. Policies establishing rights to short parental leaves increase time at home with infants and slightly improve the job continuity of mothers, with small, but positive, long-run consequences for mothers and children. Therefore, Ruhm indicates that moderate extensions of existing U.S. leave entitlements (up to several months in duration) make sense. He also suggests that some form of paid leave would facilitate its use, particularly among less advantaged parents, and that efforts to improve the quality of ECEC, while maintaining or enhancing affordability, are desirable.

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Christopher J. Ruhm is a professor of public policy and economics at the University of Virginia and a research associate at the National Bureau of Economic Research.

Balancing the competing needs of work and family life is a challenge for most households, but the difficulties may be greatest for households with young children, defined here as newborns through age five. Parents in many of these families struggle to find sufficient time both to fulfill work responsibilities and provide the intensive care that young children require.

Two trends exacerbate this struggle in the United States. First, mothers with infants and small children engage in market employment at much higher rates than they once did. Sixty percent of mothers with children under the age of six worked in 2008 compared with 33 percent in 1975.[1] This near-doubling reflects a general increase in the share of all working women as well as particularly fast growth in employment among mothers. Second, more children are now raised by single parents, mostly females: the proportion of children under age eighteen in sole-parent households rose from 23 percent in 1980 to 30 percent in 2008.[2] Clearly, single-parent households do not have the option of one parent working while the other cares for the children, nor do these households have the same flexibility as two-parent families to coordinate work schedules with family obligations. The growing number of single-parent households also suggests that fewer adults are available to share family responsibilities. In combination, these trends imply that a smaller fraction of young children reside in families with an adult who does not work or works only part time: the share of children with a nonworking parent declined from 64 to 34 percent between 1967 and 2009; the fraction with all parents in the household employed full time and full year rose from 14 to 33 percent.[3]

Public policies designed to ease work-family conflicts have been implemented at both the federal and state level. The most significant is the 1993 Family and Medical Leave Act (FMLA), which provides some parents the right to twelve weeks of unpaid leave following the birth of a child or for other reasons. Entitlements to job-protected or paid leave nevertheless remain extremely limited in the United States, particularly in comparison with other countries. In 2006 the United States was 1 of only 4 nations, of a total of 173, that did not guarantee some measure of paid maternity leave.[4] Even more significant, all other developed countries provide new parents rights to paid time off from work, and these entitlements often last well into early childhood.[5] Also important are policies related to the provision and financing of early childhood education and care (ECEC). Indeed, in many countries the distinction between parental leave and ECEC is no longer clear-cut. Parents often have rights to extensive leaves that cover a substantial portion of the early childhood period, and policies related to time off work and care of infants and toddlers are often fairly tightly integrated.[6]

By and large, U.S. parental policies differ dramatically from those in other industrialized countries. Foreigners frequently express surprise at the limited nature of U.S. policies, and changes that would be considered radical by many Americans are modest by their standards. Given these substantial differences in attitudes, traditions, and the institutional environment surrounding families and work, parental leave and ECEC policies in place elsewhere may not produce the same results in the United States. Still, the experiences of other nations may offer useful lessons that could help shape workable policy in the United States.[7]

This article summarizes key characteristics of parental leave and ECEC policies in the United States, Canada, and countries of Western Europe and assesses their consequences for important parent and child outcomes. Isolating the effects of these policies from other influences on the family-work balance is challenging. Recently, however, researchers have begun to use a variety of sophisticated estimation procedures (such as difference-in-difference, instrumental variables, and regression discontinuity methods) in an effort to do so. Although considerable uncertainty often remains, as reflected in the somewhat ambiguous results reported in several places in this article, these findings from the United States and other advanced countries nonetheless point in some interesting policy directions.[8]

Availability of Parental Leave

As noted, the primary parental leave policy in the the United States is the FMLA, which was enacted in 1993 after years of debate. This law entitles eligible workers to twelve weeks of job-protected leave during a twelve-month period to care for newborns or newly adopted children; leave may also be taken for serious medical problems experienced by the employee or relatives. Although historic by U.S. standards, the FMLA contains significant limitations. First, the leaves are unpaid, although employers must continue health insurance coverage, and workers can be required to use accrued sick leave or vacation before taking FMLA leave. Second, small companies (employing fewer than fifty persons within seventy-five miles of the work site) are not covered by the law, and individuals in covered companies must have worked at least 1,250 hours during the previous twelve months to be eligible. Finally, job reinstatement (in the same or an equivalent position) is not guaranteed for certain "key" employees. Because of these restrictions, only around half of private sector workers are eligible to take FMLA leaves.

Twenty-five states had enacted some type of parental leave before the federal law was put in place.[9] Many of the rights provided in these state laws were less generous than those under the FMLA and so were subsumed by it. However, fifteen states and the District of Columbia currently supply benefits that exceed the federal law in at least some dimension, as detailed in table 1. Most frequently, eligibility is extended by covering smaller firms or relaxing the work history requirements; four states and the District of Columbia also provide for slightly longer unpaid leave periods (between thirteen and seventeen weeks).

Six states provide rights to paid family leave.[10] These entitlements take two forms. First, after passage of the federal Pregnancy Discrimination Act in 1978, the five states providing temporary disability insurance were required to treat pregnancy as a short-term disability. As a result, new mothers in these states receive partial payment (usually one-half to two-thirds of earnings) for around six weeks; job reinstatement at the end of the leave is not guaranteed.[11] Second, three states currently offer or are scheduled to provide explicit paid parental leave. California did so first. Its program, which took effect in 2004, offers six weeks of leave for an employee to bond with a newborn baby or with an adopted or foster child (or to care for a seriously ill parent, child, spouse, or registered domestic partner), with 55 percent of earnings replaced (up to a ceiling).[12] Coverage includes part-time workers and those working in relatively small firms and so is broader than that under the FMLA, but job protection is not guaranteed (unless the employee is

Table 1. Additional State Leave Entitlements beyond FMLA

	Expanded rights to unpaid leave				Temporary disability insurance	Paid leave
State	Smaller firms	Shorter tenure	Fewer work hours	Longer leaves		
California					X	X
Connecticut			X	X		
District of Columbia	X		X	X		
Hawaii		X	X		X	
Maine	X		X			
Massachusetts	X	X	X			
Minnesota	X	X	X			
Montana	X	X	X			
New Jersey			X		X	X
New York					X	
Oregon	X	X	X	X		
Rhode Island				X	X	
Tennessee	X			X		
Vermont	X					
Washington						X
Wisconsin			X			

Sources: Wen-Jui Han and Jane Waldfogel, "Parental Leave: The Impact of Recent Legislation on Parents' Leave Taking," *Demography* 40, no. 1 (2003): 191–200; Sarah Fass, *Paid Leave in the States: Critical Support for Low-Wage Workers and Their Families* (New York: National Center for Children in Poverty, Columbia University, 2009).
Note: The table excludes parental leave laws covering state employees only.

also covered by the FMLA). New Jersey's paid leave law, enacted in 2008, also provides for six weeks away from the job and sets a higher earnings replacement rate than California does (66 versus 55 percent) but a lower maximum weekly benefit ($546 versus $959 in 2009). Job protection is not guaranteed, nor are part-time workers covered. Finally, Washington state enacted a law to provide state payments during five weeks of leave at a flat weekly rate of $250, with prorated pay for part-time workers and job protection for persons meeting a work history requirement and in companies with twenty-five or more employees. This program was scheduled to begin in 2009, but budget issues have delayed its implementation until 2012.

In contrast to the United States, Europe has a long tradition of maternity leave—the first programs were enacted in Germany and Sweden at the end of the nineteenth century. These rights were initially linked to sick leaves, ranged between four and twelve weeks, with limited lump sum or flat rate payment benefits and no job protection.[13] By World War I thirteen countries supplied paid maternity leave (eight more offered unpaid leave), and all major Western European countries did so by the start of World War II. These policies were typically paternalistic in their concern for the health of the child and mother, with mothers required to take at least some of the leave, and often had a pronatalist and nationalistic orientation.

Table 2. Parental Leave Entitlements in Europe and Canada, 2008

Country	Number of months			
	Total leave	Leave exclusive to fathers	Paid leave	Paid 2/3 earnings or more
Austria	24.0	0	24.0	4.0
Belgium	9.5	3.0	9.5	4.0
Canada	12.0	0	11.5	0
Denmark	12.0	0.5	11.5	12.0
Finland	38.0	1.0	38.0	11.0
France	37.5	0.5	10.0	4.0
Germany	39.5	2.0	17.5	15.0
Greece	16.0	6.5	10.0	8.0
Iceland	15.0	6.0	9.0	9.0
Ireland	16.0	3.5	6.0	6.0
Italy	14.5	4.0	10.5	4.5
Netherlands	16.0	6.0	4.0	4.0
Norway	34.5	14.0	12.5	12.5
Portugal	36.0	5.0	12.0	6.5
Spain	72.0	36.0	4.0	4.0
Sweden	36.5	18.0	16.5	13.0
Switzerland	3.5	0	3.5	3.5
United Kingdom	18.5	3.75	9.5	1.5

Sources: Peter Moss, ed., *International Review of Leave Policies and Related Research, 2009* (London: Employment Relations Research Series 102, University of London, 2009); Rebecca A. Ray, *A Detailed Look at Parental Leave Policies in 21 OECD Countries* (Washington: Center for Economic Policy Research, 2008).

After World War II many European countries began to broaden eligibility for maternity leave, expand its durations, and provide or enhance cash payments.[14] Since the 1960s these policies have evolved from prohibitions on employing women before and after birth to job-protected time away from work to care for young children. Many nations that previously mandated compulsory leaves added job protection and, starting in the mid-1990s, extended leave durations through the implementation of parental leave provisions available to mothers or fathers.[15] This latter provision reflects a desire in many European countries for greater gender neutrality in leave policies.[16] Such concerns are particularly salient; extended leave formerly was taken almost exclusively by mothers, raising the possibility that the policies might have reduced rather than increased gender equity.[17]

Current European parental leave policies exhibit substantial cross-country variation, but most share some common elements.[18] Table 2 summarizes key characteristics of these systems, showing total duration of parental leave entitlements in 2008, leave exclusively provided to fathers, and the number of months of paid and highly paid leave (highly paid leave is defined as time off work with at least two-thirds of earnings replaced).[19]

All European nations offer paid maternity leave, typically fourteen to twenty weeks

(sometimes subsumed into the broader parental leave system), with 70–100 percent of wages replaced. The variation in leave entitlements is much wider following the end of maternity leave. Three years or more of job-protected leave are provided in Finland, France, Germany, and Spain; the duration ranges between eighteen months and two years in Austria, Norway, and Sweden. These long durations can be misleading, however, because some countries (Austria, France, and Spain, for example) offer high wage replacement rates for only a portion of the period, whereas others (such as Denmark and Italy) provide shorter leaves but at higher rates of pay.

