



## Chapter 4

# Investing in Young Children's Care and Education

Investments in the earliest years of a child's life can generate substantial benefits, with returns over the child's lifetime that often considerably exceed costs. In particular, a large body of evidence demonstrates that early care and education (ECE) programs can improve children's short-term development and long-term well-being, producing benefits not only for them but for society as well.

ECE programs also support parents' employment, which has become increasingly important with the decline in households where a parent stays home to provide full-time childcare. Women's labor market options have grown considerably over the past 50 years, increasing the opportunity costs of staying out of or reducing time in the workforce (Yellen 2020). Both men and women point to caregiving and family responsibilities as a major obstacle for their career advancement, with mothers particularly likely to report career interruptions and reduced engagement in the labor force (Parker 2015; Pew Research Center 2022). The challenge of balancing work and family looms largest for the parents of young children not yet enrolled in K-12 schooling, and has ramifications across parents' careers.

As a result of these trends, a market for nonparental ECE services has developed. Care for young children is wide-ranging—from informal care (paid or unpaid) by relatives, neighbors, or in-home caregivers to formal care in

home-based, center-based, or school settings.<sup>1</sup> This decentralized patchwork of providers caring for children in homes, centers, and schools stands in contrast to, for example, the more structured system of public K-12 education in the United States. Though the ECE market is one upon which many families rely (NCES 2018), and despite ample evidence that ECE programs can both effectively facilitate children’s healthy development and support parents’ employment, the ECE market often does not function well.

This chapter first presents evidence on the effects of ECE investments for children, their parents, and society. It then discusses ECE market challenges, including workforce turnover and low pay, the high costs of providing high-quality care, price sensitivity among ECE customers, the fragility of the childcare business model, and the resulting underprovision of high-quality ECE relative to what would be socially optimal. The chapter closes with a discussion of the role of public subsidies in supporting a better-functioning ECE market.

## **The Effectiveness of Early Childhood Investments**

Ample research documents the benefits that ECE investments can generate—both directly, for children who participate and working parents who rely on the care, and indirectly, through spillovers to their families and communities. This section summarizes and highlights the relevant evidence on ECE investments’ benefits for children and society, the role of ECE quality in improving outcomes, and the benefits of ECE for working parents.

### ***Benefits for Children and Society***

ECE investments support children’s healthy development and early learning starting at birth, which cascades into longer-term and broader benefits for them, their communities, and the economy. A large body of research points

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<sup>1</sup> This chapter employs the term “ECE” to encompass childcare, preschool, and prekindergarten (pre-K) programming, because there is often a significant overlap in how programs are structured, funded, and delivered. Childcare typically refers to programs serving children from infancy through school age, while preschool and pre-K commonly refer to programs aimed at the year or two before formal school entry. As such, preschool programs typically serve children ages three and four years old and often operate on a school-day and school-year schedule. The terms “childcare,” “preschool,” and “pre-K” are used in the chapter when the policy, research, or data in question pertain to a specific segment of the broader ECE landscape.

to ECE experiences as influential for children's short-term outcomes, such as school readiness and early social-emotional and cognitive skill development, as well as long-term outcomes like educational attainment, executive function, employment, and earnings (Deming 2009; Duncan and Magnuson 2013; Heckman and Kautz 2014; Weiland and Yoshikawa 2013). These long-term, positive effects have been demonstrated in studies of childcare, Head Start, and other model preschool programs (Bailey, Sun, and Timpe 2021; Campbell et al. 2014; Gray-Lobe, Pathak, and Walters 2023; Heckman et al. 2010; Herbst 2017).<sup>2</sup>

Some studies of short- and medium-term program effects find that improvements in test scores fade out over time. However, when these studies also track long-term outcomes, they find substantial improvements in life chances, despite the short-run evaporation of test score gains (Chetty et al. 2011; Deming 2009). Moreover, there are documented complementarities between ECE investments and subsequent school investments (Johnson and Jackson 2019). Recent evidence captures the intra- and intergenerational spillovers of ECE exposure to siblings and the children of those exposed to the ECE program (Barr and Gibbs 2022; García et al. 2021; García, Heckman, and Ronda 2021).

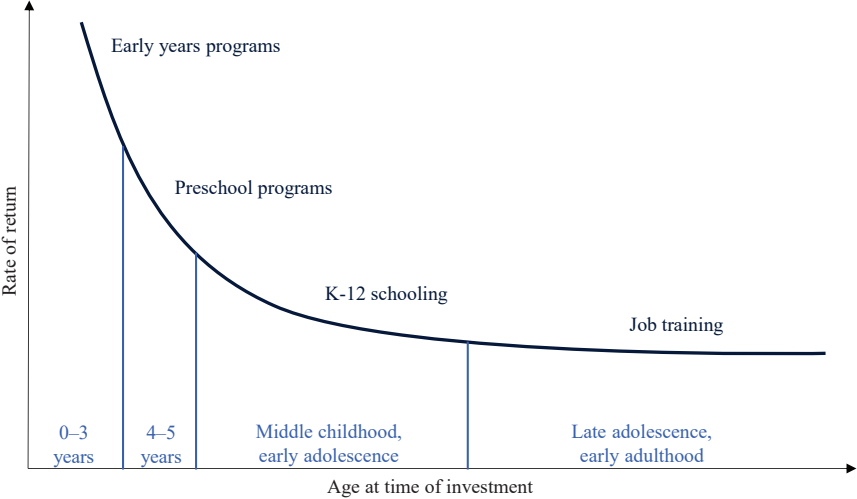
When deployed well, ECE investments can advance both economic efficiency and equity. The return on these investments manifests not only as improved individual life chances but also as societal benefits, in the form of greater productivity and economic growth; less individual reliance on government transfers; and fewer bad outcomes that are costly for society, such as poor health, high school dropout, and crime (Heckman and Masterov 2007). Figure 4-1 presents a stylized depiction of the return on investments at various stages of life, with examples of programs in each period. The figure shows how the Heckman curve, as it is known, maps the economic argument that \$1 invested earlier in life can yield a greater return than \$1 invested later (Heckman 2008). In other words, the efficacy of human capital investments likely declines with age, a conclusion that aligns with the science on a child's developing brain and its malleability during the infant and toddler years (Knudsen et al. 2006; Shonkoff and Phillips 2000). According to this argument, policies and programs targeted at the earliest years of life have the greatest potential to generate large individual and societal returns, followed by investments in the preschool years, when children are three to five years of age.

Research that estimates returns on human capital investments over a wide range of ages is generally consistent with the Heckman curve. In comprehensive assessments of the long-run benefits of specific early childhood programs, researchers estimate a \$7 to \$12 return on every \$1 invested in

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<sup>2</sup> Head Start is the federally funded preschool program for children from low-income families; it began in 1965 as part of the War on Poverty (ECLKC 2022).

**Figure 4-1. Return on Investment in Human Capital, by Age**



Source: Adapted from Heckman (2008).

Perry Preschool (Heckman et al. 2010), and even higher rates of return for the Carolina Abecedarian Project and the Carolina Approach to Responsive Education programs (García et al. 2020).

### *Defining Quality in ECE*

Although there is solid evidence that ECE investments can be effective in the long run, less empirical evidence speaks directly to the *features* of ECE that matter for improving children’s outcomes. This research gap is due in part to limited data on inputs to, and outputs from, ECE programming, and in part to ECE’s multifaceted aims. In addition, the quality of the ECE experience is measured relative to the possible alternative settings where children could spend their time, and these settings vary widely. That said, there are some aspects that research suggests are important dimensions of high-quality ECE.

