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Child Care

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3.1 Introduction

Child care is a necessity for the many dual career and single parent families in the United States. The percentage of currently married women with a child under six years of age who are labor force participants nearly doubled between 1970 and 2005, from 30.3 percent to 59.8 percent. Participation rates for never-married mothers and widowed, divorced, or separated mothers were even higher in 2005, at 68.4 and 73.6 percent, respectively (U.S. Census Bureau 2008). One obvious way that child care might contribute to the future success of a child is by making it less likely that he or she grows up in poverty or on public assistance because the mother can be a full labor market participant. In fact, as discussed more in the following, child care provision has been an important component of welfare reform. More directly, though, time spent in child care may have immediate effects on the child and, hence, ultimately on his or her adult outcomes. Whether these effects are likely to be positive or negative is the main topic of this chapter.

It is important to note that the focus here is not on early childhood education programs (such as Head Start or Early Head Start), or even on child development programs more broadly defined. These types of programs are covered in another chapter. Rather, the focus here is simply on basic child care, which exists to care for children while their parents participate in the labor force. That said, there will be a focus on the evidence regarding different types of child care, which necessitates a discussion of what "quality child care" means in this context.

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A minimum indicator of child care quality is meeting state licensing requirements. While each state sets its own requirements, they typically will cover a range of issues such as staff training and qualification levels, child-to-caregiver ratios, safety and sanitation procedures, and so on. Child care providers wishing to signal a higher level of quality can apply to one of several professional organizations (e.g., National Association for Family Care, National Association of Child Care Professionals) for accreditation. In order to become an accredited child care provider, one needs to follow a series of steps, typically including a period of self-study and observational visits by an outside team of evaluators. Finally, note that being unlicensed is not necessarily the same thing as being illegal or unregulated. As an example, consider Virginia, where there are a range of options beyond a licensed provider. First, there are unlicensed day care centers (e.g., one that is religiously exempt) that, while not required to be licensed, do meet certain guidelines and are monitored by the state. Similarly, family day care can be voluntarily registered with the state, while not formally licensed. Finally, there is unregulated family day care, which is not inspected or monitored but which is not illegal unless more than five children beyond those resident in the home are cared for (or more than four total under the age of two).[1]

Overall, then, while we may see evidence of beneficial effects of "quality" child care, it is clear that not all children are in such high quality care. Additionally, some aspects of high quality, especially in center-based care, are functions of the center providing extensive early education services. Any positive outcomes that are due to these types of services will be covered more fully in the child development chapter. This chapter proceeds by first reviewing the data on current child care utilization. It then reviews the observational literature on the effects of child care and discusses the drawbacks before moving on to the few nonobservational studies available. While experimental studies focused purely on child care are rare, there were many random assignment welfare-to-work demonstrations that had an important child care component. We are likely to be able to learn something about the effect of child care investments in poor families from these studies, so they are discussed next. Implications and extensions are then presented before concluding.

3.2 Background

The high labor force participation rate among mothers of preschool-aged children implies large numbers of children are spending time in child care. According to data from the Survey of Income and Program Participation

1. See "A Guide for Choosing Quality Child Care," Virginia Department of Social Services, available at http://www.dss.virginia.gov/files/division/cc/publications/choosing_quality_childcare/guidelines_one_document/brochure-eng.pdf.

(SIPP), for children of employed mothers, we see 19 percent spending time in center-based care, 8 percent in family day care, and another 9 percent in some other type of nonrelative care.[2] Almost 21 percent are cared for by a grandparent, and another 7 percent are cared for by a sibling or other relative. It is worth pointing out that the type of care used varies tremendously by the education level of the mother, with center-based care being more common among the more educated and relative care more common among the less educated.