Paternity leave is less common and of shorter duration. All but two of the seventeen European nations listed in table 2 provide fathers at least some time off work, but only five countries (Finland, Germany, Iceland, Norway, and Portugal) replace at least two-thirds of wages for three weeks or more; others offer new fathers only a few days of high-wage replacement (Greece and the Netherlands) or none at all (Austria, Ireland, and Italy).[20] Where fathers take significant time off work, it is usually because countries provide nontransferable leaves or offer "bonus" arrangements extending the total leave period if some is used by fathers.

Leave payments are generally financed through payroll taxes or general government revenues, rather than directly by employers, consistent with standards set by the International Labour Union and the European Union. The government payments are motivated by a desire to spread the costs widely to avoid burdening specific employers and to reduce the likelihood that companies discriminate against those workers most likely to take leave. Employment history requirements are short—usually six months or less with the firm—although some countries require slightly longer periods of work or social insurance contributions before a worker qualifies for full benefits.[21]

Using the total number of months of highly paid parental leave as a summary indicator of leave rights, Germany and the five Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) are the most generous, providing nine to fifteen months at high wage replacement. Less generous are Great Britain, which offers less than two months, at high replacement rates, and eight nations (Austria, Belgium, France, Greece, Italy, the Netherlands, Spain, and Switzerland) that provide about four months.[22]

The use of parental (but typically not maternity) leave can be quite flexible. Depending on the country, employees may be able to use the leave at any point until the child reaches a specified age, take longer leaves at lower wage replacement rates or shorter leaves at higher replacement pay, combine part-time work with partial leave payments, reduce work hours, take specified breastfeeding breaks, and refuse overtime or scheduling changes that conflict with family responsibilities.[23]

Canadian leave policies are of interest given the similarities of many Canadian and U.S. institutions and traditions (for example, both countries are federal systems in which some laws and policies differ from state to state). Although only three Canadian provinces offered job-protected maternity leave in 1970, by 1981 all mandated rights to at least fifteen weeks of leave; in 2008 the durations ranged from fifty-two to fifty-four weeks, except in Quebec, where the duration was seventy weeks.[24] Leave is currently paid at

55 percent of average earnings, up to a ceiling (the rate is higher in Quebec). The first fifteen to eighteen weeks are maternity leave, reserved for mothers, while either parent can use the remainder. Leave is administered at the provincial (rather than the national) level, and benefits are provided through the employment insurance system and financed by employee premiums. To qualify for leave, individuals must have worked at least 600 hours and paid employment insurance premiums for the past year.

Canada provides lower wage replacement rates (particularly during maternity leave) and has stricter eligibility criteria than is the case in much of Europe; however, the leave durations exceed those in Austria, Belgium, Ireland, Switzerland, and the United Kingdom. Thus, in the European context, Canada falls in the middle in generosity, while being unusual in administering family leave benefits through the employment insurance rather than social insurance system.

The costs of parental leave are fairly modest. Expenses in the Nordic countries averaged 0.5 to 0.7 percent of gross domestic product (GDP) in 1998; those in other European nations ranged from less than 0.1 to 0.4 percent. These figures had changed only slightly by 2002, despite increased generosity of the programs in some countries, to between 0.5 and 0.8 percent of GDP in the Nordic countries and 0.1 to 0.2 percent of GDP in seven other Western European nations (Austria, Germany, Ireland, the Netherlands, Portugal, Switzerland, and the United Kingdom).[25] These estimates suggest that substantial expansion of leave rights (including paid entitlements) in the United States would not be prohibitively expensive. As further evidence, the California paid-leave program is financed completely by employee payroll tax contributions that were capped at $64 a worker in 2005.[26] Such costs are also small relative to other related social expenditures. For example, in 2007, the latest year for which common data are available, the United States spent 7.6 percent of its GDP on education, while the OECD average was 5.7 percent.[27]

Consequences of Parental Leave Policies

Governments enact parental leave entitlements to help parents balance the competing demands of work and family, to improve the labor market status of women (including reducing the "family gap" in earnings), and to enhance child and maternal health and development. Some European nations also use these policies in an effort to increase gender equity and raise fertility.

Parental leave permits employees to take time off work, rather than having to quit, to care for a newborn or newly adopted child. Leave policies may therefore increase job continuity—the ability of parents to stay in their prebirth job—and so help them retain use of skills or knowledge specific to their employer, potentially enhancing productivity and resulting in better long-term earnings and career advancement. Leave may also lower stress by decreasing uncertainty about future employment. These benefits are by no means guaranteed, however. For example, long leaves may cause human capital to depreciate, reducing productivity and wages. Extensive leave rights may make employers less likely to employ types of workers with high propensities to use leave or to reduce the costs of these absences by cutting training.

Proponents of leave entitlements believe that these policies also enhance the health and

long-term development of children by giving parents more time to invest in their children during the critical first years of life. Although the theoretical rationale for such benefits seems clear (notwithstanding the possibility that the gains could be offset if leave rights lower earnings), these issues are challenging to study, because potential benefits are difficult to measure in most large-scale data sets and may not strongly manifest until many years after birth. The following describes the current state of knowledge on the consequences of parental leave policies, again with attention paid to evidence from Western Europe and Canada, as well as from the United States.

Leave-Taking, Job Continuity, and Employment

An explicit aim of leave policies is to allow parents to spend more time at home with young children. Such efforts appear successful. Availability of highly paid leave delays the return to work by mothers after giving birth. Data from several countries, including Great Britain, Canada, Germany, and the Scandinavian nations, show that many women return to jobs precisely when their paid leave ends.[28] Results for the brief unpaid leaves offered in the United States are more equivocal. Studies examining periods ending shortly after enactment of the FMLA or earlier state mandates find either small but statistically insignificant positive effects or no change in leave-taking.[29] However, recent research that better controls for potential confounding factors and includes more current periods indicates that leave entitlements increase the time mothers take off from work during the birth month and the next two months and are associated with a growth in *paternal* leave-taking during the birth month that is small in absolute size but large in percentage terms.[30] These increases in leave are concentrated among college-educated and married parents, with no apparent changes for less-educated persons or single mothers, who less often qualify for or can afford to take unpaid leave.

Leave entitlements that are highly paid and of short or intermediate duration also appear to increase long-run employment. In a study using data from 1969 to 1993 for nine European countries, paid leave rights were associated with a 3–4 percent rise in female employment.[31] The estimated impact was similar whether the leave was brief or more extended, indicating that even relatively short leaves may yield benefits by increasing job continuity (the ability of mothers to return to their prebirth employers). Direct evidence from Canada and Great Britain shows that the enactment of fairly brief (seventeen to eighteen weeks) paid entitlements enhances job continuity, compared with having no leave rights, with some effect found in the United States for even shorter (twelve to sixteen weeks) unpaid leaves.[32]

The effects of rights to extended parental leaves are less obvious, because the benefits of improved job continuity may be offset by depreciation of human capital during lengthy periods away from the job. Data from the European study discussed in the previous paragraph ended in 1993, when leave rights were often much shorter than those currently mandated, so the results may not generalize to the consequences of more recent leave extensions.[33] An analysis of Austrian reforms in 1990 (which increased paid leave from twelve to twenty-four months) and 1996 (which reduced paid leave to eighteen months) did not uncover evidence of any long-term changes in employment, nor did a study of multiple changes in German leave policies.[34] Such findings may be less relevant

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in the United States, where lengthy leave entitlements such as those granted in much of Europe seem unlikely to be adopted. U.S. research examining shorter (largely unpaid) leaves arrives at mixed conclusions. Two studies suggest that these leaves are associated with small (sometimes statistically insignificant) increases in female employment, while a third argues that enactment of the FMLA led to reductions in the labor force participation of mothers with young children.[35]

Earnings

An important motivation for parental leave policies is to reduce the "family gap" in wages (the low earnings of mothers relative to childless females or males). One early investigation suggests that the family gap was largely eliminated in the United States and Great Britain for mothers of infants who used parental leave and then returned to their pre-birth employer.[36] However, this study focused on leaves voluntarily provided by firms and so suffers from potential selection bias.[37]

Few U.S. studies examine how changes in leave entitlements affect earnings. Those that do look at these changes obtain mixed and generally inconclusive results, perhaps because the short, mostly unpaid leave rights in the United States are too modest to have much impact.[38] European investigations usually find either no effect or wage gains following short or moderate durations of paid leave. The nine-nation study mentioned earlier found that earnings were unaffected by rights to brief leaves but that employees receiving lengthy leave entitlements (more than five or six months) suffered a small wage penalty.[39] In contrast, Denmark's expansion of leave in 1984 to twenty weeks, from fourteen, appears to have slightly raised mothers' earnings for several years after birth.[40]

Ambiguous evidence is also obtained from single-country studies of rights to lengthy leaves. Research examining policy changes in Austria, Germany, and Sweden finds that women's wages are largely unaffected by the length of the leave.[41] Conversely, evidence from one study in Denmark and another in Germany suggests that human capital losses during the period away from work have lasting (but not necessarily permanent) negative effects on earnings and that employers may reduce the training provided to women of childbearing age, with potential long-term deleterious consequences.[42] A related concern is that parental leave policies might increase occupational segregation and limit the advancement of women. Research on Sweden suggests that such concerns may be justified in the case of lengthy leave entitlements.[43]

Health and Development

Until recently, there have been few high-quality analyses of whether parental leave yields health benefits, for either mothers or children, or positively affects the longer-term developmental outcomes of children.[44] One

of the first studies using more sophisticated methods examined data for sixteen European nations from 1969 to 1994 and found that paid parental leave entitlements were associated with decreased mortality for infants and young children. The largest drops in deaths were for babies aged two through twelve months, where parental involvement might be anticipated to have the strongest effect.[45] The estimates suggest that paid leave of about forty weeks has the greatest effect in reducing mortality; longer paid entitlements result in smaller gains, while unpaid leave results in little benefit. A follow-up study that expanded the sample to eighteen nations and the time period through 2000 obtained similar results, plus evidence of reductions in low-weight births.[46]

A reasonable reading of the existing research is that U.S. policies establishing rights to short unpaid leaves have modestly raised time at home with infants and slightly increased the job continuity of mothers.

Maternal leave might benefit child health because it increases breast feeding. Such an effect was found from a doubling of Canadian leave rights in 2000 from around six months to one year.[47] A related investigation showed that this leave expansion increased the time parents spent at home and reduced nonparental child care, but the study found little consistent evidence of changes in developmental outcomes at seven through twenty-four months of age.[48] One U.S. analysis found that return to work by mothers within twelve weeks of giving birth is associated with decreases in well-baby visits, breast feeding, and child immunizations, and with lower cognitive scores and more behaviorial problems at age four.[49] A second showed that state leave mandates adopted before enactment of the FMLA raised maternity leave use by about one week and that this increase was associated with a drop in the mother's postpartum depressive symptoms and physician visits to address health problems.[50]

The availability of comprehensive national databases for individuals starting at birth and sometimes continuing through adulthood has permitted particularly innovative research on how leave entitlements in Denmark, Germany, Norway, and Sweden are related to child educational and subsequent labor market outcomes.[51] The lengthy time periods such studies require imply that they do not generally evaluate the extremely long leaves currently provided in those countries. However, findings about the extensions of the somewhat shorter (albeit generally paid) time off they do examine may be particularly relevant in the U.S. context. This research typically shows that parental leave has either no or modest benefits for long-run school performance, educational attainment, and subsequent labor market outcomes.