While parents’ definitions of “good” ECE settings are likely subjective and include family-specific preferences for location, linguistic and cultural match, hours of operation, and program type, there have been efforts—across the United States’ mixed delivery system—to define and measure program quality objectively.<sup>3</sup> Beyond the core safety and security requirements, systematic efforts to boost ECE quality include the Head Start Program Performance Standards and States’ quality rating and improvement systems

<sup>3</sup> A mixed delivery system provides care through home-based, community-based, and school-based settings, and can involve funding and accountability from Federal, State, and local sources in addition to families paying directly for ECE services.

(Office of Child Care 2011). These systems rely on various components, depending on the State—including licensure, lead teachers’ educational attainment, child–caregiver ratios, and other measures—and most States directly incentivize providers achieving higher levels of quality, as defined in the State’s system. States make information on program quality publicly available. Though research has not definitively established links between quality rating and improvement systems and measurable child outcomes (Cannon et al. 2017), the evidence suggests that assignment to a low rating does lead programs to improve on the measured dimensions and influences parents’ choices (Bassok, Dee, and Latham 2019).

An important, measurable dimension of ECE quality is the nature of relationships and interactions between ECE staff and children in the care setting. Evidence suggests that stable, attached child–caregiver relationships in children’s earliest years provide a critical foundation for their subsequent healthy development (Hatfield et al. 2016; Pianta 1997; Sabol and Pianta 2012). Indeed, research points to the importance of the caregiver’s focused attention, which means that having more early childhood educators, or educators who have been trained in how to productively engage with children, could generate economy-wide, long-term productivity gains (Blau and Currie 2006). Relatedly, research suggests that ECE staff turnover is associated with children’s weaker language and social skill development (Caven et al. 2021). Childcare workers experiencing economic stress have a more difficult time fully engaging with children and offering a high-quality learning experience (Schlieber and Mclean 2020). Evidence also indicates that improvements in compensation and working conditions can significantly reduce turnover and are associated with better care and improved child outcomes (Bassok et al. 2021b; Grunewald, Nunn, and Palmer 2022; King et al. 2016).

Some comprehensive, model programs have generated large returns, but they are made up of a package of components—including home visits, parenting programs, and health and nutrition offerings—which makes it difficult to isolate the impact of specific features of these programs in that evidence base. Notably, ECE settings provide early academic skill building and educational inputs alongside other types of support for children’s healthy development, including play-based and social activities, and physical and mental health and nutrition services. Box 4-1 explains the role of nutrition support in young children’s development.

### ***Benefits for Working Parents***

In addition to benefits for children, ECE programming can be important for families because it allows parents to participate in the labor market while raising their children. In 2021, 62 percent of families with children under six

### Box 4-1. Nutrition Support in Early Childhood

ECE settings often provide services and support beyond the classroom, including programs for parents, health services, and access to food. For example, from its inception in 1965, the Head Start program was designed to be a comprehensive early childhood development program, with an emphasis on health and nutrition components (Vinovskis 2005). Among young children, the Child and Adult Care Food Program (CACFP) provides funding for healthy meals and snacks for children in Head Start and other ECE programs. Research suggests that funding and standard-setting programs like the CACFP are associated with improvements in child nutrition offerings and reductions in households' food insecurity (Heflin, Arteaga, and Gable 2015; Korenman et al. 2013; Ritchie et al. 2012, 2015).

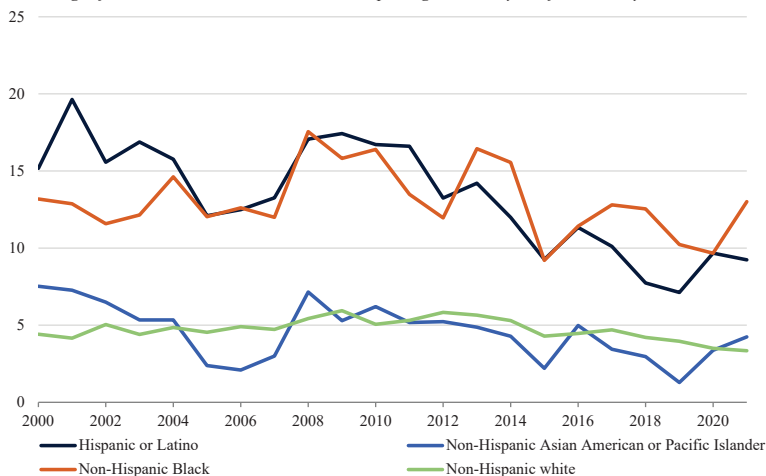
Researchers have established that increased access to healthier food—provided to children through nutrition assistance for their families or through meals while in childcare or at school—lead to improved health, cognitive functioning, and long-term well-being. Evidence from the introduction of both the Food Stamp Program—now the Supplemental Nutrition Assistance Program (SNAP)—and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) across the United States suggests that both programs have improved children's early life health outcomes (Almond, Hoynes, and Schanzenbach 2011; Hoynes, Page, and Stevens 2011) and—if provided before age five—long-term economic outcomes (Bailey et al. 2020; Hoynes, Schanzenbach, and Almond 2016).

Young children can also interact with the National School Lunch Program, School Breakfast Program, and Special Milk Program offered in participating childcare, preschool, and pre-K settings. Several studies indicate that school meals can improve nutrition and health outcomes (Gundersen et al. 2012; Bhattacharya, Currie, and Haider 2006). Although there are a few exceptions (e.g., Schanzenbach and Zaki 2014), many studies conclude that higher participation in these meal programs leads to increases in academic achievement and educational attainment (Imberman and Kugler 2014; Frisvold 2015; Hinrichs 2010). These findings are consistent with clinical evidence that nutrition is important for cognitive performance (Alaimo, Olson, and Frongillo 2001; Wesnes et al. 2003).

Food assistance programs are an important tool to reduce food hardship for many Americans, particularly in times of economic distress. Though food insecurity had been trending down in the decade preceding the COVID-19 pandemic, most dramatically for Hispanic and Latino households (figure 4-i), nonwhite children experienced setbacks in food security in 2020 and 2021. Additionally, gaps that predate the COVID-19 pandemic remain between Black and Hispanic or Latino children and

**Figure 4-i. Food Insecurity among Households with Young Children, 2000–2021**

*Percentage of households with children under six reporting low or very low food security*



Sources: Current Population Survey; CEA calculations.

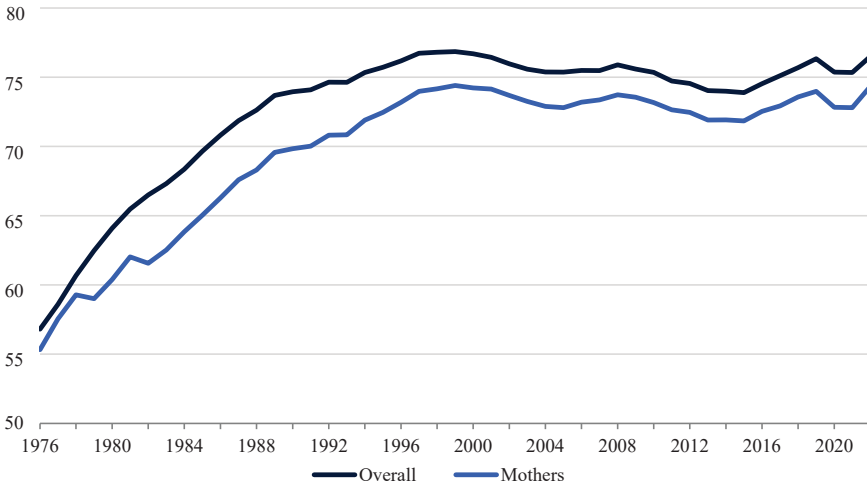
white and Asian American or Pacific Islander children (U.S. Census Bureau 2021a). As of 2021, the rate of food insecurity was higher for households with children, for households with children under age six, and particularly for single-woman-headed households than it was for households overall (USDA 2022a).

