A Comparison of the Governmental Costs of Long-Term Foster Care and Adoption

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Child welfare policy and practice have increased their focus on adoption for those children who cannot rapidly be reunified from foster care. The burgeoning numbers of children receiving adoption subsidies have led some states to be concerned about or even to curtail adoption subsidy levels. Yet, little is known about how the cost of foster care compares to that of adoption. This study uses longitudinal adoption subsidy and foster care placement data to estimate the relative costs of foster care and adoption for a statistically matched group of children. The data show that a sizable proportion of children who are not adopted will leave foster care but that an offsetting proportion of the children who remain will be transitioned to substantially more expensive placements than those used by adopted children. On balance, adoption achieves substantial governmental savings.

Finding permanent homes for children who are in foster care has been a primary goal of child welfare services in this country for many years, primarily because permanence is believed to be good for children. Early research (Emlen et al. 1978) and more recent scholarship (Newton, Litrownik, and Landsverk 2000) find, respectively, that children who are uncertain about the permanency of their living arrangement or who

adoption. Nevertheless, aggregate figures can be misleading. Disparities between the general expenditures for adoption and foster care could reflect the cost of care for children who enter out-of-home care and have high costs but who have little chance of being adopted. An example is a 14-year-old who enters residential treatment.

This article compares the costs of foster care and adoption for similarly situated children to more accurately project one implication of government policy. To do so, it compares cost over an 8-year period following their arrival into foster care. The cost analysis is not limited to federal dollars; it also includes state and local contributions for foster care, adoption subsidies, and other child welfare and court costs accruing for services related to foster care and adoption.

Comparing Foster Care and Adoption Costs

Prior discussions of the comparative costs of foster care and adoption do not consider the full range of costs of making and sustaining adoptive placements. Further, little is known about the cost incurred when children remain in long-term foster care as an alternative to being adopted. The inattention to cost estimates has a price of its own, leading to greater legislative scrutiny over the growing cost of adoption. Several states (e.g., Kansas, Missouri, and Oklahoma) have recently cut adoption subsidies (Eckholm 2005). Cuts in Missouri have been sizable; $12 million has recently been trimmed from the $60 million subsidy program. These cuts have been challenged in federal courts based on the argument made by a children's rights attorneys that "it's going to be far more costly to keep more kids in foster care for a longer time" (Ira P. Lustbader, quoted in Eckholm 2005, A9).

Yet the size of the comparative cost difference when children remain in foster care is unclear. Recent evidence indicates that almost all special needs children receive adoption subsidies. Once begun, subsidies rarely are ended before age 18 (Barth et al. 2003). Other evidence indicates that a sizable proportion of the foster children who are not adopted eventually will leave foster care for reunification with biological families, run away, or become involved with other service sectors (e.g., mental health or juvenile justice) that do not involve a direct cost to child welfare services (Courtney and Barth 1996; Wulczyn 2003). Accordingly, adoption may be a comparatively expensive alternative to foster care, especially for states in which adoption subsidies are provided until age 21.

There is a paucity of information not only on precise estimates but also concerning the basic comparison of the costs of foster care placements and adoptions. Prior to 1980, adoption and foster care program requirements were substantially different from today. Several researchers endeavored to compare such costs (Schwartz and Wolins 1959; Fanshel

care now are much more likely than in the 1980s to receive financial support and medical assistance from adoption subsidies. Nearly 90 percent of children who are adopted from foster care in the United States now receive a subsidy (USDHHS, Administration for Children and Families 2003), and the figure was closer to 75 percent at the time of Barth's earlier work (1993, 1997). Therefore, it is likely that subsidy costs are rising in relation to foster care subsidy payments. Third, the earlier estimates assume that children in long-term foster care remain there until emancipation. A more correct assumption is that many children who are not adopted leave care and have no further foster care costs (Wulczyn and Brunner Hislop 2003).

