

# Who's paying now?

## The explicit and implicit costs of the current early care and education system

**Report** • By [Elise Gould](#) and [Hunter Blair](#) • January 15, 2020

*This report was produced in collaboration with Lea J.E. Austin and Marcy Whitebook of the Center for the Study of Child Care Employment at U.C. Berkeley. This report is a complement to the concurrently published report [A Values-Based Early Care and Education System](#) (Gould et al. 2020).*

The chronic underfunding of early care and education (ECE) is compromising the well-being of educators and the children they teach and threatening the economic security of millions of families in the United States. The current ECE system demands large contributions from the parents of young children, both through payments for ECE services and through forgone income when parents drop out of or reduce their participation in paid labor markets to provide care on their own. Investments from federal, state, and local governments have provided some relief for parents, but those investments have generally been far too small. And while the cost to parents for ECE is high, the current market rates for services are inefficiently low because ECE teachers are underpaid. Nationally, the median hourly wage for ECE teachers is \$12.12 (EPI 2019b).

A greater public investment is required to create a comprehensive and high-quality system that works for parents, children, and teachers alike. Gould et al. (2020) estimate the costs of a transformed ECE system—in which teachers are appropriately compensated and programs are of high quality and available to *all* families—for all 50 states and the District of Columbia, using a variety of data sources.<sup>1</sup> All together, the enhanced system—fully phased-in and comprehensive—would require an annual investment in the range of \$337 to \$495 billion, serving between 11.5 and 16.0 million children.

While a comprehensive and high-quality ECE system would require a large infusion of dedicated financing, it is important to understand that we are not starting from scratch. A substantial down payment has already been made through the explicit and implicit resources that are currently dedicated to the care and education of young children. This report provides some context for the investment needed for an ECE overhaul by providing a rough count of the money already in the ECE system from direct contributions. We also account for income forgone by families when parents participate in fewer hours of paid work to care for their children.

Further, substantial benefits would stem from a fundamental overhaul of the system. Investments in high-quality ECE for our children will pay dividends on this country's economic future and, even in strictly fiscal terms, these investments will essentially pay for themselves over the course of a couple of decades.

## Main findings

### Economic costs of the current ECE system

- **Government spending.** Public spending on early care and education is about \$34 billion, with about \$22.2 billion coming from the federal government and \$11.8 billion from state and local governments.
- **Household spending.** Parents currently spend about \$42 billion on early care and education.
- **Household income loss.** Parents forgo roughly \$30–35 billion in income because the current high cost of ECE leads many parents to leave the paid labor force, or reduce their paid work hours, to care for their children.
- **Lost tax revenues.** Forgone wages translate into a loss of tax revenue of about \$4.2 billion each year.

### Economic benefits of a transformed system

- **Comparable pay for ECE teachers.** In a high-quality system that invests in ECE teachers and pays them like their K–8 peers, these teachers will see their wages rise by \$80.3 billion each year. In essence, this number can be seen as a measure of how much today's ECE system underpays teachers and keeps prices inefficiently low.
- **Tax revenue gains.** Increased teacher pay corresponds to a gain in tax revenue of about \$42.9 billion.
- **Fiscal benefits that outpace fiscal costs.** Sufficient investment in a high-quality system will more than pay for itself in the long run.

# Public spending on today's ECE system

*Public spending on early care and education in the U.S. is about \$34 billion, with about \$22.2 billion coming from the federal government and \$11.8 billion from state and local governments.*

According to the most recent data from the Organisation for Economic Co-operation and Development (OECD), U.S. public spending for education and care for children ages 0–5 was about 0.33% of GDP in 2015 (OECD 2017), which is the equivalent of about \$64 billion in 2017.<sup>2</sup> (For context, average public spending for these costs among OECD countries was 0.74% of GDP.)

Since the OECD data include children through age five, however, that means it includes spending on kindergartners; in the U.S., spending on kindergartners accounts for a substantial percentage of public spending on children ages 0–5. So U.S. public spending on ECE only (that is, not including kindergartners) is actually lower than the \$64 billion we calculated above.