Another source of information on children's care arrangements is the 2005 Early Childhood Program Participation Survey (ECPP).[3] For weekly care arrangements for children through age five who are not in kindergarten, this survey reports that 20 percent were in only one type of relative care, 14 percent were in one type of nonrelative care, 45 percent were in one type of center-based care, and 22 percent were in combinations of types of care. Note that center-based care here again includes Head Start and other early childhood education programs. Overall, children in the ECPP spend about twenty-nine hours weekly in nonparental care, with average out-of-pocket costs ranging from about $60 to $105, and 19% receiving assistance in paying child care costs. The SIPP data provides similar information on child care costs, reporting average weekly child care costs of $128, implying that families spend about 9 percent of monthly income on child care. Note that this figure is only for those making child care payments—about half of families with children under age five and an employed mother have no child care payments. Making no payments can be due to either a relative (or possibly a close friend) volunteering their time or to receiving a child care subsidy that covers 100 percent of child care costs.

Overall, then, it is clear that child care is an important part of many children's lives, with the SIPP showing that about 15 million children under age five spend time in nonparental care that is not explicitly an early education facility. This number includes about 6.3 million in relative care, 4.5 million in nonrelative care outside their home, and another 700,000 in nonrelative care in their own home. Additionally, over 3 million children are in multiple care arrangements. In addition to any effect having a gainfully employed mother might have on a child's future outcomes, investments in quality child care may help set the child on the path to adult success.

In evaluating whether increased investments in child care can be an efficient strategy for ameliorating later adult poverty, it is important to consider the counterfactual. Often, the child will typically be at home with a

2. All statistics based on SIPP come from the detailed tables of "Who's Minding the Kids? Child Care Arrangements: Spring 2005" available from the U.S. Census Bureau at http://www.census.gov/population/www/socdemo/child/ppl-2005.html.

3. All statistics based on ECPP come from the tables in "Initial Results from the 2005 NHES Early Childhood Program Participation Survey" available from the U.S. Department of Education at http://nces.ed.gov/pubs2006/earlychild/02.asp.

mother who is now not a participant in the labor market. This indirect effect of maternal labor market participation will be considered more fully in the following. Taking as given that the child will be in nonparental care while the mother works, though, for preschool-aged children, a lack of day care options will very rarely imply that the child is in self-care. Rather, the child is likely to be cared for by a patchwork of providers, including relatives and friends, but rarely an accredited day care center. Thus, we really should think of investments in day care as insuring that children will incur stability and quality of care throughout their preschool years.

3.3 Nonexperimental Studies on the Effects of Day Care

The majority of studies analyzing the impact of child care on preschool-aged children are observational. Table 3.1 summarizes the nonexperimental studies. One common approach is to use an existing data set, such as the National Longitudinal Survey of Youth (NLSY) 1979 Mother-Child Matched file. Waldfogel (2002) reviews a range of these studies, which generally tend to find a negative relationship between early child care and later cognitive outcomes. Interestingly, these negative effects are not always found for minority children, perhaps due to differences in the non-child care environments. It is important to realize, though, that because the NLSY data are observational, there is likely to be selection into child care. While a large amount of background information is available that allows researchers to control for many observable differences across children, unobservable differences are not controlled for, and, thus, the results may be biased. Therefore, none of these relationships can be considered causal. More importantly, the data on child care in the NLSY is relatively weak, in that one cannot really differentiate high-quality care from low-quality care. Thus, these studies tend to simply focus on the presence of any nonparental care in the early years of life.

In the early 1990s, a new data collection effort began to explicitly study children's experiences in day care and to allow for the type, quality, and quantity of care to be determined. The National Institute of Child Health and Development (NICHD) Study of Early Child Care and Youth Development (SECCYD) began in 1991 when mothers were approached in hospitals based on having given birth in a selected time interval. Families have since been followed longitudinally, with a voluminous literature produced that analyzes the data collected. Again, because the data is observational, there is still likely to be a problem of selection, not only in terms of being in any child care, but also in terms of the type, quality, and quantity of care. Additionally, the NICHD study is not nationally representative. Nonetheless, it remains the "state of the art" in terms of observing correlations between children's day care experiences and their outcomes, having followed the children now past their primary schooling.