As households with children face food insecurity, ECE settings and schools will continue to serve as an important source of nutritional assistance for children. Beginning in 2024, as part of ongoing efforts to advance families' food security, children who receive free or reduced-price school meals will have access to a permanent food assistance program to address the summer gap in access to nutrition support (USDA 2022b).

years had all parents in the household working (BLS 2022). In large part, this stems from a rise, over the past half century, in maternal labor force participation. From the mid-1970s to the mid-1990s, participation rates for both prime-age women and prime-age mothers grew by about 20 percentage points. Since then, both rates have plateaued and have even experienced periods of decline, although they remain higher today than in the mid-1970s (figure 4-2).

**Figure 4-2. Labor Force Participation Over Time, by Maternal Status**

*Percentage of prime-age women in the labor force*



Sources: Current Population Survey; CEA calculations.

As noted in chapter 1 of this *Report*, the rise in maternal labor force participation occurred in tandem with a rise in paid ECE and senior care. Time use data suggest that, among mothers of young children, more highly educated mothers in particular have reduced time spent on care of their children concurrent with the rise in maternal employment ([Flood et al. 2022](#)). While increased formal ECE was likely partially the *result* of maternal participation, research indicates that ECE also *enables* it ([Herbst 2022](#); [Morrissey 2017](#)). Specifically, research examining ECE availability, expansion, and subsidization finds that ECE has large, positive effects on maternal employment ([Blau and Tekin 2007](#); [Gelbach 2002](#); [Herbst 2017](#)). Several studies of programs in other countries—specifically Canada, Germany, and Norway—also confirm the responsiveness of mothers’ employment to ECE expansions ([Baker, Gruber, and Milligan 2008](#); [Bauernschuster and Schlotter 2015](#); [Finseraas, Hardoy, and Schöne 2016](#); [Lefebvre and Merrigan 2008](#)).

Evidence from across ECE contexts, including childcare subsidy receipt and the introduction of public preschool and kindergarten programs, suggests that certain mothers’ employment is most affected. Those mothers who respond to program introduction and availability by working more are those whose youngest child is eligible for the program, and those who are relatively disadvantaged (i.e., single mothers and those with lower levels of education) ([Cascio 2009](#); [Cascio and Schanzenbach 2013](#); [Fitzpatrick 2010, 2012](#); [Gelbach 2002](#); [Tekin 2005, 2007](#)). Research on the Head Start program similarly documents that program access improved employment and earnings outcomes for single mothers ([Wikle and Wilson 2022](#)).



In addition to increasing parents' likelihood of working at all, policies that expand access to ECE can boost their productivity in the workplace by allowing them to get additional education or job training and increasing the likelihood they will work *full time* (Davis et al. 2018; Herbst and Tekin 2011). These effects may have been especially important in the context of the COVID-19 pandemic, which, according to survey evidence, made parents, and mothers in particular, likely to reduce their work hours or productivity even while remaining in their jobs (Pew Research Center 2022). Increased access to ECE, such as through policies to expand availability and reduce costs, would likely enable more parents to work, which could bolster long-run economic growth and expand the economy's productive capacity. However, as the next section describes, the market for ECE faces fundamental challenges, hampering families' ability to secure ECE that meets their needs.

## Challenges in the Market for Early Care and Education

Although, as noted above, investments in children can make a difference not only for the children themselves but also for their families and communities in ways that spill over to society, it is not at all clear the ECE market works for both providers and families. Important questions include: can families that need care access a well-functioning market to meet their needs? And, is the supply of ECE inefficiently low from society's perspective? The evidence indicates that the care economy faces fundamental challenges in terms of both supply and demand, and thus there is an important opportunity for effective policies to improve the functioning of this market.

On the supply side, a core concern is whether care businesses that invest in higher quality—such as through better staff compensation, professional development and coaching for early educators, and lower child-care-giver ratios—can recoup the increased costs while also charging rates that families can afford.

On the demand side, families face liquidity constraints, given that they are more likely to be financially strapped when their children are young and the parents are in the early, and relatively unstable, years of their earnings trajectories (Davis and Sojourner 2021). That is, many families simply lack the resources to invest in high-quality care when it is needed and cannot borrow against future earnings to do so at competitive interest rates. High-quality care can consume a large fraction of families' budgets, especially for low-income families (Landivar, Graf, and Rayo 2023; U.S. Department of the Treasury 2021). As such, many families are sensitive to the price of childcare and may respond by forgoing market-based care and instead relying on parental care or informal arrangements (Morrissey 2017).

## *Workforce Challenges*

Early care and education is a labor-intensive industry, and, as discussed above, a stable, qualified workforce is an essential ingredient in the provision of high-quality ECE services. According to the 2019 National Survey of Early Care and Education (NSECE), a nationally representative survey of childcare providers conducted before the pandemic, the average departure rate of caregivers in center-based care—the share of staff members who work directly with young children who left the focal program in the last 12 months—was 17 percent. Though this rate of turnover is comparable to the public teaching profession (16 percent), half of teaching departures are to another teaching position, whereas evidence suggests that many childcare providers leave the industry entirely (NCES 2016). Research in Louisiana suggests even higher turnover overall—finding that more than one-third of ECE educators depart annually, and that most turnover is a departure from the ECE profession (Bassok et al. 2021a). Evidence also demonstrates that turnover varies considerably across centers, with nearly 10 percent losing more than half their workforce in each year of the three-year study period (Doromal et al. 2022), and higher turnover in centers paying low wages and those serving infants and toddlers (Caven et al. 2021).

The 2019 NSECE also documents that the average longevity for a home-based ECE provider was relatively short, with about 46 percent of home-based providers having operated five or fewer years (NSECE 2019). Though these survey data predate the pandemic, the evidence suggests that periods of low unemployment in the broader economy are related to higher turnover in childcare employment (Brown and Herbst 2022). Thus, the tight labor market during the pandemic recovery period could exacerbate high workforce turnover and slow the recovery from pandemic-induced job losses in childcare (see box 4-2). Churn in the workforce prevents workers from gaining experience in the field and impedes staff continuity in ECE settings, potentially reducing the quality of care.

The workforce challenges for ECE largely stem from workers' low pay. As described below, this low pay results, in part, from the price sensitivity of consumers and the thin profit margins of care businesses. Childcare workers, who are described in more detail in box 4-3, make low wages relative to typical nonsupervisory workers. In the United States in December 2022, the typical production or nonsupervisory worker made, on average, \$28.19 an hour, yet production or nonsupervisory childcare workers earned considerably less, \$17.95 an hour (BLS 2023). According to one analysis, childcare workers earn 23 percent less on average than workers in other occupations with similar composition by age, education, and other demographic characteristics (Gould 2015). In particular, comparing the earnings of childcare, pre-K, kindergarten, and elementary school teachers illustrates

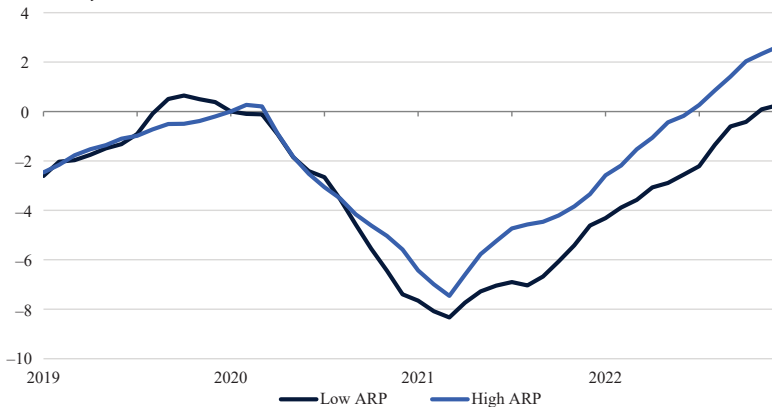
### Box 4-2. The American Rescue Plan and Support for Childcare

At the beginning of the COVID-19 pandemic, the childcare industry was severely affected. Between February 2020 and April 2020, childcare employment fell more than 35 percent. Recognizing the disruptions of the care infrastructure wrought by the pandemic, the American Rescue Plan (ARP) Act allocated funds to stabilize childcare, including \$24 billion in funding for the new Child Care Stabilization Program. Data from the U.S. Department of Health and Human Services (2022; also see White House 2022) indicate that more than 200,000 childcare programs in the United States, with total capacity to serve as many as 9.5 million children, have received funding through these grants, intended to help the industry recover by providing grants to childcare programs to help cover operational costs such as wages and benefits, rent and utilities, and program materials and supplies. As of the fall of 2022, the most common uses of funds were personnel costs at centers, and rent and utilities at family childcare homes.