To determine how much of that \$64 billion is spent on ECE, we start by noting that there are approximately 3.7 million kindergartners in the U.S. public school system (NCES 2019). Per-pupil spending by grade is not generally available. Per-pupil spending overall in public schools was \$12,201 in 2017 (U.S. Census Bureau 2019). One could assume this average applies to all kindergartners; however, only 14 states plus D.C. require districts to offer full-day kindergarten (ECS 2018), which means that spending on kindergartners is likely to be lower than the per-pupil average in public schools. We assume that average spending on kindergartners is two-thirds of the per-pupil average in public schools, which means that public spending on kindergartners accounts for about \$30 billion of the OECD total.<sup>3</sup> This leaves \$34 billion in public spending on early childhood education and care outside of kindergarten, or about 0.18% of GDP.

This seems to us to be a reasonable topline estimate of public spending on early childhood education and care in the U.S., and it is roughly in the same range as estimates from other studies.<sup>4</sup> Following the methodology used by the BUILD Initiative (2017), we estimate that \$22.2 billion of this spending is federal spending,<sup>5</sup> which leaves state and local government spending at \$11.8 billion.

We think this is likely a conservative estimate of total public spending on ECE, and in particular of state and local government spending on ECE.<sup>6</sup> The OECD notes that outside of comprehensively recorded data from the Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden), its social expenditure data may not fully capture spending by local governments. In our search, we did not come across a comprehensive and detailed breakdown of state and local spending on ECE. A more comprehensive survey of all state and local spending on early childhood education and care is outside the scope of this project.

# Direct spending on today's ECE system by parents

*Parents currently spend about \$42 billion on early care and education.*

Parents spend a great deal of money each year paying for their children's early care and education. There is a large variation across states as well as by age of child because of differences in the cost of living and lower recommended child-to-teacher ratios for younger children. Center-based care for four-year-olds ranges from \$4,493 a year in Arkansas to nearly \$18,980 a year in D.C., while ECE for infants ranges from \$5,760 in Mississippi to \$24,081 in D.C. (Child Care Aware 2019). These costs are burdensome not only for low-income families, but also for many middle-income families. As a share of median family income for families with children, parents would have to spend between 10.2% and 28.6% of their total income on infant care (EPI 2019a). Costs for families with more than one child in the ECE system eat up an even larger portion of families' budgets (EPI 2018).

These individual investments add up to a substantial sum. The Consumer Expenditure Survey (CEX) is a survey of households—technically consumer units—on a wide range of expenditure questions. The survey shows that, in total, all consumer units spend about \$42.2 billion on early care and education (BLS-CEX 2018). This equates to a mean expenditure per consumer unit on “day care centers, nursery, and preschools” of \$321 per year. Obviously, this average is low because it includes the millions of families who pay nothing in any given year; meanwhile, a small group of families—those with young children—are paying a lot more than this average, and at a relatively early point in their careers when their incomes are low. While these individual consumer contributions are currently funding much of the ECE system today, it is clear that these high and rising costs are unsustainable because of their threat to families' economic security and well-being. However, if these costs were more broadly shared, the burden on families who are most vulnerable would be far lower (as reflected in the overall average).

## One large hidden cost of today's ECE system: Forgone parental income

*Parents forgo about \$30–35 billion in income because the current high cost of ECE leads many parents to leave the paid labor force, or reduce their paid work hours, to care for their children.*

If a high-quality and more generously subsidized ECE system were put in place, it would not only ease the direct financial burden on parents, but it would also make it possible for those parents to enter the labor market or work more hours. This would help alleviate a huge cost of today's ECE system: the forgone income of parents who respond to the high

costs of ECE by dropping out of the workforce and caring for their children themselves. The labor force participation of parents with young children is weaker in the United States than in many of our peer nations, likely because of our lack of paid parental leave policies as well as the high cost of child care (Bivens et al. 2016).

One way to gauge this implicit cost is simply to ask how many more hours parents would work if public policy made high-quality ECE universally available at no cost or at a low cost. The focus of much of the research tends to be on mothers (not fathers), as historically mothers' labor force participation has shifted more when children enter the picture. Of course, there's no reason to believe that fathers can't and won't alter their behavior given changing societal attitudes or public policies such as paid parental leave. But what is consistent in the economics research is that when the price of ECE falls, more mothers work. Estimates of this labor force response vary in the research literature. In one representative study, Blau (2001) finds that decreasing child care costs by 1% increases mothers' labor force participation by 0.2%. Using these estimates, another study finds that the resulting increase in labor force participation from capping ECE costs at 10% of family income could translate into a GDP increase of 1.2%, equal to \$210.2 billion (Bivens et al. 2016).