Results on the impact of child care from the NICHD have been somewhat

mixed, depending on the outcome studied and the age of the child.[4] Negative effects of care tend to be found mainly for behavioral outcomes, while positive effects are often found for cognitive outcomes. An important aspect of the NICHD study is the ability to separately examine the type, quality, and quantity of care, as well as its timing. Thus, based on NICHD data, it can be said that spending more than ten hours per week in care at a young age is correlated with less-secure attachment for children whose mothers are not sensitive. Similarly, longer hours in care are related to more problem behaviors at age two. However, time spent in *quality* care was related to fewer problem behaviors at ages two and three. In fact, quality was positively related with both better behavioral outcomes and better cognitive outcomes. When quality is measured by language stimulation and caregiver interactions, children's language skills are observed to be higher at ages fifteen, twenty-four, and thirty-six months. Similarly, when quality is measured mainly by child-staff ratio, group size, teacher training, and teacher education, language comprehension and school readiness are higher for two- and three-year-old children. Interestingly, when focusing simply on type of care, center-based care was found to have a positive relationship to cognitive outcomes, but it was also related to poor behavioral outcomes.

These relationships between day care and child outcomes generally appear to be long lasting, especially for cognitive outcomes. Children in higher quality care were still scoring better on vocabulary tests in the fifth grade than were those in lower quality care. At the same time, those who had been in center-based care still exhibited more problem behaviors in sixth grade. By this age, however, there was no longer any relationship between behavior and having been in any care (versus parental care). Based on the NICHD studies, then, it appears possible that subsidizing high quality care has the potential to increase children's cognitive outcomes (and ultimately their adult labor market outcomes). However, it is impossible to draw causal conclusions based on the nonrepresentative NICHD sample with self-selection into types of care.

An alternate type of nonexperimental study is one that uses existing data but implements econometric techniques that are meant to allow the estimated effects to be interpreted causally. Recall that the NLSY and NICHD studies discussed in the preceding do nothing more than control for as many observable characteristics as possible and admit that the results cannot be interpreted as causal impacts of child care. Bernal (2005) uses the same NLSY data as other studies but estimates a structural model to allow for joint estimation of the employment and child care decisions. While fairly strong assumptions must be maintained to estimate the model, the results confirm the negative impacts of early child care on later cognitive outcomes

4. Discussion of the NICHD results is based on Belsky et al. (2007) and Waldfogel (2002), which contain references to the full range of the past literature.

Table 3.1 **Nonexperimental studies of child care (review papers and selected studies)**

Study	Evaluation design	Sample	Outcomes	Effects
Waldfogel (2002)—review of Desai et al. (1989); Baydar and Brooks-Gunn (1991); Belsky and Eggebeen (1991); Blau and Grossberg (1992); Vandell and Ramanan (1992); Parcel and Menaghan (1994); Greenstein (1995); Harvey (1999); Han, Waldfogel, and Brooks-Gunn (2001); Waldfogel, Han, and Brooks-Gunn (2000); Ruhm (2000)	Literature review.	NLSY several cross-sections of mainly preschoolers; one cross-section of 2nd graders, one cross-section of 12 year-olds; several longitudinal studies of children up to age eight.	Cognitive outcomes including PPVT-R, PIAT-Reading, PIAT-Math test scores; behavioral outcomes measured by BPI.	Majority of studies find negative effects on cognitive outcomes, behavior. A small number of studies find insignificant effects on outcomes. Some evidence that negative effects are not significant for minority groups.
Waldfogel (2002)—review of NICHD Early Child Care Research Network (1996, 1997, 1998, 1999, 2000)	Literature review.	NICHD study children through age three.	Language comprehension, school readiness, language skills, problem behaviors.	High quality care associated with better cognitive skills and school readiness, fewer problem behaviors.
Bernal (2005)	Estimation structural model of employment and child care.	NLSY children age five, six, and seven.	PPVT, PIAT-Reading, PIAT-Math.	Full-time care over first five years leads to 10.4% reduction in test scores.
Baker, Gruber, and Milligan (2005)	Natural experiment of Quebec providing $5 a day child care.	NLSCY children aged zero–four and six–eleven years old.	Behavioral outcomes including hyperactivity, anxiety, and aggression; developmental outcomes including motor and social development score, PPVT; health outcomes including overall, injuries, asthma.	Positive impacts on problem behaviors; negative impact on motor and social development; negative impacts on good health; no significant effect on PPVT.