Fertility

Parental leave entitlements sometimes have been expanded in hopes of raising fertility or slowing its decline. Evidence from the Scandinavian countries and Austria suggests that these efforts meet with some success.[52] Increased fertility is probably less desirable in the United States, given its higher birth rates and relatively rapid population growth. In

any event, the relatively modest leave entitlements that might be realistically considered for this country would be unlikely to have much effect on fertility.[53]

Overall Assessment

A reasonable reading of the existing research is that U.S. policies establishing rights to short unpaid leaves have modestly raised time at home with infants and slightly increased the job continuity of mothers, probably with small but positive long-run consequences. Parental leave expansions that do not exceed six months or a year in length are generally associated with either no effect or slight increases in the relative earnings of mothers, as well as with gains in maternal and child health and longer-term outcomes for children. The size of these benefits is difficult to ascertain, however, because of formidable challenges in estimating causal effects, potential differences across specific policies, and the likelihood that leave rights are only one among many types of work-family policies potentially affecting earnings, health, and children's well-being. It seems likely that moderate extensions of existing U.S. leave entitlements (up to several months in duration), with or without pay, would yield further benefits for both mothers and children. Lengthy paid leaves are much less likely to be implemented in the United States, and the benefits of doing so would be less certain in any event. In particular, the right to take a year or more off work may well be associated with reductions in maternal earnings and possibly with increased occupational segregation, as employers try to limit the adjustment difficulties associated with supplying lengthy leaves.

Early Childhood Education and Care

The supply and financing of ECEC services in the United States are primarily private responsibilities and present formidable challenges to many families. In 2005, 63 percent of U.S. children under age five received care from someone other than the "designated parent" (usually the mother), most commonly in day-care centers or preschools (35 percent), from grandparents (23 percent), or in informal settings such as in the care provider's or child's home (13 percent). About 17 percent of children used more than one of these arrangements, a situation that itself suggests the balancing act engaged in by many parents.[54] Use of nonparental care is closely linked to maternal employment. Almost 90 percent of children with employed mothers received care from someone else (fathers were the primary caregivers about one-sixth of the time), with multiple arrangements used for 25 percent of these children. Preschool-aged children averaged about nineteen hours a week in care if their mother did not work compared with thirty-five hours if she did.

In 1999 families with children under age six spent an average of 4.9 percent of their after-tax (and transfer) income paying for their young children's care.[55] One reason this amount was not larger is that 63 percent of these households incurred no child care expenses because they did not use nonparental care, used only free care (like relatives) or, less commonly, received subsidies for formal care. On the other hand, 10 percent of such families devoted at least one-sixth of their income to child care, and 5 percent of families spent one-quarter or more of their income caring for young children. Sole-parent households spent twice as much of their income on care as two-parent households did (7.9 versus 3.9 percent). The share of income spent on care fell as income rose, but not by as much as might be expected (from 6.2 for the bottom income decile to 4.4

percent for the top) for three reasons. First, families with a nonemployed parent have lower incomes on average but also use less paid care. (However, high child-care costs may be one reason why the parent does not work.) Second, poorer families more often use free or inexpensive modes of nonparental care and pay lower rates within modes. Finally, low-income parents are more likely to receive subsidized care.

The federal government has played a limited but gradually increasing role in supporting ECEC. Probably the best-known federal ECEC program is Head Start, which has operated since 1965 to provide compensatory education and other services to children from low-income families (primarily those below the poverty line or receiving welfare assistance) and to disabled preschool children.[56] In fiscal year 2009, $7.1 billion was appropriated to the program, which served 904,000 children. Most of those served (87 percent) were three- and four-year-olds, but 10 percent were younger than three and were enrolled in Early Head Start, which began in 1994. Four-fifths of program costs are paid directly to local public and private service providers, with the remainder taking the form of local match or in-kind contributions. Head Start services are offered on a part-time basis (approximately three and a half hours a day) in some localities and full time (at least six hours daily) in others. The program serves only a small fraction of those economically eligible, however, suggesting that its reach is limited, even among the low-income population.[57]

The Child Care Development Fund (CCDF) is the largest federal source of child-care subsidies. Formally implemented in 1996, the CCDF consolidated several previously existing child-care programs. It grew rapidly through 2003 but has had relatively stable nominal funding since then, meaning that funding is declining in real terms. In fiscal year 2006 program expenditures totaled about $9.1 billion, of which $5 billion came from direct federal appropriations, around $2.2 billion from required state matching funds, and $1.9 billion from state transfers from the Temporary Assistance for Needy Families (TANF) block grant.[58] CCDF funds can be used for children up to age thirteen, but about two-thirds goes to those aged six or under. Subsidies cannot be provided to children in families whose income exceeds 85 percent of the state median income; in practice the actual thresholds are usually considerably lower (for example, in half the states, the ceiling for receiving subsidies is 55 percent or less of median income). The program serves 1.7 million children a month, or about 20 percent of income-eligible children. Parents have substantial choice regarding the setting in which subsidized care occurs: 57 percent used center-based care in fiscal 2006, while 29 percent used family day care; most of the rest of the subsidized children were cared for in their own home or that of another family. Eighty-nine percent of subsidies take the form of vouchers or cash. States are allowed to establish payment rates (within federal guidelines), and most families pay for a portion of the care on a sliding basis.

A second much smaller source of federal subsidies is the Social Services Block Grant (SSBG). Forty-one states provided child-care subsidies in 2006 under this program, primarily to low-income families; but appropriations have been falling, with only about $180 million allocated to day care in that year.[59]

A substantial share of children aged five and under in low-income families have access to subsidized child care through one of these

programs: 51 percent of young poor children and 28 percent of young nonpoor children eligible for CCDF subsidies received care through the CCDF, TANF, or SSBG programs in 2005.[60] These estimates do not include enrollments in Head Start or state prekindergarten (pre-K) programs. However, eligibility for and enrollment in the subsidized programs fall rapidly for families with incomes above the poverty level, and the required co-payments imply that even subsidized families often devote a substantial portion of their incomes to child care.[61] Also, with the exception of Head Start, the care need not have an explicit educational orientation, even for children approaching the age of formal school entry.

States have attempted to fill some of these gaps through pre-K programs. Thirty-eight states provided such services, in the 2008–09 school year, to 150,000 three-year-olds and more than 1 million four-year-olds (3.7 and 25.4 percent of these age groups).[62] The programs mostly serve low- and moderate-income children. Average spending levels are modest ($4,100 a student annually in 2009 compared with $8,400 for Head Start) and have declined somewhat, adjusting for inflation, during the past decade. The percentage of three- and four-year-olds served has trended upward (from 3.0 and 14.0 percent of these age groups, respectively in 2002), but this growth has recently slowed or reversed in many states. Services can be received in a variety of venues, with about one-third of children in state-funded private programs. Pre-K is typically provided five days a week during the academic year but with substantial local variation—facilities operate fewer than five days a week in about one-third of states. Most children attend pre-K for two to four hours a day, although "full-day" programs (six to seven hours) are an option in some states and standard in others. Even in these cases, however, most employed parents need to make additional care arrangements to fill any gap between the school day and the workday.[63]

Tax policies assist some families in paying for child care. Employed parents could use the Child and Dependent Care Tax Credit to receive a tax credit for between 20 and 35 percent of their expenses, up to $6,000 in 2010, to care for two or more children age twelve and under ($3,000 for one child).[64] The tax credit is nonrefundable, however, limiting its benefit for low-income families whose tax bills are low, and the percentage of expenses credited begins to phase out at incomes of $15,000; the minimum (20 percent) credit rate applies to families with adjusted gross incomes of $43,000 or more.

Alternatively, up to $5,000 can be tax-sheltered for persons in companies with flexible spending accounts (where employees are allowed to set aside a portion of pay to cover specified expenses on a pre-tax basis). These provisions tend to offer the greatest benefits to high-income families, who have the largest marginal tax rates and highest probabilities of being offered flexible spending plans. Families must generally choose between the child care tax credit or flexible spending plans, because income sheltered through the latter must be excluded when the tax credit is calculated.

The average quality of child care in the United States is not high. An evaluation of the "process" quality of care (based on direct observation of the interactions between caregivers and children) in nine states revealed that just 9 percent of children aged fifteen months to three years (observed between 1996 and 1999) generally received positive caregiving, while 61 percent rarely or

Table 3. Early Care and Education Arrangements

	0- to-2-year-olds			In formal care by age (%)		
Country	In formal care (%)	Average hours (no.)	No nonparental care (%)	3	4	5
Austria	11	23	72	48	83	93
Belgium	42	30	42	100	100	100
Canada	24	32	—	16	42	100
Denmark	63	34	27	94	93	85
Finland	26	35	75	66	70	74
France	43	30	50	99	100	100
Germany	14	22	63	82	93	93
Greece	18	31	37	—	56	86
Iceland	56	36	39	94	95	97
Ireland	25	25	59	—	47	100
Italy	29	30	51	97	100	100
Netherlands	23	17	25	—	74	98
Norway	42	31	51	87	92	93
Portugal	44	40	34	63	81	93
Spain	34	28	49	96	97	100
Sweden	45	29	48	82	87	88
Switzerland	<10	—	—	9	38	97
United Kingdom	40	18	46	79	91	100
United States	31	31	51	39	58	78

Sources: OECD Family Database (www.oecd.org/els/social/family/database); OECD, *Starting Strong II: Early Childhood Education and Care* (Paris: Organization for Economic Cooperation and Development, 2006).
Notes: "Formal care" refers to care in licensed centers and accredited family day care; it is measured in 2006 (2005 in the Netherlands and United States). "Average hours" indicate the weekly time in formal care and is conditional on some use. No nonparental child care is measured in 2008 (except 2007 in France and 2005 in the United States) and refers to families without a usual child-care arrangement during a typical week.
— Not available.

never did.[65] A 1993–94 study of 749 classrooms in 401 child-care centers indicated that the quality of care was so low in 12 percent of the centers that basic health and safety needs were unmet. Quality was rated mediocre in nearly three-fourths of the centers, with only 14 percent supplying high-quality care; just 8 percent of infants and toddlers were in classrooms where the care was rated as high quality.[66] This low process quality is accompanied by, and almost certainly related to, the deficiencies found when "structural" indicators of care such as group size, child-staff ratios, and caregiver training and pay are examined.[67]