Conversely, if adoption could prevent children who are young at foster placement from entering group care at a later age, then the Barth (1993, 1997) studies underestimate the adoption savings. Further, independent living programs have expanded in recent years. They now reach a substantial proportion of foster children. Such programs support youths from age 14 and extend to age 21. The earlier work does not consider the additional expenditures for children in long-term foster care associated with independent living programs.

Andrea Sedlak and Diane Broadhurst (1993) explore foster care and adoption cost differences from a national perspective. They consider the difference in administrative costs in a similar way to Barth (1993, 1997). Using federal and state data, they find that, for each foster child placed in an adoptive home, the public saves more than $40,000 by the time the child placed for adoption at 6.6 years of age reaches age 18. There is considerable difference between the annual savings that Barth (1993, 1997) finds in California in 1991 ($1,441) and those that Sedlak and Broadhurst (1993) find nationally in 1988 ($3,504). Much of the difference can be attributed to the methods that the researchers use to determine administrative costs for foster care. Barth (1997) uses a somewhat more precise measure to estimate the cost of long-term foster care, dividing the cost of a social worker with a full caseload (includes overhead costs) by the typical number of children (54) on a long-term foster care caseload. Barth (1997) estimates that the social worker costs $94,000.

In contrast, Sedlak and Broadhurst (1993) divide the total administrative cost of foster care by the number of children in foster care. The initial services to children in foster care (e.g., family reunification services) are highly intensive and therefore very costly. This leads to inaccuracies in calculating an average cost (especially for services to children who do not stay in care for the average period of time). Moreover, both children who remain in long-term foster care and those who are adopted participate in the front end of the foster care system. Thus, the respective initial costs are roughly equal. Therefore, Barth's (1997) method, which compares the costs incurred once the two groups of children are no longer on the same path and ignores initial costs, has

The other two sources of information are used to estimate the daily cost of residing in out-of-home care. When children were in a standard foster home, the rate is determined by comparing their age at the time of the placement to the corresponding state foster care board rate (NCDHHS, Division of Social Services 2002*b*). Between SFY 1994 and SFY 1996, these standard rates varied from $10.36 per day for children ages 0–5 to $13.65 per day for youth ages 13–18. When children were placed in small group homes, large group facilities, specialized foster care, emergency shelters, and other placement types, the daily cost is calculated from the state's rate-setting memos for SFY 2002 and SFY 2003 (NCDHHS, Division of Social Services 2002*b*). Rates are adjusted in 1995 dollars. These memos provide costs in out-of-home care for each of 80 different private nonprofit agencies with which the state contracts. Each agency negotiates rates for each of the programs (e.g., treatment foster care, residential care) provided. In some cases, the placement data include references to the type of placement (e.g., treatment foster care), but the host agency is not specified. In those cases, the average cost for this type of placement is imputed based on the rates in other agencies.

Adoption subsidy estimates in North Carolina are calculated from the state's basic adoption subsidy rates. These rates are based on findings from previous analyses of adoption subsidies in North Carolina (Barth et al. 2003). The analyses establish that adoption subsidy rates rarely vary from the standard age-graded basic foster care rates. A child's age almost always determines the adoption subsidy level.[1] These subsidy rates per month are $315 for children ages 0–5, $365 for children ages 6–12, and $415 for youths ages 13–18 (Dalberth, Gibbs, and Berkman 2005). These payments do not include additional expenditures that agencies pay to third-party vendors for postadoption services (e.g., respite care, therapeutic summer camp, specialty mental health services, and specialty educational services).

Development of the Comparison Group

Because confident comparisons between outcomes for adopted children and those for foster children require evidence that the foster children could have been adopted, the best available methods are used to find long-term foster care cases that are most like the adopted cases. This method is propensity score matching (PSM), which reduces the bias and increases precision in selection of the matched group (Rosenbaum and Rubin 1984).