Baker and Milligan (2008)	Natural experiment of Canada extending maternity leave to one year.	NLSCY children aged six–twenty-nine months old.	Child temperament (irritability, crying, etc.); security (response to new things, overall difficulty, etc.); development (motor/social score, age sat up, age took first step).	Little impact of increased maternal care found on children's outcomes.
Brooks (2002)	Comparison of low-income mothers in Georgia receiving child care subsidies with those left on a waiting list.	Fifty-two families with subsidies and fifty demographically matched families on a waiting list.	School readiness, personal maturity scale, general health.	No significant differences between groups.

Note: NLSY = National Longitudinal Survey of Youth 1979 Mother-Child Matched file; PPVT = Peabody Picture Vocabulary Test; PIAT = Peabody Individual Achievement Test; BPI = Behavior Problems Index; NICHD = National Institute of Child Health and Development; NLSCY = National Longitudinal Survey of Children and Youth.

that were found in most of the observational studies using the NLSY. Note, however, that this study focuses only on young children and, thus, cannot speak to whether the cognitive effects of early exposure to child care persist.

Two papers using Canadian data try to approximate an experimental study design by taking advantage of "natural experiments" in which a change in the environment exogenously changes a child's exposure to day care. Baker, Gruber, and Milligan (2005) take advantage of a policy change in Quebec that provided government-sponsored child care for an out-of-pocket cost of just $5 per day. The effect of this policy was to increase the use of preschool-aged child care by 14 percentage points. This increase in child care, though, led to clear negative effects on child outcomes. In particular, increases in hyperactivity, anxiety, and aggression were reported, with declines in motor and social development and health outcomes. Based on this natural experiment, one might conclude that there are clear negative effects of child care. However, one major drawback to this study is the inability to control for quality. There is some evidence that the rapid expansion of child care slots necessary to implement this program resulted in most of the children who ended up in care due to the new program being in low quality care. Because disadvantaged children in Quebec generally already had access to subsidized child care, the children taking up this lower-quality care were generally middle class. Additionally, the largest labor supply changes were seen among married mothers, implying the program mainly resulted in middle-class children from intact families being placed in low-quality care. Thus, it is not clear that we can draw conclusions from this quasi-experiment on what the impact on disadvantaged children of spending on high-quality care would be.

Baker and Milligan (2008) study an expansion of maternity leave in Canada that resulted in mothers spending about 50 percent more time not working in the first year of a child's life. Thus, this natural experiment reduced the use of early child care. If such care were to cause negative (positive) child outcomes, then we would expect to observe positive (negative) outcomes in the wake of this change. However, at least over the first two years of the child's life, there appeared to be no developmental impacts, either positive or negative. While it is possible that effects will appear at older ages or are already present in outcomes not able to be measured with the existing data, this study currently provides some of the best nonexperimental data on child care impacts, and it implies that investing in either extended maternity leave or in more early child care is unlikely to have significant impacts on child developmental outcomes.

Finally, one other approach to estimating causal impacts using nonexperimental data is based on rationing of government child care subsidies. Brooks (2002) is able to compare low-income Georgia mothers who received day care subsidies with those who remained on a waiting list. The fact that both sets of mothers wanted child care obviates the major source of selec-

tion in the observational studies. While the mothers receiving the subsidies were more likely to be employed, and their children were more likely to be in stable, center-based care, there were no significant differences in school readiness or socioemotional development between these children and those remaining on the waiting list. The main drawback to this study is an inability to measure quality. The Georgia subsidy level was fairly low, so even though the subsidized mothers were more likely to use center-based care, the children may still have been in relatively low-quality care.