A Cross-National Perspective

ECEC arrangements in the comparison nations, while heterogeneous, can often be usefully separated into the periods before and after the third birthday.[68] In the earliest years, emphasis is typically on care, health, and safety. Depending on the country, this early care might occur in formal modes (child-care centers or crèches) or informal settings (family day care, relative care, or play groups). Starting at age three, educational skills receive more emphasis, often in preschools, and institutional responsibility for care usually shifts from the social insurance to educational system. Public provision and

Table 4. Early Care and Education Financing and Costs

Country	Public ECEC spending as a % of GDP	Public spending per child ($)		Net child-care costs as a % of family income	
		0- to 2-year-olds	3- to 5-year-olds	Dual earners	Sole parents
Austria	—	—	—	15	17
Belgium	0.79	2,333	4,698	4	4
Canada	—	—	4,052	22	30
Denmark	1.17	6,376	3,743	8	9
Finland	0.94	7,118	2,420	7	7
France	1.00	2,858	4,679	11	10
Germany	0.38	860	3,538	8	8
Greece	—	—	—	5	5
Iceland	1.18	5,733	4,589	15	11
Ireland	—	—	—	29	45
Italy	0.61	1,558	4,626	—	—
Netherlands	0.47	1,092	5,881	12	9
Norway	0.77	6,425	4,127	8	–2
Portugal	0.40	—	3,293	4	4
Sweden	0.98	5,928	3,627	6	6
Switzerland	0.23	1,129	2,515	30	18
United Kingdom	0.58	3,563	4,255	33	23
United States	0.35	794	4,660	19	37

Sources: OECD Family Database (www.oecd.org/els/social/family/database); *Benefits and Wages 2007: OECD Indicators* (Paris: Organization for Economic Cooperation and Development, 2007).
Notes: The first column shows public ECEC spending on children aged five and younger. Public spending per child is in U.S. dollars for 2005, adjusted for purchasing power parity. Net child-care costs are for 2004 for full-time formal care of children aged two or three, and are defined as total fees minus cash benefits, rebates, and tax concessions measured as a percentage of family income. Net child-care costs are calculated for dual-earner families whose incomes are equal to 167 percent of the national average wage and for sole-parent families with incomes equal to 100 percent of the average wage.
— Not available.

payment generally become nearly universal at some point during this later period, although families are still often required to make a financial contribution.

At one end of the continuum, the Nordic countries use an integrated and nearly universal ECEC system, where care starts when parental leave ends (generally around age one or two) and continues with an increasingly education-oriented component until the child enters primary school at the relatively late age of seven. ECEC spending is high in these countries—around 1 percent of GDP for children five and under in Denmark, Iceland, and Sweden—and the expenditures are especially large during the first three years of life. One reason is that care facilities are open about eleven hours a day year-round. Another is that the child-care workers in these nations typically have a university degree and are highly trained in early child care. In other countries training levels are typically lower for infant and toddler caregivers than for those caring for older children in preschool settings. Belgium, France, and Italy provide fewer services during the first three years of life, but formal care becomes nearly universal and extensive by age three. Tables 3 and 4 provide descriptive information on care arrangements, costs, and financing.

Gender roles in Austria, Germany, and the Netherlands are fairly traditional in that mothers provide most of the care to young children. As a result, relatively few infants or toddlers are regularly placed in nonparental settings, particularly in formal modes, and then for relatively few hours. Public ECEC spending is therefore limited during the first three years but becomes more generous thereafter. Universal entitlements to preschool begin at age three or four but the programs often run for only part of a day or involve long (two-hour) lunch breaks or closures on some weekday afternoons, making it difficult for parents to work full time without alternative sources of care.

Care arrangements during the first three years of life are often integrated with parental leave rights, with lengthier leaves implying less extensive use of nonparental care. For example, Finland combines long durations of highly paid parental leave with minimal support for publicly financed early child care, whereas Denmark provides shorter leave but higher rates of child-care coverage. Figure 1 illustrates how lengthy paid leaves are typically associated with reductions in the use of formal care and increased (exclusive) reliance on parents for regular child care.[69]

The U.S. system is most similar to other Anglo-Saxon nations (Canada, Great Britain, and Ireland) and Switzerland, which all rely on private, market-driven decentralized child care for much of the preschool period. Universal rights to early education begin at relatively late ages, with one result being that three- and four-year-olds are placed in early education programs or other types of formal care comparatively infrequently. Public ECEC spending is limited in these countries, particularly during the first three years, and most of it comes as (narrowly focused) tax deductions or credits.[70] One consequence is that the net cost to parents of placing two- and three-year-olds in formal care is high (see the last two columns of table 4). However, Great Britain is moving toward the more typical European system, where education-oriented preschool is common and inexpensive beginning around age three.

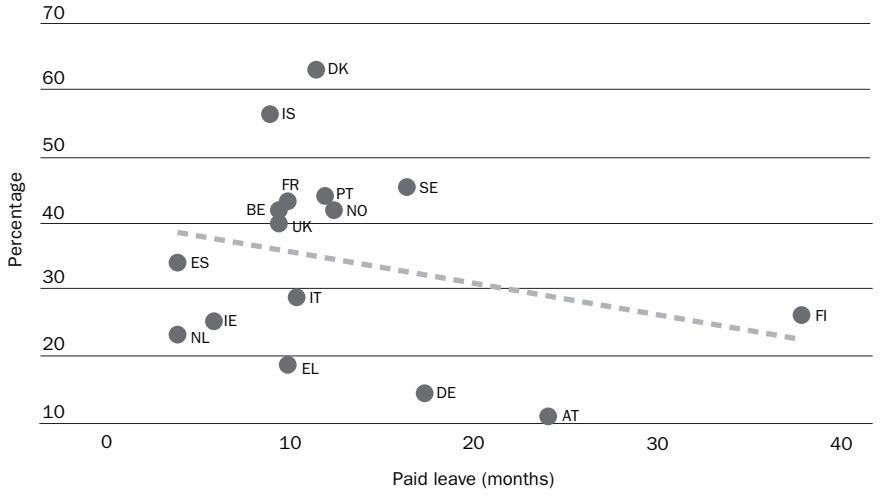
ECEC in the United States remains distinctive in at least two ways. First, public investment in care during the first three years of life is smaller, both in absolute terms and as a percentage of GDP, than in any of the comparison countries (the most similar are Germany and the Netherlands). Second, the United States has the lowest enrollment in formal care (which includes preschool) by five-year-olds and among the smallest for four-year-olds, suggesting continuing challenges for many working families during these years, as well as possible negative consequences for children not receiving education-oriented care at these ages.

Employment Consequences

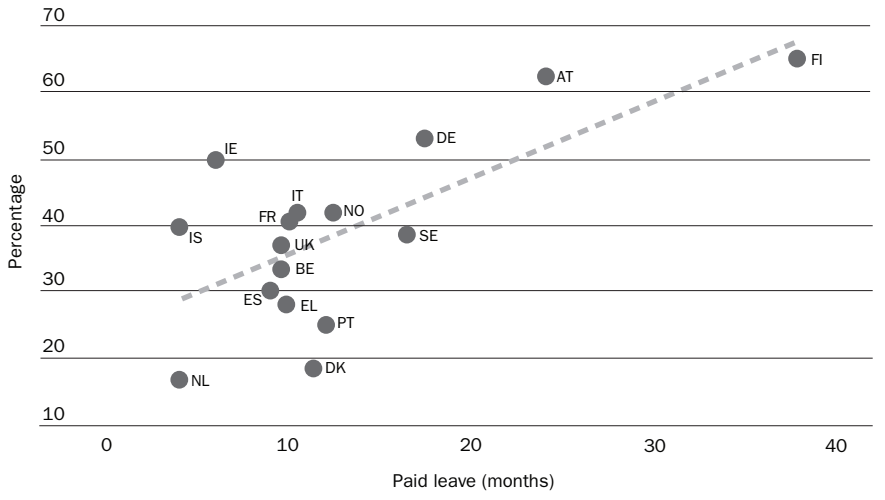
A large body of U.S. research has examined how child-care prices influence the employment rates of mothers (less often these studies also look at work hours). Virtually all analyses indicate that higher prices reduce labor supply, although the predicted magnitudes differ substantially. Two reviews of research conducted before 2000 suggest that child-care cost elasticities of maternal employment range from 0 to slightly over -1.0, with the most credible estimates varying between -0.1 and -0.5 (an elasticity of -0.5 indicates that a 10 percent increase in child-care prices reduces maternal employment by around 5 percent).[71] This uncomfortably wide range of predicted effects reflects the difficulties researchers face in adequately accounting for the choice of preferred child-care modes

Figure 1. Use of Care during First Three Years of Life As a Function of Paid Parental Leave

a. Share using formal child care



b. Share using only parental care



Source: See tables 2 and 3.
Note: The dashed line indicates the linear regression estimate of the predicted relationship. Country abbreviations: Austria (AT), Belgium (BE), Denmark (DK), Finland (FI), France (FR), Germany (DE), Greece (EL), Iceland (IS), Ireland (IE), Italy (IT), the Netherlands (NL), Norway (NO), Portugal (PT), Spain (ES), Sweden (SE), United Kingdom (UK).

(which may include inexpensive or free sources of informal care) and for nonrandom selection into child-care use and employment.

Research that examines the period since the 1996 reform of the welfare system continues to provide disparate estimates of child-care cost elasticities, within the range of those obtained using data from before the mid-1990s. Nevertheless, almost all studies indicate that lower child-care costs promote maternal work, particularly full-time employment, especially for single mothers and those with young children or relatively high

child-care expenses.[72] Research for other countries also typically finds a negative relationship between child-care prices and maternal employment, although with small effects where nonparental day care at young ages is common.[73]

These investigations may not fully indicate the effects of direct government subsidies, because families may treat these subsidies differently from other sources of child-care cost reductions.[74] Analyses of child-care subsidies focused on low-income families during the era before welfare reform indicate positive but, again, often widely varying and small employment effects.[75] Subsidies provided after welfare reform appear to have large effects, however, especially for the low-income (usually single-parent) families they target. In particular, the probability that single mothers work and use formal, center-based care increases while rates of nonemployment or employment combined with the use of informal child care falls.[76] Public ECEC funding also increases maternal employment in other countries. An analysis of nineteen OECD countries predicts that raising public child-care expenditures from the sample average to the level spent in Denmark—the highest of the nations analyzed—would increase the labor force participation rates of women aged twenty-five to fifty-four by 4.4 percentage points, from a base of 76.4 percent.[77]

Universal ECEC entitlements also appear to raise the number of women in the workforce. Two innovative U.S. studies find that the availability of public kindergarten strongly increased the employment of single mothers whose youngest child was five years old (and so eligible for kindergarten) but had a weaker or nonexistent influence on married women or unmarried females who also had younger children.[78] A program in Quebec that charged just $5 a day for child care for one- to four-year-olds, between 1997 and 2000, led to a 13–14 percent rise in the employment of mothers with children of this age.[79]

ECEC service expansions, particularly those aimed at younger children, did not always increase maternal employment, however. The provision of free prekindergarten services to four-year-olds in Georgia and Oklahoma had little impact on maternal employment, nor did a Norwegian reform, during the mid-1970s, that dramatically increased the availability of heavily subsidized child-care slots for three- to six-year-olds.[80] In both cases, public subsidies may have "crowded out" the use of informal care. Whether that is a desirable outcome depends on relative costs and benefits of different modes of ECEC.