These grants likely have had economic consequences that extend beyond their effects on childcare workers and providers. As described earlier in this chapter, access to childcare is an important input for parental employment, particularly for women (e.g., Morrissey 2017). This relationship between employment and access to childcare likely helps to

**Figure 4-ii. Percent Change in Maternal Employment**

*Percent change in the 12-month rolling average of the employment–population ratio relative to January 2020*



Sources: Current Population Survey; CEA calculations.

Note: Data are restricted to mothers who have at least one child under six. "Low ARP" refers to employment among those living in the half of core-based statistical areas (CBSAs) with the lowest provider capacity covered by American Rescue Plan (ARP) funding per population. "High ARP" refers to employment among those living in the half of CBSAs with the highest provider capacity covered by ARP funding per population.

explain the significant, disproportionate drop that women experienced in their attachment to the labor force at the beginning of the COVID-19 pandemic. Whereas the overall employment–population ratio (i.e., the employment rate) fell by 16 percent between February 2020 and April 2020, the employment rate for women fell by 18 percent. Several studies indicate that during these months, employment for mothers of young children was particularly hard hit (Boesch et al. 2021; Collins et al. 2021; Heggeness 2020; Tüzemen 2021).

The CEA’s analysis comparing maternal employment among those living in areas with relatively more provider capacity (as a share of population) supported by ARP funding to employment among those living in areas with less provider capacity supported by funding suggests that maternal employment has recovered more quickly in areas with greater capacity supported by stabilization grants (figure 4-ii). This analysis does not rule out other potential explanations of the differences in maternal employment across low- and high-ARP places, including underlying differences in community characteristics, but it points to an area for further research to better understand the effects of ARP childcare stabilization funds on the childcare industry and the parents who rely on it.

the extent of low compensation among care workers. On average, childcare workers earn less than half, and preschool workers earn just over half, the average annual earnings of kindergarten and elementary school teachers (BLS 2021a). Childcare workers also rarely receive nonwage employee benefits; only 15 percent of these workers belong to an employer- or union-sponsored health insurance plan, compared with 58 percent of all workers (Gould 2015; BLS 2021b).

In their labor-intensive industry, which typically has families’ payments as the sole source of revenue, childcare providers have limited options to cut costs or raise revenue in order to pay higher wages. Low pay means that ECE workers are more likely to have an income below the Federal poverty line; 1 in 7 childcare workers lives in a family with an income below this threshold, compared with about 1 in 16 families overall (Gould 2015). In addition, 53 percent of childcare workers rely on a public assistance program, such as Medicaid or SNAP, compared with 21 percent of the United States’ workforce as a whole (Whitebook et al. 2018).

### *The High Costs of High-Quality Care*

Given the importance of ensuring safe, secure, and high-quality ECE for infants and young children, and to make quality more visible to families,

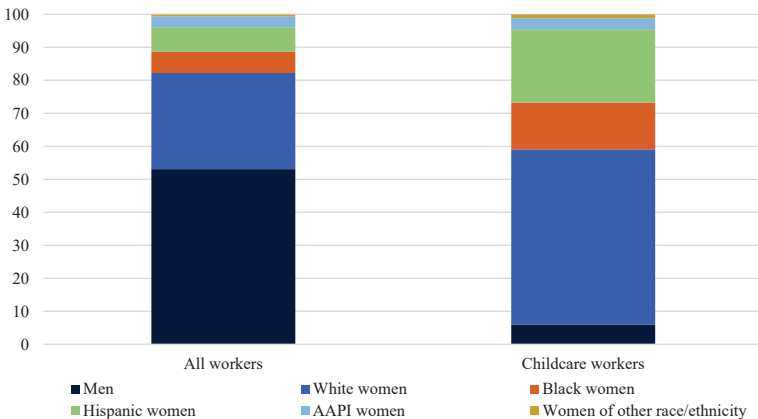
### Box 4-3. Who Works in ECE?

Most childcare workers are women, and they are disproportionately women of color (Banerjee, Gould, and Sawo 2021). Figure 4-iii shows the breakdown of childcare employment by gender and race/ethnicity compared with the overall workforce. About 14 percent of childcare workers are Black and about 24 percent are Hispanic, higher than the share of Black and Hispanic workers in the overall workforce (6 and 8 percent, respectively).

Additionally, historical norms that have devalued care work, typically performed by women, and labor market discrimination affecting women and people of color may exacerbate low pay. The current composition of the care workforce has legacies in slavery, when Black women acted as caregivers through coercion and force (Glenn 2012). Since the end of the Civil War, care workers have been shut out from workforce protections, such as those enacted under the New Deal (Burnham and Theodore 2012). Lawmakers continue to exclude many care workers from labor protections and benefits, including minimum wage laws, paid leave, retirement benefits, and overtime pay. The historical roots of the devaluation of care work, and the ongoing barriers to equal treatment that women and people of color face in the labor market, likely continue to affect the pay and working conditions for ECE workers today.

**Figure 4-iii. Racial and Gender Breakdown of Employment**

*Percentage of employment*



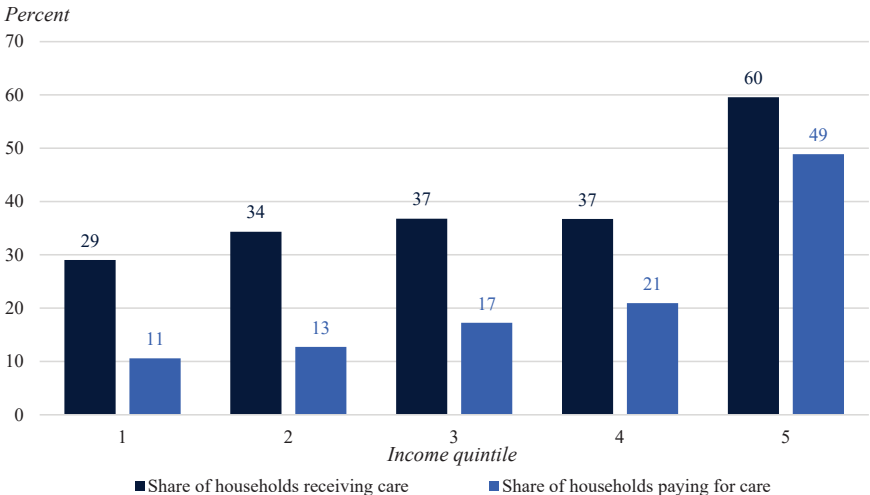
Source: Gould, Sawo, and Banerjee 2021.

Note: AAPI = Asian American Pacific Islander.

there are rules and standards for formal (i.e., licensed and regulated) child-care providers. Some regulations vary by State, and others are Federal. For example, the Child and Adult Care Food Program’s Child Care Standards, which some childcare centers must meet to receive certain Federal reimbursements, require childcare centers to have at least one early childhood educator for every four children under age three (but at least six weeks of age), and one educator for every six children between age three and six. These quality regulations are critical for ensuring children’s safety and well-being, and insofar as they require higher staffing levels and childcare workers with in-demand skills, they necessarily increase providers’ costs of doing business.