In this report, we draw our estimates of increase in labor force participation from the work of Baker, Gruber, and Milligan (2008), who analyze the introduction of Quebec Family Policy in the late 1990s. This natural experiment is a desirable model for estimating the labor market effects of a highly improved U.S. system because the Quebec expansion made ECE more affordable, was universal, and was accompanied by policies that significantly increased wages of ECE workers. If anything, the policy change in Quebec is less ambitious than what is proposed in Gould et al. (2020) and therefore using those policy estimates will likely underestimate the results in the U.S.

In Quebec, the subsidy rate for ECE costs increased by about 50%, from a subsidy that pays about half the costs to one that pays nearly 80% of the costs (Baker, Gruber, and Milligan 2005). ECE workers received additional professional development and training as well as wage subsidies, which resulted in an estimated wage increase of 38–40% (Tougas 2002). The employment rate for married mothers with young children in Quebec before the Family Policy was implemented is not far from that in the U.S. today—53.0% in Quebec in 1994–1995 (Baker, Gruber, and Milligan 2008), compared with 60.5% in the U.S. in 2018 (EPI 2019b).<sup>7</sup>

In a regression framework, Baker, Gruber, and Milligan (2008) find that following the implementation of the Family Policy, married mothers in Quebec increased their employment rate by 7.7 percentage points relative to the rest of Canada. Applying these results to the U.S., we estimate that an overhaul of the ECE system could increase the employment rate of married mothers to 68.2%, adding 7,361,660 new workers to the labor force. In Quebec, married women who entered the workforce after the implementation of the Family Policy averaged 30 to 40 hours per week (Baker, Gruber, and Milligan 2008). Using the median hourly wage for married mothers in the U.S. (\$19.58 in 2018) and assuming these new labor market entrants work an average of 35 hours per week, this equates to an increase in labor market income of \$29.6 billion.<sup>8</sup>

Baker, Gruber, and Milligan (2008) find that single mothers increased their employment by 4.0 percentage points in response to the provision of more affordable child care. While this estimate is far smaller than for married mothers and is not statistically significant at conventional levels, we can use these parameters to estimate the labor supply effect of large-scale ECE reform on single mothers with young children in the U.S. We estimate that this reform would result in 183,162 additional single mothers joining the workforce (a four-percentage-point increase in their employment-to-population ratio, from 64.9% to 68.9%). Using the median hourly wage for single mothers (\$14.95 in 2018) and assuming, as above, that they work on average 35 hours per work, we find that labor market income for single mothers would increase by \$5.0 billion.<sup>9</sup>

Taken together, we find that even a somewhat modest increase in the generosity of ECE subsidies for families—like that represented by the Quebec Family Policy—translates into a mammoth increase in participation among mothers, and this increased labor force participation generates roughly \$34.6 billion more dollars in labor market income.

## Forgone tax revenue due to lower parental participation in the labor force

*Parents' forgone wages translate into a loss of tax revenue of about \$4.2 billion each year.*

This loss in labor market income because of unaffordable ECE options under the current system is substantial for families, and it is also large when we examine the costs to federal revenues. Using the total forgone income estimated above, along with the average marginal tax rate, we can estimate the total loss in federal revenues. The increase in earnings for married mothers who are in the labor force is estimated at \$35,643 annually. Using the NBER TAXSIM model, we find that federal taxes are \$2,961 per newly employed married mother.<sup>10</sup> Therefore, the forgone federal tax revenue is about \$2.5 billion.

When we include single mothers—with estimated annual increase in earnings of \$27,200—in our total, the forgone federal tax revenue rises to \$2.6 billion.<sup>11</sup> State and local tax revenue is about 58.3% of federal tax revenues, making total state and local tax losses come in at about \$1.5 billion.<sup>12</sup> Taken together, the total forgone tax revenue in the current ECE system from fewer parents working is about \$4.2 billion per year.