3.4 Experimental Studies Providing Evidence on the Effects of Day Care

Given the drawbacks of the nonexperimental studies described in the preceding, it is unfortunate that there are no experimental studies in which children are randomly assigned into a treatment group that is placed into day care and into a control group which is not. However, there are a range of randomized control trials in which child care subsidies are part of a package of benefits given to a treatment group and withheld from a control group. These experimental studies are summarized in table 3.2. These types of trials were carried out in the 1990s as part of states' experimentation with welfare reform, prior to the federal Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). The goal of PRWORA and the demonstrations that preceded it were to transition women off of welfare by emphasizing "work first." The demonstrations experimented with different programs to investigate what types of welfare-to-work services worked best. These experimental services typically incorporated carrots (earnings supplements), sticks (mandatory employment services and welfare time limits), or both in order increase mothers' labor force participation. Given this emphasis on maternal employment, an important component to most of these experiments was expanded child care assistance, in the form of such things as subsidies and direct payments to providers and increased access to information and help with bureaucratic hurdles. Typically, there was an emphasis on formal care, especially center-based care.

All of the demonstrations were successful in pulling mothers into the labor force and increasing their earnings[5]. However, not all programs increased family income because in some cases, earnings gains were matched by decreases in benefit payments. Only the programs that included earnings supplements uniformly increased income. Perhaps not surprisingly, given the uniform increases in maternal employment, the use of child care also increased. No serious negative impacts on children appear for the experimental group although for some age groups in some demonstrations, there

5. This discussion of the programs as a whole is based mainly on the summary study of Morris, Gennetian, and Duncan (2005), but also draws from the individual program studies referenced in table 3.2.

Table 3.2 Experimental studies with a child care component

Study	Intervention	Evaluation design	Sample
Bloom et al. (2000)	Florida's Family Transition Program (FTP), 1994–1999	Random assignment into FTP versus standard AFDC.	Four-year follow-up of 2,800 single parents; children who were aged 0–4 initially are split 331/325 for FTP/AFDC.
Gennetian, Miller, and Smith (2005)	Minnesota Family Investment Program (MFIP), 1994–1999	Random assignment into MFIP versus standard AFDC.	Six-year follow-up of 3,554/3,848 (MFIP/AFDC) single parent and 1,109/1,147 two-parent households. Focus here on single-parent effects, where increased child care was observed during program years.
Miller et al. (2008)	Milwaukee's New Hope Project, 1994–1998	Random assignment into New Hope versus standard AFDC.	Eight-year follow-up of 366/379 (New Hope/AFDC) families with child aged one–ten at enrollment.
Michalopoulos et al. (2002)	Canada's Self-Sufficiency Project (SSP), 1992–2002	Random assignment into SSP versus standard Income Assistance.	Thirty-six-month and fifty-four-month follow-ups of children from 9,000 single-parent Income Assistance recipients in British Columbia and New Brunswick.
Bloom et al. (2002)	Connecticut's Jobs First (CT Jobs First), 1996–1999	Random assignment into Jobs First versus standard AFDC.	Three-year follow-up of 2,381/2,392 (Jobs First/AFDC) welfare applicants and recipients.
Freedman et al. (2000)	Los Angeles Jobs-First GAIN (LA GAIN), 1995–1998	Random assignment into LA GAIN versus standard AFDC.	Two-year follow-up of 15,683 single-parent and 5,048 two-parent families.
Hamilton et al. (2001)	National evaluation of Welfare-to-Work Strategies (NEWWS), 1991–1999	Evaluation of eleven different programs, all with random assignment into program versus standard AFDC.	Five-year follow-up of 40,000 single parents and their children across seven locations.
Quint, Bos, and Polit (1997)	New Chance, 1989–1992	Random assignment of mothers aged sixteen–twenty-two into New Chance versus standard AFDC.	Three-year follow-up of 1,401/678 (treatment/control) mothers.
Morris, Gennetian, and Duncan (2005)	Next Generation Project	Meta-analysis of seven random assignment studies (FTP, MFIP, New Hope, SSP, CT Jobs First, LA GAIN, NEWWS).	27,180 observations from 15,779 children aged two–nine years old at random assignment from 11,502 families.