Additionally, though industries such as manufacturing have seen large technological advances leading to improvements in quality and labor productivity, these advances are less applicable to labor-intensive, service-based industries such as ECE. Like those for many services, 60 to 80 percent of childcare business expenses are for labor (Workman 2018). Increasing wages in other industries that have higher labor productivity gains means that wages for care workers must also increase for care businesses to compete for workers, thus raising overall prices. As noted above, stable child–caregiver relationships are a key component of high-quality ECE, and one documented way to improve continuity in the ECE workforce is through competitive pay (Bassok et al. 2021b; Grunewald, Nunn, and Palmer 2022).

**Figure 4-3. Formal ECE Consumption, by Income Level**

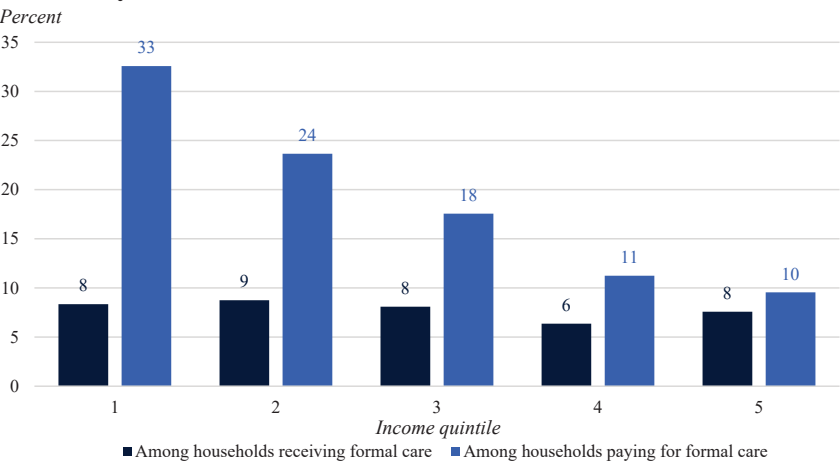


Sources: 2019 National Survey of Early Care and Education; CEA calculations.  
Note: Early care and education (ECE) measures are limited to children under age 6 and to “formal” ECE, which includes paid individuals (with no prior relationship), center-based care, preschool, community-based care, and other organizational ECE on a regular and irregular basis.

High-quality ECE is fundamentally an expensive service, so it is not surprising that its use and costs vary considerably across the income distribution. Figure 4-3 shows formal ECE consumption by family income level, giving the proportions of both households receiving care and those paying for care. Both measures increase with income, and families across the income distribution are participating in some subsidized care, though much more pronouncedly, in the lowest income quintiles. Only about 15 percent of households with young children in the lowest quintile pay for ECE, while 53 percent of those in the highest quintile pay for ECE (NSECE 2020).

Although low-income families more often qualify for subsidized services, those that pay for ECE devote a larger fraction of their income to ECE expenses than middle- and high-income families. Recently released data from the Department of Labor’s National Database of Childcare Prices document that prepandemic median childcare prices for one child account for between 8 and 19 percent of median family income in communities across the country, with even higher prices for infant care (Landivar, Graf, and Rayo 2023). For low-income families, that burden is even more pronounced. Figure 4-4 shows average annual ECE expenses as a share of income for all households with young children receiving formal ECE and for households that pay for ECE. For those paying for ECE, the share of income spent on ECE declines sharply by income level. The lowest-income families that pay for formal ECE spend one-third of their annual income on ECE,

**Figure 4-4. Average Annual Expenses for Formal ECE as a Proportion of Income, by Income Level**



Sources: 2019 National Survey of Early Care and Education; CEA calculations.  
Note: Early care and education (ECE) measures are limited to children under age 6 and to “formal” ECE, which includes paid individuals (with no prior relationship), center-based care, preschool, community-based care, and other organizational ECE on a regular and irregular basis.

compared with the highest-income families, which spend about 10 percent of their annual income on ECE.

### *ECE Pricing and Price-Sensitive Consumers*

As noted above, businesses supplying care services face a pool of consumers with financial constraints that may limit their ability to afford the cost of high-quality care. In particular, low- and moderate-income families tend to be more likely than higher-income ones to curtail their purchases of these services if the price rises—by forgoing nonparental care altogether or by relying on informal, unpaid, or lower-quality ECE services.

The budget constraints that families face in turn affect the supply of high-quality care. ECE providers serving families that are more sensitive to prices may be unable to afford costly quality improvements. In supplying care, providers choose their investment in quality at the point where their marginal revenues equal their marginal costs—that is, where an additional \$1 invested is equal to an additional \$1 earned. Providers serving low-income families have little economic ability to improve quality from a relatively low level; their clients may not be able to pay more for higher-quality care due to their budget constraints. In theory, with full information and accessible credit markets, parents may be willing to borrow against future earnings to access high-quality ECE that meets their and their young children's needs. However, such credit is not generally available. As such, families must pay for childcare out of their current income, which may be particularly constrained when children are young and parents are in the low-earning stages of their careers (Davis and Sojourner 2021).

Providers serving high-income families, conversely, can more easily charge higher prices to recoup the costs of their investments in quality. When these providers invest in better-quality care, their clients are generally able to pay higher prices, in large part because their family budget/income can accommodate it. This aspect of the ECE market gives rise to a stronger relationship between quality and total revenues among providers serving high-income families.

ECE pricing is also complicated by parents who stay home full time and informal care providers. The most recently available evidence suggests that about one in five parents was a full-time, stay-at-home caregiver in 2016 (Livingston 2018). Further, some people who supply childcare services do so while also caring for their own children, altering their cost-benefit calculus (Porter et al. 2010). These care providers charge lower rates on average than larger, licensed providers, exerting downward pressure on prices in the broader ECE market and attracting families that cannot afford center-based care (National Women's Law Center 2018). Parents may also shift to relatives, neighbors, or in-home providers on an ad hoc or more permanent basis



when market-based options fail to meet their needs. Evidence suggests that these informal ECE settings are often of lower quality than parental care and center-based care ([Bassok et al. 2016](#); [Flood et al. 2022](#)).

In 2018, 88 percent of childcare businesses were sole proprietors (i.e., with no employees other than themselves), and the average receipts per establishment were about \$16,000 ([U.S. Census Bureau 2018](#)). Even under the unreasonable assumption that providers had no expenses, these receipts put the average sole proprietor at about the 20th percentile of the earnings distribution. Indeed, absent other resources, at these revenue levels, it would be difficult to sustain a family by running a childcare business. These data suggest that some providers may supply care at below-market rates, perhaps as supplementary income while providing care for their own children or family members, with altruistic motives, or because of limited employment options.