Child Health and Development

The consequences of ECEC policies for child health and cognitive or social development cannot be completely separated from those of parental leave policies or of parental employment during the child's first years of life. This discussion thus largely abstracts from studies of work and infancy, most of which suggest that maternal job-holding or long work hours have negative consequences for their infants.[81] Although the related literature is too vast to be fully described, an overall conclusion is that the quality of care matters. Put simply, high-quality care mitigates any negative consequences of ECEC and enhances its benefits.[82] At one extreme, favorable short- and long-term benefits (such as gains in cognitive development and eduational attainment) have been obtained from expensive, high-quality, and comprehensive "model" interventions aimed at disadvantaged children, such as the Carolina Abecedarian Project or Perry Preschool Project. But these

projects are unlikely to be replicated in broad nationwide or state-level interventions, so I do not elaborate upon them.

Formal (center- or school-based) ECEC received immediately before kindergarten appears to promote school readiness. Children, particularly those who are disadvantaged, who attend prekindergarten in the year before formal schooling begin that formal schooling with better math and reading skills, although some of these gains may be transitory or offset by later compensatory education that targets less-prepared children.[83] Early center-based care also predicts somewhat higher rates of behavior problems in the late toddler years and at school entry, however.[84] More generally, formal day care earlier in life may have fewer beneficial effects, particularly for children who receive long hours of such care at very young ages.[85]

ECEC has mixed and generally modest effects on child health and safety. Use of nonparental care in the first two years of life increases the risk of infectious diseases, particularly respiratory ailments, but this exposure may confer some subsequent protection from allergies and asthma (because exposure to microorganisms stimulates immune system responses).[86] On average, children are safer in child-care settings than at home. Head Start participation is also associated with better dental care and overall health as well as with reductions in obesity.[87]

Research on other countries indicates diverse consequences of establishing or expanding formal child-care programs. The provision of almost free universal care to preschool-age children in Quebec was associated with increased behaviorial problems among two- and three-year-olds.[88] No similar behavioral effects were found for most Danish three-year-olds enrolled in preschools (although the study found some deleterious consequences for those in family day care).[89] Finally, expansion of highly subsidized formal child care in Norway during the 1970s may have increased completed education and earnings at thirty to thirty-three years of age.[90] The very different findings in these studies might reflect heterogeneous quality and age effects. Expensive and presumably high-quality care was provided in the two Scandinavian countries, whereas the Quebec expansion consisted largely of (generally lower-quality) home-based care, often supplied to very young children.

Overall Assessment

Taken together, the studies are more ambiguous about the overall consequences of ECEC policies than of parental and maternity leave policies. One reason for this uncertainty is the diverse nature of the policies themselves, which vary substantially in the types of services provided or subsidized, the ages of the children covered, and the modes in which the care occurs. A second reason is the difficulty of determining which outcomes are of key interest (for example, cognitive test scores at school entry versus long-term educational and developmental outcomes) and how to accurately measure them. That said, it seems clear that new U.S. efforts to cut the cost or increase the availability of ECEC services would make it easier for mothers to work, although the size of the employment response is uncertain and probably dependent on the specific changes implemented. From the perspective of children, the arguments for expanding ECEC policies are strongest for those focused on disadvantaged toddlers or children approaching school entry. Many other countries have implemented or moved toward providing public

prekindergarten to all children. The case for doing so in the United States would be considerably strengthened if such efforts were combined with improvements in the quality of the (often poor) care currently provided.

Where Do We Go from Here?

The United States provides relatively limited public support for the efforts of households with preschool-age children to balance the competing responsibilities of work and family life. Rights to parental leave are short and unpaid in all but a few states, in contrast to the paid and often lengthy work absences available in many other industrialized countries. The contrasts between the United States and the comparison nations are not quite as stark for the provision of ECEC. Nonetheless, in the United States ECEC is primarily a private responsibility, whereas most of the comparison nations have moved toward universal entitlements to public prekindergarten, beginning at age three or four, and many have much greater public involvement in child care at younger ages.

A first issue, therefore, is to determine the extent of any desire among Americans to raise the support for families with young children. The answer is not entirely obvious. The United States has long followed a path of "exceptionalism," where citizens have viewed differences between U.S. policies and practices and those of other countries with pride. This perspective complements a long tradition of limited government involvement, reliance on the free market, and suspicion of public efforts to solve social problems. There is nevertheless reason to believe that most Americans would like to see more comprehensive efforts to address issues of work-family balance. For instance, a poll conducted in 2009 by the Rockefeller Foundation and *TIME* revealed that 77 percent of adults think that "businesses should be required to provide paid family and medical leave for every family that needs it," with 73 percent stating that "business should provide their employers with more child care benefits," and 59 percent agreeing that "the government should provide more funding for child care to support parents who work."[91] The remaining discussion therefore assumes that increased assistance is desirable and considers how such help could be provided.

Probably the first question to address is whether parental leave and ECEC policies should be universal or targeted. Observed practices vary across both countries and policies. All of the comparison nations provide universal entitlements to paid parental leave, although often with more extended rights for selected groups (such as those with birth complications or larger families). ECEC policies exhibit more variation. Expansions of prekindergarten programs and the integration of early day care into broader education systems suggest a movement toward universality. Yet several countries remain closer to the U.S. model of fragmented and mostly privately financed care, providing public support only to specific groups such as low-income or sole-parent families. Nor does the empirical evidence unambiguously indicate the desired direction for policy. Most studies suggest that children gain from high-quality ECEC immediately before school entry, but the results are less clear for care at younger ages (particularly if its quality is questionable). ECEC generally has the most positive consequences for disadvantaged children, a finding that suggests potential support for targeted interventions. However, universality may offer additional benefits, including increasing the political support for high-quality (usually more expensive) programs.

Any policy change designed to ease the difficulties in balancing the needs of work and family will be controversial, requiring a careful effort to weigh both the costs and benefits of possible interventions while respecting diverse and at times conflicting American values.

If greater assistance is to be provided to families with young children, it must be paid for. International evidence suggests that the costs are not overwhelming, particularly when compared with those of other programs targeting children (such as formal education) or seniors (such as public pensions and medical care). But these financing issues are nontrivial in the current era of large budget deficits and rising costs of other public programs. Once again there are two main alternatives: public versus private funding. In nations with strong traditions of social insurance, parental leave policies and ECEC programs are viewed as a national responsibility, and the costs are largely borne by the general public. At the other extreme, the expenses can be directly covered by individuals or their employers or through taxes whose incidence falls largely upon the affected groups.

"Employer mandates" have often been implemented in the United States and are attractive because they do not impose costs directly on the government. However, they are likely to result in wage decreases for groups most likely to use the benefits (such as women of childbearing age) as employers attempt to pass the costs through to their employees.[92] Moreover, if institutional barriers are enacted to prevent reductions in earnings for these workers, companies may become reluctant to hire persons likely to use the benefits, leading to an overall decline in their employment.

From an economic perspective, broad payment systems have the substantial advantage of reducing the incentives employers might otherwise have to avoid employing (or investing in) groups with high levels of expected program use. Such systems also provide insurance, in the most fundamental sense, for the costs of expensive and not fully predictable outcomes. Moreover, to the extent that children represent a "public good," it is appropriate to spread these costs throughout the economy.

Public financing can be provided through either broadly distributed payroll taxes or general revenues. Payroll taxes reduce incentives to work because they decrease the net (after-tax) wage, although when program expenses are spread across all workers, the effect on incentives may be fairly small. In addition, payroll taxes can be quite regressive (that is, the tax rate is greater for low earners than for high earners) if the taxes are paid only up to an earnings threshold, as currently occurs for Social Security but not Medicare.[93]

The use of general tax revenues has several advantages. First, it is the broadest-based source of funding and so provides the fewest incentives to discriminate against high-use groups. Second, financing comes from unearned as well as earned sources of income, implying that work disincentives are minimized. Finally, such financing is

consistent with the perspective that parental leave and ECEC represent social investments in children and families. Conversely, the use of general revenues may engender particularly strong political opposition, particularly in an era of tight budgets and limited political support for federally funded social programs. It may also encourage some individuals to "game the system" (by working just long enough to qualify for public benefits, for example), and may sometimes crowd out efficiently operating private arrangements.

The United States faces many challenges in supporting the efforts of households with young children to balance the competing needs of work and family life. Any policy change designed to ease the difficulties in balancing these needs will be controversial, requiring a careful effort to weigh both the costs and benefits of possible interventions while respecting diverse and at times conflicting American values. That said, previous research suggests that policies establishing rights to short parental leaves increase time at home with infants and slightly improve the job continuity of mothers, with small, but positive long-run consequences for mothers and children. Therefore, it probably makes sense to provide moderate extensions of existing U.S. leave entitlements (up to several months in duration), with some form of payment during the leave period being necessary to facilitate its use among less-advantaged parents. The consequences of lengthy paid leaves are much less certain, but there is little realistic possibility that these will be considered in the United States in the foreseeable future.

Reaching consensus on desired changes in policies related to early care and education may be still more complicated, given the often ambiguous results of previous research. However, efforts to improve the quality of care provided, while maintaining or enhancing affordability, are almost certainly desirable. The most obvious method of achieving these twin objectives is to provide increased government support through subsidy arrangements or the direct provision of services. In an ideal world, such efforts would probably be most efficiently targeted toward low-income and disadvantaged parents, for whom the need and benefits are probably the greatest. However, the history of social programs in the United States and Europe suggests that there may be greater benefits from universal programs that build a stronger base of political support both for financing and the maintenance of quality.

Endnotes

1. U.S. Bureau of Labor Statistics, *Women in the Labor Force: A Databook,* Report 1018 (September 2009). The employment rate of mothers with children aged five and under has remained fairly stable, ranging between 58 and 60 percent since 1996.

2. U.S. Census Bureau, *Statistical Abstract of the United States: 1999,* 119th ed. (Government Printing Office, 1999); U.S. Census Bureau, *Statistical Abstract of the United States: 2010,* 129th ed. (Government Printing Office, 2009).

3. Liana Fox and others, "Time for Children: Trends in the Employment Patterns of Parents, 1967–2009" (Columbia University, March 2011).

4. Jody Heymann, Alison Earle, and Jeffrey Hayes, "The Work, Family Equity Index: How Does the United States Measure Up?" (Montreal: McGill University Project on Working Families and the Institute for Health and Social Policy, 2007). The three other countries that do not provide paid leave are Liberia, Papua New Guinea, and Swaziland. In many developing countries these rights are likely to be limited to formal sector employment and may not always be provided in practice.