Note: AFDC = Aid to Families with Dependent Children.
SD = standard deviation.

Outcomes	Effects
Parental outcomes of employment, family income, welfare receipt; child outcomes of child care, academic functioning, social behavior and emotional well-being, health, and safety.	FTP increases employment and earnings, reduces welfare receipt. More child care, more hours, and more stable arrangements. No impact on quality of care. Few significant impacts on child development.
Parental outcomes of employment, family income, and welfare receipt; child outcomes of 3rd and 5th grade math and reading achievement.	MFIP increased employment, earnings, and welfare receipt through four years; no overall impacts, but .2 SD increase in 3rd grade reading for long-term welfare recipients, .4 SD for reading and .5 SD for math in 5th grade for the most disadvantaged.
Parental outcomes of employment, family income, welfare receipt; child outcomes of child care, academic functioning, social behavior and emotional well-being, health, and safety.	New Hope increased employment and income, impacts fade at program end; more time in center-based care, care more stable; .12 SD increase in reading scores; more positive parent-reported behavior, teachers report more problem behavior for girls; no health impacts.
Parental outcomes of employment, family income, welfare receipt; child outcomes of child care, academic functioning, social behavior and emotional well-being, health, and safety.	SSP increased full-time employment and earnings through the 4th year; increased use of nonmaternal care, increased instability for three–four-year-old care; no impact on outcomes for those one–two years old at intake, .1 increase in portion of math skills questions correct for those three–four years old.
Parental outcomes of employment, family income, welfare receipt; child outcomes of child care, academic functioning, social behavior and emotional well-being, health, and safety.	Jobs First increased employment and earnings; increased use of child care; positive effects on children's behavior; no effect on academic outcomes.
Parental outcomes of employment, family income, welfare receipt; child outcomes of child care, academic functioning, social behavior and emotional well-being, health, and safety.	LA GAIN increased employment and earnings; increased use of child care (formal and informal) and problems with child care; no systematic effects on child outcomes, but some evidence of increased grade repetition for the youngest children.
Parental outcomes of employment, family income, welfare receipt; child outcomes of child care, academic functioning, social behavior and emotional well-being, health, and safety.	Increases in employment and earnings, smaller for education-focused programs, mandate enforcement necessary for impacts; increases in child care use fade over time as employment effects fade; few impacts on academic outcomes, some gains in social skills and behavior; impacts vary greatly across programs.
Parental outcomes of employment, family income, welfare receipt; child outcomes of child care, academic functioning, social behavior and emotional well-being, health, and safety.	Short-term increase in employment, no increase in earnings; more use of center care in first 1.5 years, few care differences in second 1.5 years; no impact on cognitive development; some evidence of more behavioral problems.
Cognitive outcomes and school achievement.	Positive improvements in school achievement (.05 SD if aged two–three at start, .07 if 4–5) appear due to increased income (since mainly seen in programs with an earnings supplement component); some possibility that increased center-based care can impact school achievement.

are small increases in problem behavior. There also do not appear to be many important positive effects although there are some indications of small increases in academic outcomes, especially for the children who were the youngest at the start of the demonstration. The biggest impacts on cognitive development appear in programs that increase family income. Given that the use of center-based care increases strongly with income, it is difficult to sort out how much of the observed positive effects are due to higher income versus more exposure to center-based care. Recall that observational studies based on the NICHD data found a positive correlation between cognitive development and high-quality center-based care.