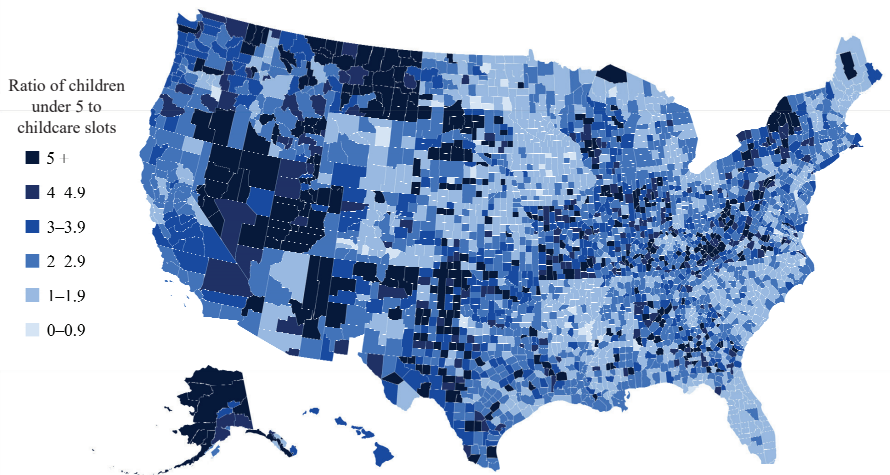
### ***Business Model Fragility***

As noted throughout this chapter, the ECE market is fundamentally challenged because it cannot provide high quality at prices families can afford. The ECE market has other fundamental characteristics that are factors in its business model, which are vulnerable to economic headwinds. Researchers have confirmed that childcare responds more strongly to negative economic shocks than other low-wage industries and takes longer to recover from recessions than the rest of economy ([Brown and Herbst 2022](#)). In sum, ECE is a highly fragmented industry, populated by small firms, often sole proprietorships, that pay low wages, have high labor turnover, and face low profit margins of less than 1 percent for most childcare providers ([Carson and Mattingly 2020](#); [Grunewald and Davies 2011](#); [U.S. Department of the Treasury 2021](#)).

Liquidity challenges for childcare business owners explain why even a few weeks without revenue is often untenable for ECE providers, as became evident during the COVID-19 pandemic. According to the CEA's analysis of November 2021 Small Business Pulse data, 82 percent of social assistance small businesses (which include childcare businesses) reported large or moderate negative effects of the pandemic on the business, compared with 66 percent of small businesses in general. In the same data, almost double the number of social assistance businesses (nearly 4 percent) reported temporarily or permanently closing, compared with all small businesses (2 percent). In 2021, social assistance businesses were also more likely to report that they anticipated needing financial support or additional capital in the next six months.

The demographic composition of childcare providers may exacerbate the issue of limited access to capital. The owners of private childcare

**Figure 4-5. Ratio of Young Children to Childcare Capacity in 2018**



Sources: Center for American Progress (2020); CEA calculations.

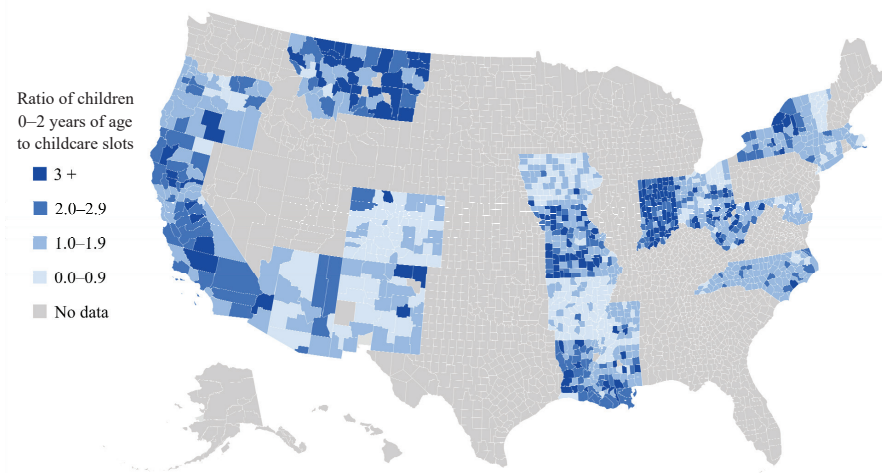
businesses are disproportionately women and people of color, aligning with the composition of the ECE workforce (as shown in box 4-2), and these providers may face more pronounced barriers in capital markets. Almost all childcare businesses—nearly 97 percent—are owned by women, while half are minority-owned (National Women’s Business Council 2020; Mueller 2020). Yet women and minorities tend to have fewer assets to get them through tough times. One study indicates that even after controlling for other differences, small business owners who are women or people of color have lower loan approval rates and pay higher interest on loans for their businesses (Asiedu, Freeman, and Nti-Addae 2012).

*Participation in and Availability of ECE*

Data on ECE participation represent the intersection of the supply of and the demand for ECE slots; participation requires both the availability of a slot, referring to its provision, along with take-up of the slot, which incorporates a family’s care preferences and needs. That is, for a family to access ECE in the United States, there must be an available slot that also meets the family’s needs in terms of cost, location, operating hours, and quality, among other factors. According to data on childcare capacity and population by county, more than half of Americans live in neighborhoods where the number of young children outpaces the availability of licensed childcare slots by three to one or more (Malik et al. 2018). Figure 4-5 maps the ratio of children under age five to licensed childcare slots across U.S. counties.

The ratios of young children to childcare slots are larger when looking at infant and toddler care, as shown in figure 4-6 for counties in States with

**Figure 4-6. Ratio of Infants and Toddlers to Childcare Capacity in 2018**



Sources: Malik et al. (2018); CEA calculations.

available data for 2018. In one analysis, researchers found that 80 percent of the counties for which they had data had at least three infants and toddlers for every childcare slot for children under three (Jessen-Howard, Malik, and Falgout 2020). Rural and low-income communities were more likely to have high child-to-capacity ratios—which could reflect lower demand for nonparental ECE in those areas—and Hispanic families were more likely to live in areas with high ratios (Malik et al. 2018).

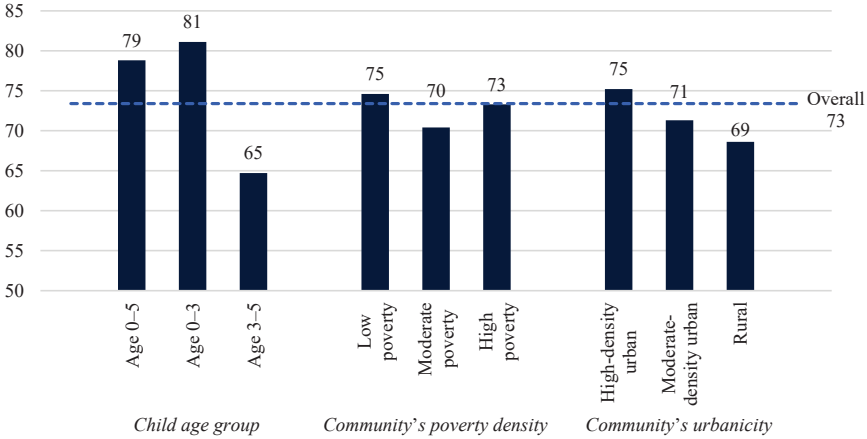
An undersupply of ECE slots may exacerbate a lack of participation in formal ECE. In 2019, 53 percent of children age three to six years who were not yet enrolled in elementary school were in a formal preschool setting outside the home (U.S. Census Bureau 2021b).<sup>4</sup> Prepandemic data point to existing gaps by race, ethnicity, and family socioeconomic status. Hispanic children, in particular, have historically participated in formal care at lower rates, and Black children more likely to be in the care of relatives than other children (de Brey et al. 2019). Lower-income and disadvantaged families have used nonparental care at lower rates, though participation among families at the lowest end of the socioeconomic distribution resembles that of more advantaged families (de Brey et al. 2019; NCES 2022).

Many argue that the differences by socioeconomic status and region of the country in child participation in ECE is due to a lack of availability of suitable slots. However, is it possible that what appears to be a lack of availability—more young children than capacity—could in fact be the result of lower demand due to parents' preferences? Data sources, including surveys,

<sup>4</sup> In the October School Enrollment Supplement of the Current Population Survey, respondents are asked if the focal child attends “preschool” or “nursery school.”

**Figure 4-7. Excess Demand by Provider Type**

*Percentage of providers experiencing excess demand*



Sources: 2019 National Survey of Early Care and Education; CEA calculations.