5. Australia supplies a lump-sum payment to new parents but no additional payment during the leave period. However, a newly introduced paid leave scheme is scheduled to make eighteen weeks of paid leave available starting in 2011; see Peter Moss, ed., *International Review of Leave Policies and Related Research, 2009,* Employment Relations Research Series 102 (University of London, 2009).

6. Many other government policies with relevance for work-family balance do not receive much attention here. For example, reforms to the U.S. welfare system have created additional pressures for many families, particularly where exemptions from work requirements for parents with infants or toddlers have been shortened or eliminated. Although potentially important, such effects are by-products of policies enacted for other reasons and a careful treatment of them is beyond the scope of this discussion. Nor is significant attention paid to the Women, Infants, and Children program, which provides federal food subsidies and other support to pregnant women and some families with young children, or to private employer policies that certainly play a significant role for many families. Because the focus here is on families with preschool-age children, policies with more general impacts such as family allowances in Europe or the Earned Income Tax Credit in the United States are not examined. Finally, policies supporting breast feeding (breast-feeding breaks in the workplace) or time off work to take care of one's own health problems or to care for sick children, are detailed in other chapters of this volume and so receive little attention here.

7. Households with young children may find it more difficult to achieve work-family balance in the United States than in the other industrialized nations, but that is not entirely because of higher rates of maternal employment. The fraction of mothers in the United States with children under age three who work is greater than the average for all advanced countries (54 versus 45 percent in 2007) but substantially below rates in Sweden, Denmark, the Netherlands, Portugal, and Belgium, and similar to those in France, Canada, Germany, Spain, and the United Kingdom; see Organization for Economic Cooperation and Development, OECD Family Database (www.oecd.org/els/social/family/database). Part-time work is more common in other advanced countries, however, and rights to lengthy maternity and parental leave imply that parents with young children are often formally "employed" but not working, in contrast to the United States, where such leaves are almost always brief; see Wen-Jui Han, Christopher Ruhm, and Jane Waldfogel, "Parental Leave Policies and Parents' Employment and Leave-Taking," *Journal of Policy*

Analysis and Management 28, no. 1 (2009): 29–54. Europeans also generally receive four to five weeks of paid vacation (plus public holidays) annually, whereas vacation is not guaranteed in the United States and rarely exceeds two or three weeks; see U.S. Department of Labor, *National Compensation Survey: Employee Benefits in the United States, March 2009,* Bulletin 2731 (September 2009). Finally, the share of children living in single-family homes is significantly lower in Europe than in the United States; see OECD Family Database.

8. Policy outcomes may also vary with other aspects of the institutional environment. For example, the impact of parental leave may depend on the quality of the nonparental child care.

9. Eileen Trzcinski and William T. Alpert, "Pregnancy and Parental Leave Benefits in the United States and Canada," *Journal of Human Resources* 29, no. 2 (1994): 535–54. A distinction is often made between maternity leave occurring at or near the time of birth and parental leave, which takes place subsequently. The term *parental leave* is used to cover both types of time off work in most of the discussion here.

10. Employers occasionally give some workers paid leave, even when such rights are not mandated, but the practice is uncommon: In 2008 just 8 percent of private industry employees worked for companies providing paid family leave to some of their workforce; U.S. Census Bureau, *Statistical Abstract of the United States: 2010* (see note 2). Paid leave is also sometimes received on an informal basis or through the use of accrued vacation, sick leave, or personal leave.

11. Sarah Fass, *Paid Leave in the States: A Critical Support for Low-Wage Workers and Their Families* (Columbia University, National Center for Children in Poverty, March 2009). Payments are received directly from employers (or their insurers) in some states and from the government in others.

12. This paragraph is based on information in Fass, *Paid Leave in the States* (see note 11), and Alex Stone, *Paid Family Leave: U.S. Families Falling (Way) behind the Rest of the World* (Washington: Washington Family Leave Coalition, 2010).

13. This discussion is based on Christopher J. Ruhm and Jackqueline L. Teague, "Parental Leave Policies in Europe and North America," in *Gender and Family Issues in the Workplace,* edited by Francine D. Blau and Ronald G. Ehrenberg (New York: Russell Sage Foundation, 1997), pp. 133–56; Sheila B. Kamerman, "A Global History of Early Childhood Education and Care," background paper prepared for the Education for All Global Monitoring Report 2007: *Strong Foundations: Early Childhood Care and Education* (Paris: UNESCO, 2006); Meryl Frank and Robyn Lipner, "History of Maternity Leave in Europe and the United States," in *The Parental Leave Crisis: Toward a National Policy,* edited by Meryl Frank and Robyn Lipner (Yale University Press, 1988), pp. 3–22; and Anne-Marie Brocas, Anne-Marie Cailloux, and Virginie Oget, *Women and Social Security: Progress towards Equality of Treatment* (Geneva: International Labour Office, 1990).

14. These expansions followed the 1952 International Labour Organization Maternity Protection Convention, which called for widening coverage to include women in nonindustrial and agricultural occupations, extending maternity leave to twelve weeks (with at least six weeks after birth remaining compulsory), and providing cash payments of not less than two-thirds of previous earnings from social insurance or other public funds (rather than from the employer).

15. European Union Council Directive 96/34/EC of June 3, 1996, requires EU members (except Great Britain) to provide at least three months of parental leave as an individual right, to mothers and fathers, with guaranteed return to the same or an equivalent job.

16. Some changes are motivated by other considerations. For instance, the 2007 German replacement of a means-tested parental leave benefit with a benefit that instead depended on previous wages was designed to increase female labor force participation and fertility rates, particularly for high-income families; see Katharina C. Spiess and Katharina Wrohlich, "The Parental Leave Benefit Reform in Germany: Costs and Labour Market Outcomes of Moving towards the Nordic Model," *Population Research and Review* 27, no. 5 (2008): 575–91.

17. For example, fewer than 1 percent of Austrian fathers and 1–2 percent of German fathers used parental leave during the mid-1990s, compared with 96 percent of corresponding mothers; even in Finland, Norway, and Sweden, where most men take some parental leave, the vast majority of total time off work was taken by women; see Gwennaële Bruning and Janneke Plantenga, "Parental Leave and Equal Opportunities: Experiences in Eight European Countries," *Journal of European Social Policy* 9, no. 3 (1999): 195–209.

18. This chapter focuses on Western European nations because they have the longest traditions of providing parental leaves. Some innovations developed elsewhere, however, such as paid child-rearing leaves in Central and Eastern Europe.

19. The leave durations do not reflect the extra entitlements available to limited groups (such as government workers or those covered under collective agreements) or additional time off given for multiple births or medical complications, or in other situations such as second or later children). Leave restricted to men is separately broken out because benefits available to either parent are almost always taken by women. There is often a maximum benefit, implying that less than two-thirds of wages are replaced for persons earning above the threshold. Some countries offer a limited period of leave at a high replacement rate or longer durations at lower pay. A portion of the leave is also often paid at a (typically low) flat rate.

20. Longer paid work absences are often available to fathers if mothers choose not to take leave or explicitly transfer the entitlement to their husbands; however, mothers rarely take those options.

21. Self-employed persons may have stricter qualification conditions or higher social insurance contribution rates, and fathers sometimes face additional eligibility criteria.

22. Rebecca Ray, Janet C. Gornick, and John Schmitt, *Parental Leave Policies in 21 Countries: Assessing Generosity and Gender Equity* (Washington: Center for Economic Policy Research, 2008), obtain similar results using an alternative calculation of the amount of "full-time equivalent" paid leave.

23. For additional details, see Peter Moss and Fred Deven, "Country Notes: Introduction and Main Findings," in *International Review of Leave Policies and Related Research 2009*, edited by Moss, pp. 77–99; Ray, Gornick, and Schmitt, *Parental Leave Policies in 21 Countries* (see note 22); and Ariane Hegewisch and Janet C. Gornick, *Statutory Routes to Workplace Flexibility in Cross-National Perspective* (Washington: Institute for Women's Policy Research, 2008).

24. For details see Michael Baker and Kevin Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?" *Journal of Labor Economics* 26, no. 4 (2008) 655–91; Rebecca A. Ray, A *Detailed Look at Parental Leave Policies in 21 OECD Countries* (Washington: Center for Economic Policy Research, 2008).

25. Janet C. Gornick and Marcia K. Meyers, *Families That Work: Policies for Reconciling Parenthood and Employment* (New York: Russell Sage Foundation, 2003); Nabanita Datta Gupta, Nina Smith, and Mette

Verner, "The Impact of Nordic Countries' Family Policies on Employment, Wages, and Children," *Review of the Economics of the Household* 6, no. 1 (2008): 609–29.

26. Fass, *Paid Leave in the States* (see note 11).

27. OECD, "Education at a Glance 2010: OECD Indicators" (www.oecd.org/document/52/0,3746,en_2649_39263238_ 45897844_1_1_1_1,00.html).

28. Marit Rønsen and Marianne Sundström, "Family Policy and After-Birth Employment among New Mothers: A Comparison of Finland, Norway and Sweden," *European Journal of Population* 18, no. 2 (2002): 121–52; Christian Dustmann and Uta Schönberg, "The Effects of Expansions in Maternity Leave Coverage on Children's Long-Term Outcomes," IZA Discussion Paper 3605 (Bonn: Institute for the Study of Labor, 2008); Simon Burgess and others, "Maternity Rights and Mothers' Return to Work," *Labour Economics* 15, no. 2 (2008): 168–201; Maria Hanratty and Eileen Trzcinski, "Who Benefits from Paid Leave? Impact of Expansions in Canadian Paid Family Leave on Maternal Employment and Transfer Income," *Journal of Population Economics* 22, no. 3 (2009): 693–711.

29. Charles L. Baum, "The Effects of Maternity Leave Legislation on Mothers' Labor Supply after Childbirth," *Southern Economic Journal*, 69, no. 4 (2003): 772–99; Wen-Jui Han and Jane Waldfogel, "Parental Leave: The Impact of Recent Legislation on Parents' Leave Taking," *Demography* 40, no. 1 (2000): 191–200.

30. Han, Ruhm, and Waldfogel, "Parental Leave Policies and Parents' Employment and Leave-Taking" (see note 7). The control group includes persons having children approximately one year in the future. Leave rights increase predicted maternal leave taking by 5 to 9 percentage points (13 to 20 percent) in the birth month and next two months and paternal leave taking by 3.9 percentage points (54 percent) in the birth month.

31. Christopher J. Ruhm, "The Economic Consequences of Parental Leave Mandates: Lessons from Europe," *Quarterly Journal of Economics* 113, no. 1 (1998): 285–317.