Because foster care and adoption are not assigned randomly, selection bias is a substantial threat to a comparison of the case outcomes (in this case, the outcome is the cost of services) for adopted and foster children. If adopted children differ systematically from long-term foster

regarding the choices of calipers.[2] They articulate the inescapable tension involved in doing PSM: while trying to maximize exact matches, researchers may exclude cases due to incomplete matching; if researchers try to maximize cases, more inexact matching typically results.

This study takes into consideration these caveats and conducts various analyses using different caliper sizes. The results reported in the article err on the side of matching precision (using a narrow caliper of .1) because the quality of the match is more important than having a large sample size for use in complex second-stage analyses.

Based on the existing literature (Barth 1994) and discussions with adoption specialists, this study selects six important variables likely to be associated with the probability of adoption. These are age at placement, race and ethnicity, gender, residential care during the first 3 years, any nonfamily placement during the first 3 years, and the number of prior placement moves for the first 3 years. Long-term foster children are matched to adopted children based on the foster children's propensity score for being adopted. Several algorithms for matching were considered before selecting the nearest neighbor matching method with what Lori Parsons (2001, 1) describes as the "greedy algorithm." As the term is used here, the greedy algorithm looks for the nearest available case that matches by randomly ordering cases of the long-term foster care and adopted children, selecting the first adopted case, and finding the long-term foster care case with the closest propensity score within a caliper of .1. (If the two closest scores are separated by a difference of more than .1, they are not matched.) Both children are then removed from consideration for matching, and the next adopted child is selected; this implements the conventional procedure developed by Rosenbaum and Rubin (1984). The greedy matching algorithm makes the best matches first, followed by the next-best matches. Best matches are those with the closest propensity score matches. The algorithm proceeds sequentially to the lowest match on the propensity score (Parsons 2001). The process continues in a hierarchical sequence until no more matches can be made. The foster care and adoption groups selected by PSM procedures are described in the results section.

Estimate of Foster Care Reimbursement Costs

Long-term foster children in the study are defined as children who were placed and stayed for longer than 3 years during the first spell of foster care placement. The authors choose 3 years in foster care as a criterion because our preliminary analyses indicate that nearly two-thirds of children who are placed for adoption are placed after 3 years. Further, state and federal law requires that efforts to reunify children be ended and that efforts be made to place children for adoption if they remain in foster care for longer than 2 years. Using the 3-year cutoff allows some

The basic approach to estimate the direct cost of each child's care is to multiply the daily cost by the days in each type of placement. The daily cost for each placement type tracks up to 21 placements, when the child experiences more than one placement. Three costs are estimated. The per diem cost in foster care is determined by dividing the actual total cost by the actual number of days spent in out-of-home placement during the study period. Annualized costs are calculated by the product of per diem cost in foster care and 365 days. Finally, the estimated total cost for each child in foster care is the product of per diem cost and the child's length of stay in out-of-home placement.

There are at least two ways to compare the costs of long-term foster care and adoption. The first is to compare them from the time of adoption. This has the advantage of limiting the focus to compare the cost of the period covered by adoption subsidies with that of the period covered by foster care payments and supervision. From a practical standpoint, the long-term foster care cases then are drawn based on the assumption that, if they have not been reunified within a given number of years, they should be compared with the adoption cases. In this article, a 3-year cutoff is chosen.

If the full period before the cutoff is not included, the cost estimate will be biased for children adopted before the cutoff. This occurs because the costs for the child who adopted in the first 3 years from entry in foster care do not include the full 3 years of foster care costs. The second way of estimating thus compares the costs of foster care from entrance to exit for long-term foster children with the costs of foster care and adoption subsidies for adopted children. This offers the advantage of providing a total cost for children who have entered the child welfare system and go on into long-term foster care or adoption. That represents the number of days (2,825) from the date (July 1993) of the earliest case entry to the end of data collection (April 2001). The first method has some conceptual advantages because it more precisely compares foster care and adoption; the results of the second method offer a broader set of estimates. In point of fact, the results of the two methods are not very different because the cases were so carefully matched. This estimate considers costs from entry up to 7.7 years.