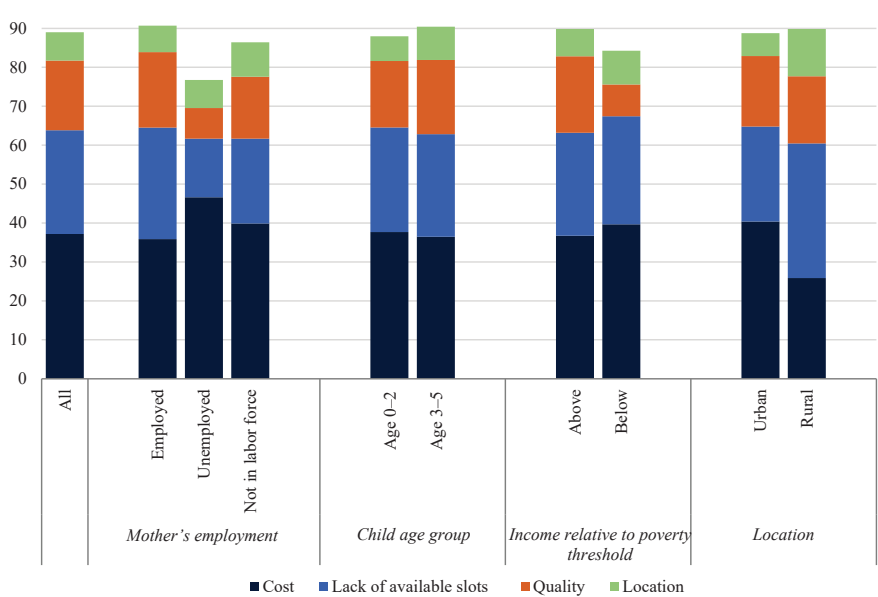
Note: Excess demand is defined by whether providers have turned families away due to lack of capacity or had a waiting list in the past year. Line denotes the overall percentage of providers experiencing excess demand (73.4 percent).

can help to identify whether observed participation rates fall short of families' demand for ECE slots for their children. For example, to conduct the National Head Start Impact Study, researchers constructed a nationally representative sample of Head Start grantees. Because excess demand was a critical feature of the study design, grantees could only participate if they expected to be oversubscribed in the fall of 2002; 89 percent of Head Start grantees in the nationally representative sample were not serving all eligible children in the community who wanted Head Start (U.S. Department of Health and Human Services 2005). Analysis of prepandemic data found that there were 63 Head Start slots for every 100 income-eligible, preschool-age children who lived within 5 miles of a Head Start center (Ghertner and Schreier 2022).

In addition to the Head Start program, other data sources similarly document excess demand for ECE providers' limited slots. National Survey of Early Care and Education data for 2019 suggest that 73 percent of center-based care providers experienced excess demand for childcare slots, in that they either rejected families because they were too full or maintained waiting lists. As presented in figure 4-7, excess demand varied by provider type. Providers serving only infants and toddlers and those serving all young children were more likely to report excess demand for their services (81 percent and 79 percent, respectively) than those serving only preschool-age children (65 percent). Though excess demand did not vary linearly with community poverty, the level of urbanicity was important, with providers in rural areas less likely to report excess demand. There is also a limited supply

**Figure 4-8. Reasons Households Face Difficulty Finding Care**

*Percentage of all households that face difficulty finding care reporting primary reason for difficulty*



Sources: National Center for Education Statistics (2019); CEA calculations.

Note: Households included are those that reported some or much difficulty finding the type of childcare or early childhood program they wanted for their child, or reported that they did not find the childcare program they wanted. Households are grouped by their response to the question "What was the main reason for the difficulty finding childcare or early childhood programs?" The four most common reasons are displayed, so the bars do not sum to 100.

of childcare subsidies funded by the Federal Government and States; only 16 percent of the children who were eligible for oversubscribed subsidies in 2019 received them (Chien 2022).

On the consumer side, households also report difficulty accessing care that meets their needs. In 2019, 76 percent of households that searched for care for their young children had difficulty finding care that met their needs (National Household Education Surveys Program 2019). Among this group, when respondents were asked the main reason for difficulty, the most common barrier was cost, followed by a lack of open slots (figure 4-8). Other significant barriers in the search for care included locational challenges and insufficient quality. Cost was a particularly pronounced concern among urban households and households with an income below the poverty threshold. A lack of available slots at the ECE providers they contacted was a more salient difficulty for households with working mothers, those above the poverty threshold, and those in rural areas. The disconnect between families' reports of difficulty finding ECE and providers' reports of a lower incidence of excess demand in rural areas perhaps suggests that the types of available care, ages served, or other program features offered in rural areas

do not meet families' needs. Previous research also documents more pronounced search difficulty for Black and Hispanic households (NCES 2018). The undersupply of ECE warrants attention because of the documented effectiveness of investments in facilitating parents' labor force attachment as well as in improving children's short- and long-term outcomes, both of which are important for individual well-being and strong economic growth.

## **The Role of Subsidies in the Market for Care**

The sizable social benefits of high-quality ECE and the challenges in the ECE market create an opportunity for policy innovation. Hendren and Sprung-Keyser (2020) document the returns on various investments across the life cycle using a metric called the marginal value of public funds, which includes any increased revenue and cost savings for the government, and find that investments in childhood health and education yield the largest returns. Though other public and private entities also spend money on ECE in the United States, increased Federal funding could help move the quality of care for young children closer to the socially optimal level (Davis and Sojourner 2021). Research indicates that improving ECE—and reaping the social and economic benefits of investing in children—requires (1) broadening access, and in particular, addressing disparities by race, ethnicity, and family socioeconomic status; (2) incentivizing supply building, including workforce support; and (3) ensuring quality.

### ***International Comparisons***

Many countries around the world subsidize ECE (Olivetti and Petrongolo 2017). Whereas among all countries that belong to the Organization for Economic Cooperation and Development (OECD), national governments spend an average of 0.74 percent of their gross domestic product on ECE, the United States spends only 0.33 percent (OECD 2021). As discussed in chapter 6 of this *Report*, women's labor force participation in the United States has stagnated and fallen behind participation rates in many other comparable countries. Researchers have advanced the relative lack of family-friendly policies in the United States as one potential explanation for why U.S. women's labor force participation has failed to increase at the same rates as its peer countries (Blau and Kahn 2013).

Among OECD countries, the United States has one of the lowest ECE participation rates among children age three to five years, at 66 percent (OECD, n.d.). This rate was essentially unchanged between 2015 and 2020, measured before the COVID-19 pandemic. Notably, several OECD countries have universal or near-universal ECE participation rates among children age three to five. This group includes Ireland, which experienced

a large increase, from 79 percent in 2015 to universal participation in 2020 (OECD, n.d.), concurrent with major reforms of and national investment in ECE, including improved compensation for early educators (Moloney 2021).

Though the United States stands out among advanced economies for its relatively low amount of spending on preschool-age children (age three to five), as measured by spending per child served or as a proportion of gross domestic product, public spending on ECE for the youngest children from infancy to age two is particularly low (OECD 2021). Many other countries, particularly the Nordic ones, spend the most on ECE for infants and toddlers and continue to invest heavily in the years before school entry.

The United States' ECE landscape is different from those of many other OECD countries, and it is also importantly embedded in a different policy context that has implications for the functioning of ECE programs. Of the OECD countries with available data, more than 70 percent have a centralized authority for ECE, with oversight for the system that serves children from birth or age one through primary school entry, unlike the United States; many also have established a right to at least one year of ECE enrollment before age five (OECD 2019). In addition, parental leave policies in many other countries alleviate pressure on the ECE infrastructure for providing infant care, which is the costliest to provide and the least agile in accommodating fluctuations in enrollment, due in part to smaller group sizes and child-to-adult ratios (Landivar, Graf, and Rayo 2023; OECD 2011; Office of Child Care, n.d.). All OECD countries, with the exception of the United States, offer nationwide paid maternity leave (OECD 2016). Many also offer paid paternity leave after the birth of a child, and 23 OECD countries provide paid parental leave that allows parents to share caregiving responsibilities in that time period (OECD 2016).