# Another large hidden cost of today's system: The underpayment of ECE teachers

*In a high-quality system that invests in ECE teachers and pays them comparably to their peers in the K–8 system, these teachers would see their wages rise by \$80.3 billion.*

The most important ingredient in a high-quality ECE system is a skilled and dedicated workforce. Many of today's ECE teachers are skilled and dedicated, but their pay is far too low to allow them to build family-sustaining careers around this work. In essence, today's system is made more affordable to parents because teachers are paid inefficiently low wages. The magnitude of this underpayment can be calculated by comparing what ECE teachers earn today relative to what they would earn if they were given comparable pay and skills development as K–8 educators: The current median annual pay of early educators is \$25,218 per year.<sup>13</sup> If they were paid commensurate with their peers who teach in the K–8 public school system, their pay would increase significantly, from \$25,218 to \$60,602—a \$35,384 increase in pay on an annual basis.<sup>14</sup> Based on the current number of ECE teachers today, this means \$80.3 billion more dollars in the pockets of ECE teachers.<sup>15</sup>

In the current system, many early educators are paid such low wages that nearly one in five live below the official poverty line.<sup>16</sup> The proposed increase in pay will transform these low-wage jobs of today into better middle class jobs, alleviating the extreme economic stress educators experience (e.g., worry about paying for food for their families). Further, the availability of high-quality, affordable ECE will likely increase demand for ECE services—and thereby increase ECE employment opportunities, extending these middle-class economic benefits to even more workers.

## Forgone tax revenue due to underpayment of ECE teachers

*Paying ECE teachers higher wages would mean a gain in tax revenue of about \$42.9 billion.*

Early educators' too-low income currently translates into a significant loss in tax revenue for the federal government as well as for state and local governments. The proposed increase in pay would mean an increase in federal revenues of \$27.1 billion.<sup>17</sup> Using the ratio of federal and state/local taxes discussed above, state and local tax revenue would total about \$15.8 billion. In total, tax revenue gains would equal about \$42.9 billion in just one year.

# Returns to investment of a high-quality ECE system

*Sufficient investment in a high-quality ECE system will more than pay for itself in the long run—both in societal benefits and in fiscal returns to government budgets.*

While there are billions of dollars in the current ECE system, we can get better long-run returns for our children and society if we invest in a higher-quality system that is reliant on a skilled and stable workforce. Evidence shows that public investments in high-quality early care and education yield substantial benefits to children by increasing future compensation, improving health, and reducing interactions with the criminal justice system (Heckman 2011). These benefits far outpace the costs of investment (García et al. 2016). Surveying the research, Lynch and Vaghul (2015) estimate that it takes just eight years for the societal benefits of investment in high-quality prekindergarten to exceed the costs.

Lynch and Vaghul estimate that investments in high-quality prekindergarten also clear the (far higher) fiscal cost-benefit bar; that is, these investments would, in the long run, have a positive net effect on government budgets. Children with better early care and educational opportunities draw on fewer government resources throughout their lives, as well as earning higher compensation as adult workers—which creates additional tax revenues long-term. In fiscal terms, it takes just 16 years for the government budget benefits to exceed annual government costs.

## Conclusion

High-quality early care and education is important and it is worth the investment. The U.S. is already pouring billions of dollars into the current system through government expenditures and parental contributions. And yet the current system is failing parents by stretching family budgets and keeping millions out of the labor force. The current system is also failing early educators by keeping their pay low and their working conditions suboptimal, which comes at a cost for their own economic security as well as at a cost to the children in their care. The loss of potential earnings for both parents and educators translates into lower government revenues. Finally, the current system is failing to make the kinds of high-quality investments that U.S. children deserve and that will pay off many times over in years to come.

## Acknowledgments

The authors wish to acknowledge the generous support of the Joyce Foundation and the Heising-Simons Foundation. The authors also appreciate the assistance of Julia Wolfe, state economic analyst, and Zane Mokhiber, data analyst.