Estimate of Adoption Subsidy Costs

Adopted children in the study are defined as those who have ever been placed in foster care and those who exited from foster care system because of adoption. The estimated cost of care for each adopted child includes both reimbursement costs in foster care placement and post-adoption subsidies. Thus, the total cost of care for each child in adoption is the sum of foster care reimbursement costs when the child was placed in foster care before adoption and the subsidy costs in adoption during

Table 2

ORIGINAL SAMPLE POPULATION PRIOR TO MATCHING

	Long-Term Foster Care	Adoption	p-Value
Total subjects	691	1,902	
Age at entry (mean [SD])	4.90	2.79	< .0001
	(3.3)	(2.90)	
Number of placements (mean [SD])	5.15	2.45	.0001
	(3.91)	(2.04)	
Race:			
White	240	769	.003
	(34.7)	(40.4)	
Black	427	1,036	
	(61.8)	(54.5)	
Other	24	97	
	(3.5)	(5.1)	
Gender:			
Male	385	950	.009
	(55.7)	(499)	
Female	306	952	
	(44.3)	(50.1)	
Ever in nonfamily placement:			
No	439	1,810	< .0001
	(63.5)	(95.2)	
Yes	252	92	
	(36.5)	(4.8)	
Ever in residential care:			
No	495	1,819	< .0001
	(71.6)	(95.6)	
Yes	196	83	
	(28.4)	(4.4)	

NOTE.—Numbers in parentheses are percentages.

cases, while the remaining cases have propensity scores out of the range of adoption cases. Many more adoption cases (73 percent of them) are lost during the matching ($N = 1,389$).

Differences between matched cases and nonmatched cases are calculated using the *t*-test for continuous data and the chi-square test for categorical data. Results suggest that the long-term foster care cases that do not match, compared with those that do match, are statistically significantly older, are more often male, have more prior placements, are more often in a nonfamily placement, and are more frequently in residential care. The differences were the converse for the adoption cases, except that gender is not statistically significantly different and race or ethnicity is, with more white children being in the nonmatched group. These results have three key implications. The first is the confirmation that the population of children adopted from foster care is not, in general terms, the same as the population that remains in long-term foster care. Thus, careful controlling for case differences is required in order to compare costs or outcomes. The second implication is that a

Table 4

Long-Term Foster Care Costs and Adoption Costs (1995 Dollars)

Age at Entry (FC or AD)	Long-Term Foster Care					Adoption						Difference ($)	
	N	OOHC Days	Per Diem Cost ($)	Annualized FC Cost ($)	Estimated Total FC Cost ($)	N	OOHC Days in FC	Days in Adoption	Per Diem Cost ($)	Annualized Adoption Cost ($)	Estimated Total Adoption Cost	Diff. of Annualized Costs	Diff. of Total Costs
0	102	1,645	16	5,931	28,114	119	1,115	1,521	13	4,581	33,173	1,351	−5,059
1	51	1,641	15	5,441	24,799	51	1,076	1,529	13	4,676	35,423	765	−8,623
2	48	1,642	18	6,666	30,479	55	1,044	1,503	14	5,249	35,742	1,417	−5,263
3	42	1,714	22	8,027	38,028	43	1,080	1,424	15	5,374	35,801	2,655	2,227
4	60	1,795	19	6,754	52,870	56	1,010	1,526	16	5,919	40,106	835	−7,235
5	34	1,836	23	8,492	41,114	37	1,172	1,391	14	5,173	35,754	3,249	5,360
6	37	1,772	29	10,709	51,907	40	1,028	1,383	15	5,359	35,740	5,350	16,167
7	43	1,734	35	12,701	61,589	59	1,049	1,447	16	5,857	39,643	6,844	21,746
8	39	1,890	39	14,153	73,788	24	1,104	1,481	19	6,919	49,509	7,234	24,279
9	37	1,793	39	10,588	52,162	30	1,218	1,419	20	7,939	52,620	3,247	−657
10	20	1,859	34	12,337	62,776	19	956	1,496	15	5,381	35,742	6,956	27,034
Total***	513	1,734	23	8,507	41,299	513	1,081	1,478	15	5,574	37,537	3,133	3,962

Note.—FC = foster care; AD = adoption; OOHC = out-of-home care. Each cell is the average cost or average number of days for children by age at entry.