### ***Subsidies in the United States' ECE Market***

Subsidizing the United States' ECE infrastructure more robustly could make it possible for care providers to invest in high-quality services, including adequately compensating workers, at a price that families can afford. Box 4-4 outlines the major Federal investments in ECE.

Two recent working papers find that a combination of subsidies targeting low-income families *coupled with* provider-side investments is the most effective means to expand enrollment in high-quality ECE (Bodéré 2023; Borowsky et al. 2022). Subsidies tied to the cost of providing high-quality care allow providers to invest in costly quality improvements, and adjusting the price childcare consumers pay based on their income makes it easier for families to fit high-quality care into their budgets.



#### Box 4-4. Federal ECE Investments

Currently, the Federal Government invests in ECE through several channels, some of which direct funding toward private and public organizations to provide free or subsidized services, while others provide financial resources directly to families for spending on ECE services.

Head Start is the federally funded program, operated by public agencies, private nonprofit and for-profit organizations, Tribal governments, and school systems, providing free ECE for preschool-aged children from low-income families (ECLKC 2022). The Early Head Start program serves pregnant women and infants and toddlers from low-income households through home visitation and center-based services (ECLKC 2019).

The Preschool Development Grant–Birth through Five also invests in ECE, with the goal of supporting systemic enhancements in strategic planning, family engagement, workforce development, and quality improvement across all ECE programs, including but not limited to States’ preschool programs (OESE 2023; Office of Early Childhood Development 2022).

The Child Care and Development Fund (CCDF), authorized by the Child Care and Development Block Grant (CCDBG) Act, provides funding to States, territories, and Tribal governments to invest in ECE programs as well as directly to low-income families pursuing work, education, or training opportunities to spend on childcare (Office of Child Care 2022).

Some ECE benefits operate through the tax code: the now fully refundable Child and Dependent Care Credit, a tax credit that supports working families with childcare expenses (IRS 2022), and the Employer-Provided Child Care Credit, which provides tax credits to employers with qualified childcare expenditures, including operating on-site childcare facilities or contracting with childcare providers to offer services to their employees (Smith, McHenry, and Mullaly 2021).

Recent childcare policy proposals would encourage States to build the supply of high-quality ECE and expand access to it through, in part, incentives for providers to increase investments in quality. In addition, these proposals include subsidies targeting low- and middle-income households. Both these features would allow providers to recoup the cost of additional quality investments, counteracting market frictions that lead to underinvesting in quality, as discussed above.

Investing in quality will require both process improvements and better job quality for care workers to attract and retain people with the appropriate



### Box 4-5. New Data and New Methods to Inform Investments in Children

Understanding the current lay of the land in ECE and how to effectively invest in children requires continued innovation in data infrastructure and research methods. There are no systematically collected measures of ECE programming, inputs, and outcomes across the mixed delivery system, and information on ECE enrollment from household surveys lags real time considerably. Misalignment in the timing and incidence of costs and benefits creates challenges for public investments in children; the time horizon over which such investments realize their returns is long, and most budget scoring calculations fail to account for long-term benefits.

*Timely, responsive data collection.* Issues with the limited data on ECE provision and participation, and the timeliness of its availability existed before the COVID-19 pandemic, but real-time data collection became increasingly important during the pandemic for assessing which programs or elements of programs were achieving their intended goals (Cajner et al. 2022). Two surveys that emerged in response have been widely used in analysis: the Household Pulse Survey and the School Pulse Panel. In theory, these ongoing surveys have much potential to both inform policy and support research, but the Household Pulse Survey has issues with representativeness and low response rates (Bradley et al. 2021). Redesign and incentives could address these problems, and gathering data on households and schools over time holds promise for use in future research and policymaking.

Unlocking and expanding the potential of existing data sources is likely to be more cost-effective than collecting new data. Administrative data, for example, often contain rich information on children's and families' interactions with services. The ability to link administrative data over time and across sources could facilitate many fruitful research pursuits to inform policy and practice (Bigelow et al. 2021).

*Measuring long-run effects.* Several new methods capitalize on the documented relationships between short-term metrics and longer-term outcomes of interest to project or estimate the long-run and broader impact of interventions. One recent paper documents this evolution in economic research on the effects of the U.S. social safety net on children, as causal methods have evolved, sufficient time has elapsed, and data availability has improved (Aizer, Hoynes, and Lleras-Muney 2022). New and reinvigorated approaches to capturing long-term effects include *life-cycle benefit forecasts* (García et al. 2020), *surrogate indices* (Athey et al. 2019), and the framework of the marginal value of public funds (Hendren and Sprung-Keyser 2020). Ongoing innovation in this space demonstrates that there is interest in, and urgency to, more quickly measuring the broad and full impact of programs. This need is particularly pressing when assessing programs and policies that affect children.

skills. Evidence indicates that labor supply in ECE settings responds to higher wages, which suggests that as ECE jobs become higher quality, more qualified people will remain in care jobs and seek to be hired by care businesses (Blau 1993; Borowsky et al. 2022; Mocan 2007). Therefore, the supply and quality of ECE would increase, helping to counteract the long-standing undersupply of high-quality care.

As discussed in box 4-4, the Federal Government currently invests in ECE programming through multiple avenues, and many States have proceeded with efforts to increase availability and lower costs, often using Federal funding from the ARP. A number of States—including Connecticut, Delaware, Georgia, Maine, Maryland, Oregon, Pennsylvania, and Vermont—are offering one-time bonuses for care workers or are permanently subsidizing pay increases (Child Care Aware 2022). In Texas, for example, lawmakers increased reimbursements to providers serving infants and toddlers from low-income households, and have required childcare programs receiving public subsidies to participate in the Texas Rising Star quality rating and improvement system (Goldstein 2022).

The Federal Government could also play a significant role in improving data infrastructure that supports effective policymaking for ECE through better real-time information on availability and participation, and by building evidence. Box 4-5 discusses some of the new developments on this front, and avenues for improvement.

## Conclusion

Early care and education programs play an important dual role for families: (1) contributing to young children’s development of cognitive and social-emotional skills; and (2) supporting parents’ engagement with the labor market. Both these channels also generate substantial benefits for society. Ensuring that all children have access to high-quality ECE requires investing *both* in families’ ability to access programs and in the provision of these programs—including supporting workforce improvements and smart capacity expansion. Such investments in ECE can yield significant long-run benefits not only for the affected children themselves but also for society at large.

Although the COVID-19 pandemic exacerbated many gaps in the Nation’s ECE infrastructure, many of these challenges—and particularly disparities by race/ethnicity and family income—existed before the pandemic. There are critical issues in the market for ECE programs and services, and the Nation’s economy often fails to support care businesses, care workers, and the families in need of their services. These challenges ultimately lead to low pay for workers and exacerbate the undersupply of high-quality, affordable, and accessible care for families. However, these problems could be mitigated with policy improvements.

Carefully designed government policies would address frictions in the ECE market—including workforce challenges and low pay, the high costs of high-quality care provision, families’ price sensitivity, and the fragility of the ECE business model—thereby making childcare more affordable while improving pay for workers and ensuring investments in quality. The government could thus foster a better-functioning ECE market by funding subsidies for childcare providers, including incentives to improve the quality of care and higher caregiver pay, alongside subsidies and publicly provided ECE programming for families. Together, these policies would address both the supply and demand sides of the ECE market, ensuring that providers are willing and able to provide the high-quality, affordable care needed by families and society.