# Notes

1. See Gould et al. 2019 for a more complete methodology using California as the lead example.
2. Authors' calculation from BEA 2019, Table 1.1.5.
3. We take two-thirds of \$12,201 (= \$8,134) and multiply it by 3.7 million kindergartners to get \$30.1 billion.
4. For example, Barnett and Kasmin (2016) estimated that U.S. government spending on early care and education for three- and four-year-olds was \$23.9 billion in 2015, and the BUILD Initiative (2017) estimated that government spending on early care and education for children under five was \$41 billion in 2015.
5. This total includes \$9.2 billion from Head Start (Head Start 2018); \$0.6 billion from Title I-IV funding (U.S. ED 2017); \$0.8 billion from IDEA funding (U.S. ED 2017); \$0.2 billion from Social Service Block Grants (OCS 2019); direct TANF spending of \$0.9 billion (OFA 2018); tax expenditures of \$2.8 billion (JCT 2017); \$3.5 billion from the Child Care Development Fund (CCDF) (OCC 2017); \$0.8 billion from TANF transfers to the CCDF (OFA 2018); and \$3.4 billion from the Child/Adult Care Food Program (FNS 2019).
6. Aside from the OECD notes, we also think this is likely to be an underestimate of state and local spending in particular because in both Barnett and Kasmin 2016 and BUILD Initiative 2017, state and local government spending makes up about 45% of total public spending on ECE, while our estimate implies just 35% of public spending on ECE is by state and local governments.
7. Baker, Gruber, and Milligan (2008) focus initially on married mothers because their results are stronger and statistically significant.
8. We calculate \$19.58 per hour times 35 hours times 7,361,600 new workers equals \$29,627,278,700 in additional labor income. Median hourly wage for married mothers is from EPI 2019b.
9. We calculate \$14.95 times 35 hours times 183,162 workers equals \$4,981,019,970 in labor income. Median hourly wage for single mothers is from EPI 2019b.
10. For the purposes of the using the TAXSIM model, we assume married mothers have one child and no other income. To the extent that there is other household income, which is likely given that they are married, the tax liability for their labor earnings may be higher.
11. For the purposes of the using the TAXSIM model, we assume single mothers have one child and no other income.
12. The 2018 ratio of state and local current receipts (less federal grants to states to avoid double counting) to federal government receipts (BEA 2019).
13. To calculate median annual pay, we look at the 2018 median hourly pay of early educators (from Current Population Survey Outgoing Rotation Group data; see EPI 2019b) and we assume early educators work full time and full year. We find that the median hourly pay of early educators is \$12.12. We multiply this by 2,080 hours per year to get an annual salary of \$25,218.
14. Because K–8 teacher pay is typically not full year, we use the methods discussed in Allegretto and Mishel (2019) and rely on weekly wage data to compare K–8 teacher pay with early educator pay. Then, since early educators are more likely to work the full year, we adjust hourly pay data for

early educators to full-time, full-year earnings and apply the ratio of weekly wages to determine the new pay of early educators.

15. According to American Community Survey data (Ruggles et al. 2019), there were 2,268,571 early educators in 2018.
16. According to American Community Survey data (Ruggles et al. 2019), 18.4% of early educators across the U.S. live in households that are below 100% of the poverty threshold.
17. Using NBER (2018) TAXSIM, we assume ECE teachers are single parents with one child. Federal tax liability includes federal regular tax minus the child tax credit (including the refundable part) minus the EITC plus FICA (Social Security and Medicare taxes).

## References

- Allegretto, Sylvia, and Lawrence Mishel. 2019. *The Teacher Weekly Wage Penalty Hit 21.4 Percent in 2018, a Record High: Trends in the Teacher Wage and Compensation Penalties Through 2018*. Economic Policy Institute, April 2019.
- Baker, Michael, Jonathan Gruber, and Kevin Milligan. 2005. “Universal Childcare, Maternal Labor Supply, and Family Well-Being.” National Bureau of Economic Research Working Paper no. 11832, December 2005. <https://doi.org/10.3386/w11832>.
- Baker, Michael, Jonathan Gruber, and Kevin Milligan. 2008. “Universal Childcare, Maternal Labor Supply, and Family Well-Being.” *Journal of Political Economy* 116, no. 4: 709–745. <https://doi.org/10.1086/591908>.
- Barnett, W. Steven, and Richard Kasmin. 2016. “Funding Landscape for Preschool with a Highly Qualified Workforce.” NIEER, Graduate School of Education, Rutgers University, December 2016.
- Bivens, Josh, Emma García, Elise Gould, Elaine Weiss, and Valerie Wilson. 2016. *It’s Time for an Ambitious National Investment in American’s Children: Investments in Early Childhood Care and Education Would Have Enormous Benefits for Children, Families, Society, and the Economy*. Economic Policy Institute, April 2016.
- Blau, David. 2001. *The Child Care Problem: An Economic Analysis*. New York: Russell Sage Foundation.
- BUILD Initiative. 2017. *Finance and Quality Rating and Improvement Systems*.
- Bureau of Economic Analysis (BEA). 2019. *National Income and Product Accounts Tables* [data tables].
- Bureau of Labor Statistics, Consumer Expenditure Survey (BLS-CEX). 2018. “Table R-1. All Consumer Units: Annual Detailed Expenditure Means, Standard Errors, Coefficients of Variation, and Weekly (D) or Quarterly (I) Percents Reporting” [PDF file], Consumer Expenditure Survey. Last updated September 10, 2019.
- Child Care Aware. 2019. “The US and the High Price of Child Care: An Examination of a Broken System” (interactive map). Accessed November 2019.
- Economic Policy Institute (EPI). 2018. *Family Budget Calculator*. Last updated March 1, 2018.