* For adopted children during FC placement and adoption, total length of stay is the same as the maximum length of stay from entry to end of available data for long-term foster children who continue staying in FC after data collection (2,825 days).

† Average number of days of OOHC for long-term foster children by each entry age group.

‡ Calculated by total costs in FC divided by days of out-of-home care in FC.

§ Calculated by per diem cost × 365 days.

∥ Calculated by per diem cost for long-term FC (col. 4) × days of OOHC in FC. The estimate resulted from the average of total FC costs per child. Thus, it may not be equal to the product of OOHC days and per diem cost shown in the table.

Average number of days of OOHC in FC for adopted children.

** Calculated by (begin date of FC placement + 2,825 days) minus the date of adoption, if the child reaches age 18 before total 2,825 days in FC and adoption, from date of adoption to eighteenth birthday.

†† Calculated by (total costs in FC + total costs in adoption) divided by (col. 8 + col. 9).

‡‡ Calculated by per diem cost for adopted children (col. 10) × 365 days

§§ Sum of estimated total costs in FC during col. 8 period and total costs in adoption during col. 9 period.

∥∥ Calculated by annualized FC reimbursement costs for long-term foster children (col. 5) minus the annualized adoption costs for adopted children (col. 11).

Estimated total FC costs for long-term foster children (col. 6) minus the estimated total adoption costs for adopted children (col. 12).

*** The totals are not the simple average of each column but the weighted average calculated by considering actual amounts and number of cases for each age group.

Additional Costs

Direct costs for adoption subsidies or foster care reimbursements are only a portion of child welfare expenditures, which include three additional major cost components: court-related costs, administrative costs, and other service costs. (See table 5 for an enumeration of some of the relevant cost categories.) The patterns of additional costs for long-term foster care are different from those for adoption. For example, while there are large amounts of additional costs for adoption near to the time of adoption, additional costs for long-term foster care are generally delayed. They tend to pile up during adolescence and the corresponding transitions to group home care.

Court costs.—The differences in court costs for children who are adopted, as opposed to those for children who remain in long-term foster care, have not been described in any known publications. Because ASFA entitles children in long-term foster care to reasonable efforts to find a permanent family, their cases must be reviewed every 6 months by the court. Mark Hardin, Ted Rubin, and Debra Baker (1995) estimate personnel costs before the adoption of ASFA. They report that those costs per case per year were approximately $665 (adjusted to 1995 dollars). That was ascertained by dividing total net personnel costs by the total number of children subject to abuse and neglect proceedings.[4] If

Table 5

COMPONENTS OF ADDITIONAL COSTS

Cost Component	Foster Care	Adoption
Court costs	Child welfare worker involvement in periodic case reviews for foster care* Court personnel costs	Termination of parental rights and responsibilities*
Administrative costs (child welfare worker, facilities and administration)	Child welfare worker case management Placement moves* Recruitment and licensing of foster care providers* Independent living services	Home finding and home studies of adoptive parents, applicant services Casework preparing petition for termination of parental rights and responsibilities Subsidy redetermination Recruitment and licensing of adoption providers* Postadoption services
Other service costs[†]	Health and mental health services (Medicaid funded) Incarceration*	Health and mental health services (Medicaid funded) Incarceration*

* These costs are not included in the current cost analysis.
[†] Costs for services not related to child welfare programs.