32. Baker and Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment?" (see note 24); Jane Waldfogel, "The Family Gap for Young Women in the United States and Britain: Can Maternity Leave Make a Difference?" *Journal of Labor Economics* 16, no. 3 (1998): 505–45; Baum, "The Effects of Maternity Leave Legislation on Mothers' Labor Supply after Childbirth" (see note 29).

33. For instance, in 1993 mothers were entitled to twenty-eight, sixteen, fourteen, and forty-two weeks of paid leave in Denmark, France, Ireland, and Norway, respectively, versus forty-eight, forty-two, twenty-six, and ninety weeks in 2008.

34. Rafael Lalive and Josef Zweimüller, "How Does Parental Leave Affect Fertility and Return to Work: Evidence from Two Natural Experiments," *Quarterly Journal of Economics* 124, no. 3 (2009): 1363–1402; Uta Schönberg and Johannes Ludstek, "Maternity Leave Legislation, Female Labor Supply, and the Family Wage Gap," IZA Discussion Paper 2699 (Bonn: Institute for the Study of Labor, 2007). The latter study investigated German changes lengthening paid leave from two to six months in 1979, six to ten months in 1986, and eighteen to thirty-six months in 1992.

35. Positive employment effects were found by Charles L. Baum, "The Effect of State Maternity Leave Legislation and the 1993 Family and Medical Leave Act on Employment and Wages," *Labour Economics* 10, no. 5 (2003): 573–96; Han, Ruhm, and Waldfogel,"Parental Leave Policies and Parents' Employment

and Leave-Taking" (see note 7). Negative impacts were found by Natalie K. Goodpaster, "Leaves and Leaving: The Family and Medical Leave Act and the Decline in Maternal Labor Force Participation," *B. E. Journal of Economic Analysis and Policy (Contributions)* 10, no. 1 (2010), Article 6. The employment reductions are hypothesized to occur because some women on leave discover that they prefer being home with their young children to returning to work.

36. Waldfogel, "The Family Gap for Young Women in the United States and Britain" (see note 32).

37. For instance, the family gap in Denmark is overestimated by failing to account for the self-selection of mothers into relatively low-paid public sector jobs; see Helena Skyt Nielsen, Marianne Simonsen, and Mette Verner, "Does the Gap in Family-Friendly Policies Drive the Family Gap?" *Scandinavian Journal of Economics* 106, no. 4 (2004): 721–24.

38. Jane Waldfogel, "The Impact of the Family and Medical Leave Act," *Journal of Policy Analysis and Management* 18, no. 2 (1999): 281–302; Baum, "The Effect of State Maternity Leave Legislation and the 1993 Family and Medical Leave Act on Employment and Wages" (see note 35).

39. Ruhm, "The Economic Consequences of Parental Leave Mandates" (see note 31).

40. Astrid W. Rasmussen, "Increasing the Length of Parents' Birth-Related Leave: The Effect on Children's Long-Term Educational Outcomes," *Labour Economics* 17, no. 1 (2010): 91–100.

41. James W. Albrecht and others, "Career Interruptions and Subsequent Earnings: A Reexamination Using Swedish Data," *Journal of Human Resources* 34, no. 2 (1999): 294–311; Dustmann and Schönberg, "The Effects of Expansions in Maternity Leave Coverage on Children's Long-Term Outcomes" (see note 28); Lalive and Zweimüller, "How Does Parental Leave Affect Fertility and Return to Work" (see note 34).

42. Nabanita Datta Gupta and Nina Smith, "Children and Career Interruptions: The Family Gap in Denmark," *Economica* 69, no. 276 (2002): 609–29; Helena Skyt Nielsen, "Causes and Consequences of a Father's Child Leave: Evidence from a Reform of Leave Schemes," IZA Discussion Paper 4267 (Bonn: Institute for the Study of Labor, 2009); Patrick A. Puhani and Katja Sonderhof, "The Effects of Maternity Leave Extension on Training for Young Women," *Journal of Population Economics* 24, no. 2 (2011): 731–60.

43. James Albrecht, Anders Björklund, and Susan Vroman,"Is There a Glass Ceiling in Sweden?" *Journal of Labor Economics* 21, no. 1 (2003): 145–77. "Glass ceiling" effects are hypothesized to manifest through larger gender differentials higher in the earnings distribution. No such differential existed in 1968, but one emerged by the early 1980s and strengthened in the 1990s, when parental leave rights were expanded. Occupational segregation also increased over time.

44. Such research is reviewed in Katharina Staehelin, Paola Coda Bertea, and Elisabeth Zemp Stutz, "Length of Maternity Leave and Health of Mother and Child: A Review," *International Journal of Public Health* 52, no. 4 (2007): 202–09.

45. Christopher J. Ruhm, "Parental Leave and Child Health," *Journal of Health Economics* 19, no. 6 (2000): 931–60.

46. Sakiko Tanaka, "Parental Leave and Child Health across OECD Countries," *Economic Journal* 15, no. 501 (2005): F7–F28.

47. Michael Baker and Kevin Milligan, "Maternal Employment, Breastfeeding, and Health: Evidence from Maternity Leave Mandates," *Journal of Health Economics* 27, no. 4 (2008): 871–87. They also provide

evidence of reductions in asthma, chronic conditions, allergies, and ear infections at seven to twelve months but raise concern about the robustness of these findings.

48. Michael Baker and Kevin Milligan, "Evidence from Maternity Leave Expansions of the Impact of Maternal Care on Early Child Development," *Journal of Human Resources* 45, no. 1 (2010): 1–32.

49. Lawrence Berger, Jennifer Hill, and Jane Waldfogel, "Maternity Leave, Early Maternal Employment and Child Health and Development in the US," *Economic Journal* 115, no. 501 (2005): F29–F47. These results suggest but do not explicitly test for effects of leave.

50. Pinka Chatterji and Sara Markowitz, "Does the Length of Maternity Leave Affect Maternal Health?" *Southern Economic Journal* 72, no. 1 (2005): 16–41.

51. Pedro Carneiro, Kartine Løken, and Kjell G. Salvanes, "A Flying Start? Maternity Leave and Long-Term Consequences of Time Investments in Infants in Their First Year of Life" (University College London, March 2010); Dustmann and Schönberg, "The Effects of Expansions in Maternity Leave Coverage on Children's Long-Term Outcomes" (see note 28); Qian Liu and Oskar Nordström Skans, "The Duration of Paid Parental Leave and Children's Scholastic Performance," *B. E. Journal of Economic Analysis and Policy* (*Contributions*) 10, no. 1 (2010): Article 3; Rasmussen, "Increasing the Length of Parents' Birth-Related Leave" (see note 40).

52. Anders Björklund, "Does Family Policy Affect Fertility," *Journal of Population Economics* 19, no. 1 (2006): 3–24; Gupta, Smith, and Verner, "The Impact of Nordic Countries' Family Policies on Employment, Wages, and Children" (see note 25); Lalive and Zweimüller, "How Does Parental Leave Affect Fertility and Return to Work" (see note 34).

53. Higher fertility in Austria and Sweden largely result from a "speed premium," where having an additional child during the original period of leave extends its duration. Leaves in excess of one year are required to allow for such strategic behavior because of the biological difficulty in timing births within a shorter period.

54. Lynda Laughlin, "Who's Minding the Kids? Child Care Arrangements: Spring 2005/Summer 2006," *Current Population Reports*, P70-121 (U.S. Census Bureau, August 2010).

55. Dan T. Rosenbaum and Christopher J. Ruhm, "Family Expenditures on Child Care," *B. E. Journal of Economic Analysis and Policy* (*Topics*) 7, no. 1 (2007): Article 34.

56. Except where noted, the information on government programs in this section is from *Green Book, 2008: Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means* (Washington: House of Representatives, Committee on Ways and Means, 2009) (http://waysandmeans.house.gov/singlepages.aspx?NewsID=10490). Additional information on Head Start was obtained from the Administration for Children and Families, "Head Start Program Fact Sheet Fiscal Year 2010" (http://eclkc.ohs.acf.hhs.gov/hslc/Head%20Start%20Program/Head%20Start%20Program%20Factsheets/fHeadStart-Progr.htm); and Melinda Gish, "Head Start: Background and Issues," CRS Report for Congress RL30952 (Washington: Congressional Research Service, updated January 9, 2006).

57. Using fiscal year 2009 enrollment figures from Administration for Children and Families, "Head Start Program Fact Sheet Fiscal Year 2010" (see note 56) and estimates of the economically eligible population in 2004, from Gish, "Head Start: Background and Issues" (see note 56), I estimate that the program served 47 percent of income-eligible three- and four-year-olds and 3 percent of income-eligible children below age three in fiscal year 2009.

58. States are permitted to transfer up to 30 percent of their TANF block grant to CCDF and can directly spend TANF funds on child care. In 2006 they allocated around $1 billion for the latter.

59. A few states have implemented at-home infant care programs that subsidize low-income parents who provide child care in the home; see National Partnership for Women & Families, "At-Home Infant Care (AHIC): A Side-by-Side Comparison of Federal and State Initiatives" (www.nationalpartnership.org/site/DocServer/AHICchartOct05.pdf?docID=1048).

60. "Child Care Eligibility and Enrollment Estimates for Fiscal Year 2005," *ASPE Issue Brief* (Washington: U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, July 2008).

61. The average family receiving CCDF benefits paid 4.7 percent of its income for subsidized child-care services in fiscal year 2006.

62. In addition, 319,000 three- and four-year-olds received special education services. Information in this paragraph is from W. Steven Barnett and others, *The State of Preschool, 2009* (Rutgers University, National Institute for Early Education Research, 2009).

63. Also deserving mention is the U.S. Department of Defense child-care program, the nation's largest employer-sponsored child-care system, which has been transformed from a low-quality program to one viewed as a national model for providing high-quality care; see M.-A. Lucas, "The Military Child Care Connection," *The Future of Children*, 11, no. 1 (2001): 128–33.

64. Internal Revenue Service, *Child and Dependent Care Expenses: For Use in Preparing 2010 Returns*, Publication 503 (2010) (www.irs.gov/pub/irs-pdf/p503.pdf).

65. NICHD (National Institute for Child Health and Human Development) Early Child Care Research Network, "Characteristics and Quality of Child Care for Toddlers and Preschoolers," *Applied Developmental Science* 4, no. 3 (2000): 116–35.

66. Suzanne W. Helburn, ed., *Cost, Quality and Child Outcomes in Child Care Centers: Technical Report* (University of Colorado, Center for Research in Economic and Social Policy, 1995). These results overestimate the overall quality of care if centers eligible for the study but choosing not to participate in it had lower-than-average quality.

67. In addition to the study mentioned in the previous note, see Deborah Lowe Vandell and Barbara Wolfe, "Child Care Quality: Does It Matter and Does It Need to Be Improved?" Institute for Research on Poverty Special Report 78 (University of Wisconsin–Madison, 2000); and David M. Blau, *The Child Care Problem: An Economic Analysis* (New York: Russell Sage Foundation, 2001).