In thinking about whether it is possible that subsidizing child care might improve child outcomes purely by the increase in family income achieved via a working mother, it is important to consider the literature on the effect of family income on children. Poor outcomes observed for children living in poverty are often pointed to as an indication that higher family income can improve children's outcomes (e.g., Berger, Paxson, and Waldfogel 2005). However, a range of recent studies have cast doubt on the idea that there is a causal effect of income. For example, Blau (1999) concludes that the effect of current income on child development is very small, and that while changes in permanent income are larger, they are still not meaningful in a policy sense. That is, politically infeasible income transfers would be necessary to have any important effects on child development. Mayer (1997) comes to similar conclusions. Additionally, Dooley and Stewart (2004) use econometric methods similar to Mayer and to Blau (family-fixed effects, including future income, instrumental variables, etc.) on Candian data and also discount the importance of family income as a causal mechanism for child development. Finally, and perhaps most convincingly, Sacerdote (2007) examines outcomes for Korean adoptees who were essentially randomly placed with families beginning in the 1950s. He found no significant effect of family income on any of the adult adoptees' outcomes (education levels, income, etc.). Note that for their nonadopted siblings, there was a significant effect of income. Thus, it does not appear that any significant returns to subsidized child care would come purely via the transmission of parental income to child income as an adult.[6]

That said, studies using convincing methods to estimate causal impacts of income have found significant, but short-term, effects on children's test scores. Dahl and Lochner (2008) take advantage of expansions in the Earned Income Tax Credit (EITC) to determine that an extra $1,000 in family income increases children's test scores in reading and math by 6 percent of a standard deviation. However, these positive effects appear to fade out

6. Note that in Sacerdote (2007), the transmission coefficient from family income to child adult income is 0.246 and significant for biological children, but only 0.186 and insignificant for adopted children. At best, then, we would expect a 10 percent increase in parental income to increase future adult income by only about 2 percent.

about a year after the income shock. Similarly, looking at the Canadian Child Benefit Expansions, Milligan and Stabile (2009) find that $1,000 in additional family income results in math and vocabulary test scores increasing by about 7 percent of a standard deviation. They also find that children's emotional and mental health is improved, which has the potential for longer-term effects.

3.5 Discussion and Extensions

Despite the limited evidence on the causal impacts of child care on children's developmental outcomes, the Child Care and Development Fund (CCDF) made $5 billion in federal funds available in fiscal year 2008 to states, territories, and tribes.[7] As seen in figure 3.1, federal CCDF spending is only a part of total government spending on child care, with over 50 percent of funding coming from state funds (matching and maintenance of effort [MOE] for CCDF, excess state Temporary Assistance to Needy Families [TANF] MOE funds) and TANF funds (direct and transfer to CCDF). Figure 3.2 shows that government spending on child care has risen dramatically over time, more than tripling since 1996.

States are required to spend at least 4 percent of their CCDF allocation on "quality activities" meant to increase the provision and use of quality child care (CCDF report to Congress). Among other things, quality activities can include such things as providing training to providers, increasing provider compensation, and providing consumer education. Quality activities can also involve programs that are better categorized as early learning programs that are discussed in the child development chapter.

As might be surmised from the large increase in child care spending since the beginning of welfare reform, a major governmental interest in child care is allowing single mothers to enter the work force, while still insuring that their children are cared for in a safe environment. Based on experimental evidence from welfare-to-work demonstrations, it seems safe to conclude that child care used in this manner does no harm to children, and those placed in center-based care may even see slight benefits. However, the small positive impacts on academic achievement seen in some demonstrations may not be due solely to increased use of center-based care, but rather to the combination of changes engendered by the move from welfare to work. Additionally, the positive aspects of center-based care may be less due to the type of care than the quality. That is, center-based care may be much more likely to implement early learning activities that are specifically designed to positively impact children's development.