Economic Policy Institute (EPI). 2019a. *The Cost of Child Care, by State* (calculator). Last updated July 2019.

Economic Policy Institute (EPI). 2019b. Current Population Survey Extracts, version 0.6.14.

Education Commission of the States (ECS). 2018. “Does the State Require the District to Offer Kindergarten and If So, Full or Half Day?” In *50-State Comparison: State K–3 Policies* (web resource), June 2018.

Food and Nutrition Service (FNS). 2019. “Summary of Annual Data, FY 2015–2019” [Excel file]. Downloadable from <https://www.fns.usda.gov/pd/overview>. U.S. Department of Agriculture, December 13, 2019.

García, Jorge Luis, James J. Heckman, Duncan Ermini Leaf, and María Jose Prados. 2016. *The Life-Cycle Benefits of an Influential Early Childhood Program*. Center for Economic and Social Research, University of Southern California, December 2016.

Gould, Elise, Marcy Whitebook, Zane Mokhiber, and Lea J.E. Austin. 2019. *A Values-Based Early Care and Education System Would Benefit Children, Parents, and Teachers in California*. Economic Policy Institute, July 2019.

Gould, Elise, Marcy Whitebook, Zane Mokhiber, and Lea J.E. Austin. 2020. *A Values-Based Early Care and Education System Would Benefit Children, Parents, and Teachers in [STATE]*. Economic Policy Institute, January 2020.

Head Start. 2018. “Head Start Program Facts: Fiscal Year 2017” (web page). U.S. Department of Health and Human Services, Administration for Children and Families. Last updated December 4, 2018.

Heckman, James J. 2011. *Letter to the U.S. Senate Joint Select Committee on Deficit Reduction on Investment in Early Childhood Development*, September 21, 2011.

Joint Committee on Taxation (JCT). 2017. *Estimates of Federal Tax Expenditures for Fiscal Years 2016–2020*. January 30, 2017.

Lynch, Robert, and Kavya Vaghul. 2015. *The Benefits and Costs of Investing in Early Childhood Education: The Fiscal, Economic, and Societal Gains of a Universal Prekindergarten Program in the United States, 2016–2050*. Washington Center for Equitable Growth, December 2015.

National Bureau of Economic Research (NBER). 2018. Internet TAXSIM Version 27. Accessed November 2019.

National Center for Education Statistics (NCES). 2019. *Back to School Statistics* (online fact sheet). August 2019.

Office of Child Care (OCC). 2017. “FY 2017 Child Care Development Fund (CCDF) Allocations (Including Redistributed Funds)” [data table]. U.S. Department of Health and Human Services, Administration for Children and Families, June 19, 2017.

Office of Community Services (OCS). 2019. *Social Services Block Grants (SSBG) Annual Report FY 2017*. U.S. Department of Health and Human Services, Administration for Children and Families, September 30, 2019.

Office of Family Assistance (OFA). 2018. *Temporary Assistance for Needy Families (TANF Financial Data – FY 2017* [data tables]. U.S. Department of Health and Human Services, Administration for

Children and Families, September 27, 2018.

Organisation for Economic Co-operation and Development (OECD). 2017. “[Chart PF3.1.a. Public Spending on Early Childhood Education and Care](#)” [Excel file]. From the [OECD Family Database](#). Accessed November 2019.

Ruggles, Steven, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas, and Matthew Sobek. 2019. Integrated Public Use Microdata Series USA (IPUMS USA): Version 9.0 . Minneapolis, Minn.: IPUMS. <https://doi.org/10.18128/D010.V9.0>.

Tougas, Jocelyne. 2002. “[Reforming Quebec’s Early Childhood Care and Education: The First Five Years](#).” Childcare Resource and Research Unit, University of Toronto Occasional Paper no. 17, April 2002.

U.S. Census Bureau. 2019. “[U.S. School Spending per Pupil Increased for Fifth Consecutive Year, U.S. Census Bureau Reports](#)” (news release). May 21, 2019.

U.S. Department of Education (U.S. ED). 2017. [Department of Education Fiscal Year 2017 Congressional Action](#) [budget tables]. July 17, 2017.