68. This section is based on Gornick and Meyers, *Families That Work* (see note 25); OECD, *Starting Strong II: Early Childhood Education and Care* (Paris: 2006); Jérôme de Henau, Daniéle Meulders, and Síle O'Dorchai, "Parents' Care and Career: Comparing Public Childcare Provision," in *Social Policies, Labour Markets and Motherhood*, edited by Daniela Del Boca and Cécile Wetzels (Cambridge University Press, 2007), pp. 28–62; Eurydice, *Tackling Social and Cultural Inequalities through Early Childhood Education and Care in Europe* (Brussels: European Commission, Education, Audiovisual and Culture Executive Agency, 2009). For historical perspective, see Kamerman, "A Global History of Early Childhood Education and Care" (see note 13).

69. An extra week of paid leave decreases the predicted use of informal care by a statistically insignificant 0.5 percentage point and raises parent-only care by a significant 1.2 points.

70. For additional details, see Jérôme de Henau, Daniéle Meulders, and Síle O'Dorchai, "Support for Market Care: Comparing Comparing Child Care and Tax Systems," in *Social Policies, Labour Markets and Motherhood*, edited by Del Boca and Wetzels, pp. 107–51; OECD, *Benefits and Wages 2007: OECD Indicators* (Paris: 2007).

71. Patricia M. Anderson and Phillip B. Levine, "Child Care and Mothers' Employment Decisions," in *Finding Jobs: Work and Welfare Reform*, edited by David Card and Rebecca M. Blank (New York: Russell Sage Foundation, 2000), pp. 420–62; David M. Blau, "Child Care Subsidy Programs," in *Means-Tested Transfer Programs in the United States*, edited by Robert A. Moffitt (University of Chicago Press, 2003), pp. 443–516. Higher child-care costs also decrease work hours, conditional on employment, but probably by a smaller amount.

72. Rachel Connelly and Jean Kimmel, "The Effect of Child Care Costs on the Employment and Welfare Recipiency of Single Mothers," *Southern Economic Journal* 69, no. 3 (2003): 498–519; Erdal Tekin, "Childcare Subsidies, Wages, and the Employment of Single Mothers," *Journal of Human Resources* 42, no. 2 (2007): 453–86; Chris M. Herbst, "The Labor Supply Effects of Child Care Costs and Wages in the Presence of Subsidies and the Earned Income Tax Credit," *Review of Economics of the Household* 8, no. 2 (2010): 199–230.

73. For instance, price reductions for publicly provided care implemented in Sweden in 2002 and 2003 led to small or no increases in employment for mothers of one- to nine-year-olds; see Daniela Lundin, Eva Mörk, and Björn Öckert, "How Far Can Reduced Childcare Prices Push Female Labour Supply," *Labour Economics* 15, no. 4 (2008): 647–59.

74. This variation may occur for several reasons. Costs may be low in areas where wages or labor market conditions are depressed, muting the observed child-care price elasticities. Families may view subsidies as direct encouragement to use child care and so respond more than for other price changes. Public provision of ECEC may provide some guarantee of quality and reduce transaction costs of using it.

75. For reviews of this research, see Anderson and Levine, "Child Care and Mothers' Employment Decisions" (see note 71), and Blau, "Child Care Subsidy Programs" (see note 71).

76. Erdal Tekin, "Child Care Subsidy Receipt, Employment, and Child Care Choices of Single Mothers," *Economics Letters* 89, no. 1 (2005): 1–6; Herbst, "The Labor Supply Effects of Child Care Costs and Wages in the Presence of Subsidies and the Earned Income Tax Credit" (see note 72).

77. Florence Jaumotte, "Labour Force Participation of Women: Empirical Evidence on the Role of Policy and Other Determinants in OECD Countries," *OECD Economic Studies* no. 37 (2003/2) (June 2004): 51–108.

78. Jonah B. Gelbach, "Public Schooling for Young Children and Maternal Labor Supply," *American Economic Review* 92, no. 1 (2002): 307–22, uses quarter-of-birth as an instrument for kindergarten enrollment. Elizabeth Cascio, "Maternal Labor Supply and the Introduction of Kindergartens into American Public Schools," *Journal of Human Resources* 44, no. 1 (2009): 140–69, exploits differences in the timing of the introduction of state funding for kindergarten. Gelbach finds that Head Start availability also increases employment.

79. Pierre Lefebvre and Philip Merrigan, "Child-Care Policy and the Labor Supply of Mothers with Young Children: A Natural Experiment from Canada," *Journal of Labor Economics* 26, no. 3 (2008): 519–48; Michael Baker, Jonathan Gruber, and Kevin Milligan, "Universal Child Care, Maternal Labor Supply and Family Well-Being," *Journal of Political Economy* 116, no. 4 (2008): 709–45. The largest subsidy increases occurred at middle and high incomes, because the poor were eligible for subsidies before implementation. Hours and annual weeks of work also rose.

80. Maria Donovan Fitzpatrick, "Preschoolers Enrolled and Mothers at Work? The Effects of Universal Prekindergarten," *Journal of Labor Economics* 28, no. 1 (2010): 51–84; Tarjei Havnes and Magne Mogstad, "Money for Nothing? Universal Child Care and Maternal Employment," IZA Discussion Paper 4504 (Bonn: Institute for the Study of Labor, 2009).

81. See, for example, Christopher J. Ruhm, "Parental Employment and Child Cognitive Development," *Journal of Human Resources* 39, no. 1 (2004): 155–92; Jennifer Hill and others, "Towards a Better Estimate of Causal Links in Child Policy: The Case of Maternal Employment and Child Outcomes," *Developmental Psychology* 41, no. 6 (2005): 833–50; and Raquel Bernal and Michael P. Keane, "Quasi-Structural Estimation of a Model of Childcare Choices and Child Cognitive Ability Production," *Journal of Econometrics* 156, no. 1 (2010): 164–89. More neutral results were obtained by Jeanne Brooks-Gunn, Wen-Jui Han, and Jane Waldfogel, "First-Year Maternal Employment and Child Development in the First Seven Years," *Monographs of the Society for Research in Child Development* 75, no. 2 (2010).

82. Much of the information in this section comes from David Blau and Janet Currie, "Pre-School, Day Care, and After School Care: Who's Minding the Kids?" in *Handbook of the Economics of Education,* vol. 2, edited by Eric A. Hanushek and Finis Welch (New York: North Holland, 2006), pp. 1163–278; Jane Waldfogel, *What Children Need* (Harvard University Press, 2006), pp. 81–125; Douglas Almond and Janet Currie, "Human Capital Developments before Age 5," Working Paper 15827 (Cambridge, Mass.: National Bureau of Economic Research, March 2010); National Institute of Child Health and Human Development, *The NICHD Study of Early Child Care and Youth Development: Findings for Children up to 4 ½ Years*, NIH Pub. 05-4318 (2006).

83. Katharine Magnuson, Christopher Ruhm, and Jane Waldfogel, "Does Prekindergarten Improve School Preparation and Performance?" *Economics of Education Review* 26, no. 1 (2007): 33–51; Katherine Magnuson, Christopher Ruhm, and Jane Waldfogel, "The Persistence of Preschool Effects: Do Subsequent Classroom Experiences Matter?" *Early Childhood Research Quarterly* 22, no. 1 (2007): 18–38.

84. NICHD Early Child Care Research Network, "Does the Amount of Time Spent in Child Care Predict Socioemotional Adjustment during the Transition to Kindergarten?" *Child Development* 74, no. 4 (2003): 976–1005; NICHD Early Child Care Research Network, "Type of Child Care and Children's Development at 54 Months," *Early Childhood Research Quarterly* 19, no. 2 (2004): 203–20; Magnuson, Ruhm, and Waldfogel, "Does Prekindergarten Improve School Preparation and Performance?" (see note 83); Susanna Loeb and others, "How Much Is Too Much? The Influence of Preschool Centers on Children's Social and Cognitive Development," *Economics of Education Review* 26, no. 1 (2007): 52–66. These results do not apply to the intensive model interventions, for which evidence of benefits has been obtained.

85. Jay Belsky, "Early Child Care and Early Child Development: Major Findings of the NICHD Study of Early Child Care," *European Journal of Developmental Psychology* 3, no. 1 (2006): 95–110, and the references contained therein supply extensive discussion of these issues. However, Duan Peng and Philip Robins,

"Who Should Care for Our Kids? The Effects of Infant Child Care on Early Child Development," *Journal of Children and Poverty* 16, no. 1 (2010): 1–45, uncover beneficial effects of nonparental care for disadvantaged infants.

86. For details, see Marcia Meyers and others, "Inequality in Early Childhood Education and Care: What Do We Know?" in *Social Inequality*, edited by Kathryn M. Neckerman (New York: Russell Sage Foundation, 2004), pp. 223–69.

87. Janet Currie and Matthew Neidell, "Getting Inside the 'Black Box' of Head Start Quality: What Matters and What Doesn't," *Economics of Education Review* 26, no. 1 (2007): 83–99; Janet Currie and V. Joseph Hotz, "Accidents Will Happen? Unintentional Injury, Maternal Employment, and Child Care Policy," *Journal of Health Economics* 23, no. 1 (2004): 25–59; David E. Frisvold and Julie C. Lumeng, "Expanding Exposure: Can Increasing the Daily Duration of Head Start Reduce Childhood Obesity?" *Journal of Human Resources* 46, no. 2 (2011): 373-402.

88. Baker, Gruber, and Milligan, "Universal Child Care, Maternal Labor Supply, and Family Well-Being" (see note 79).

89. Nabanita Datta Gupta and Marianne Simonsen, "Non-Cognitive Child Outcomes and Universal High Quality Child Care," *Journal of Public Economics* 94, no. 1–2 (2010): 30–43.

90. Tarjei Havnes and Magne Mogstad, "No Child Left Behind: Universal Child Care and Children's Long-Run Outcomes," Research Department Discussion Paper 582 (Oslo: Statistics Norway, 2009).

91. John Halpin and Ruy Teixeira with Susan Pinkus and Kelly Daley, "Battle of the Sexes Gives Way to Negotiation," in *The Shriver Report: A Woman's Nation Changes Everything*, edited by Heather Boushey and Ann O'Leary (Washington: Center for American Progress, 2009), pp. 395–417.

92. See Jonathan Gruber, "The Incidence of Mandated Maternity Benefits," *American Economic Review* 84, no. 3 (1994): 622–41, for a comprehensive review of this issue in the context of mandated health insurance coverage for maternity-related expenses; and Christopher J. Ruhm, "The Economic Consequences of Parental Leave Mandates" (see note 31) for a discussion specific to parental leave benefits.

93. Payroll taxes can be levied on both employers and employees (as is done for Social Security and Medicare) or on just one of the parties (California's paid leave program is financed by payroll taxes paid only by employees). The actual tax burden is more complicated because employers often offset their payroll tax payments by reducing wages.