Given that our main evidence on the impacts of child care come either

7. Information is available from the CCDF Web site at http://www.acf.hhs.gov/programs/ccb/ccdf/index.htm.

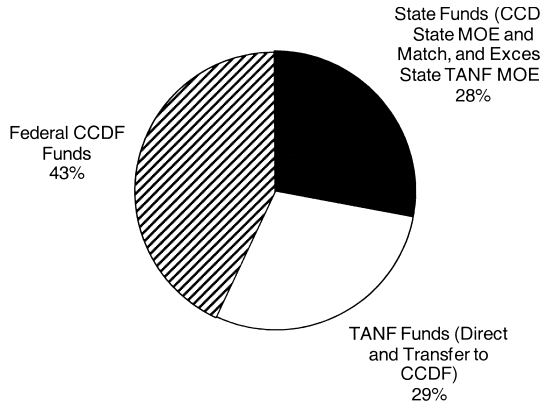

Fig. 3.1 FY2005 Child Care and Development Fund (CCDF) and Temporary Assistance for Needy Families (TANF) funding available for child care
Source: CCDF report to Congress for FY2005 and FY2006.

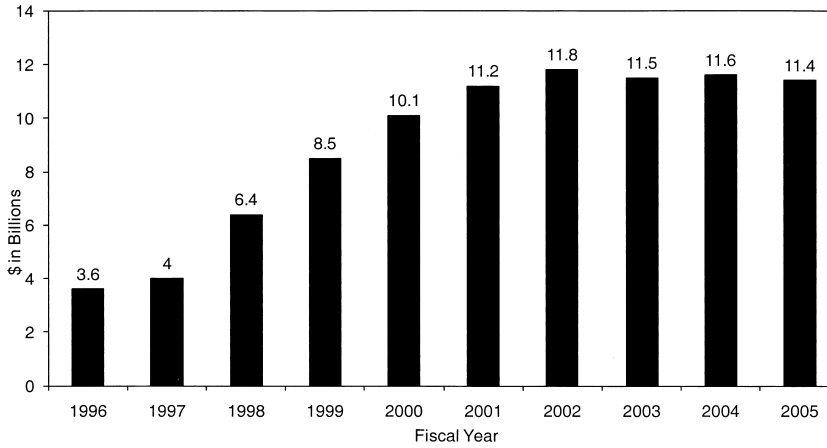

Fig. 3.2 State and federal child care funding over time
Source: CCDF report to Congress for FY2005 and FY2006.
Notes: Estimates of funds available for child care include mandatory and discretionary Child Care and Development Fund (CCDF) federal appropriations; state matching and maintenance of effort (MOE) funds for CCDF, Temporary Assistance for Needy Families (TANF) transfers to CCDF, and direct spending on child care; state excess MOE funds for child care in the TANF program; and Social Services Block Grant (SSBG) funds for child care.

from observational studies that are contaminated by self-selection into child care, or welfare-to-work demonstrations that confound child care effects with other program effects, it would be useful to implement randomized control trials geared specifically at child care. Within the context of TANF, for example, mothers could be randomly assigned to use center-based care or

not to determine if it is type of care, per se, that matters. Because the observational studies provide evidence of the importance of quality measures, it would be worthwhile to implement randomization on this dimension. One possibility might be to experiment at child care centers with changes in child-staff ratios, group sizes, provision of additional caregiver training, and so on. Randomization into treatment and control centers (or care groups within a center) would need to be carefully done to convincingly maintain comparability.

Based on current evidence, however, it does not seem that spending on child care itself can be considered a front-line approach to poverty fighting. Conditional on the fact that children will be in nonparental care, however, spending on quality may pay dividends. The unanswered question is whether quality improvements that do not reach the level of actually being child development programs would be worth the cost. It is here that carefully done experiments on the relatively straightforward aspects of quality highlighted in observational studies such as those from the NICHD would be quite useful.

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