In Texas, that proportion is about 90 percent (USDHHS, Administration for Children and Families 2005). The current study finds that the proportion with three or more placements rises substantially for every year spent in care. This suggests that the proportion with four, five, and six placements also rises as the years of care pass. Although there are no known estimates of the cost of placing a child into another setting, costs may be quite high. The costs of making multiple placements are not included. The exclusion of these costs from the calculation of long-term foster care costs makes the final estimates of the cost difference between long-term foster care and adoption even more conservative.

The costs of case management in child welfare services are substantial and accounted for in estimates here. Each of the children in foster care has a child welfare worker. The typical cost of a child welfare worker per case per year is approximately $1,375. This figure is based on an average salary of about $33,000 and a typical caseload of 24 (Cyphers 2001). If estimates again assume an administrative overhead rate of 50 percent, this yields an annual case management cost per foster child per year of about $2,000. Sedlak and Broadhurst (1993) estimate the difference between administrative costs for adoption and foster care, arriving at higher figures than those estimated in the current study. They identify $3,230 (adjusted to 1995 dollars) as the annual cost of foster care administration and $975 (adjusted to 1995 dollars) as the cost of administering adoption. Both figures include placement costs, which are not appropriate to this analysis.[5] Thus, the overall case management estimate of $2,000 per year per foster youth seems sound, if conservative.

Independent living costs.—At age 14, children in long-term foster care become eligible for independent living services. These services may continue until age 21. Although little has been done to estimate the per case cost of these services, it is known that the federal government now spends about $140,000,000 a year for youths who are receiving independent living funds to implement the John H. Chafee Foster Care Independence Program (USDHHS, Office of the Assistant Secretary for Budget, Technology and Finance 2002; U.S. Public Law 106-169 [1999]). States also contribute to the program. The U.S. Government Accountability Office (USGAO 2004) indicates that expenditures for eligible youth range from $476 per foster youth to almost $2,300 per youth with an average of $1,090 per year for eligible youth in foster care. If youth participate in the program's services for 3 years, on average, the cost per participating youth is about $3,270. This figure is certainly an underestimate because it does not include state expenditures and does not include expenditures for youth after they emancipate from foster care.

A recent cost analysis (Kerman, Barth, and Wildfire 2004) of an exemplary privately endowed foster care program, the Casey Family Ser-

To adequately compare foster care and adoption costs, those children who are not covered by federal adoption subsidies must be considered. The Adoption and Foster Care Administration Reporting System (AF-CARS) estimates that this is about 12 percent of all adopted children (USDHHS, Administration for Children and Families 2003). Although it is possible that some such children are covered by older state subsidy provisions, this is a very small percentage because the federal program has been in place since 1980. It is safe to assume that a substantial proportion (about 10 percent) are not receiving any of the $37,337 that is estimated (see table 4) to be the mean subsidy payment. The mathematical effect of this is to lower the payment by 10 percent, to a final amount of $33,603.

Total Cost Comparison for 7.7 Years

Taken together, foster care costs for the first 7.7 years total to approximately $86,100 per child. This figure derives from the estimated $8,000 in court-related costs, $16,000 in case management costs, $41,299 in direct reimbursement for care (see table 6, assumption 1), $6,000 in the cost of independent living services, and $14,800 in medical costs. In comparison, the total costs estimated for the care of an adopted child during the same period is about $65,100. This total reflects approximately $2,000 in court-related costs, $37,337 in direct costs (assumption 1), $20,000 in administrative costs, and $5,760 in medical costs. Thus, a child who is adopted will cost the government approximately $21,000 less over the first 7.7 years (table 6, assumption 2) than one who remains in foster care. For the approximately 50,000 children adopted each year, the savings would be approximately $1 billion in government expenses.

Projecting Costs until Age 18

These estimated cost savings for the first 7.7 years of adoption are significant. However, these initial savings may substantially underestimate the total savings. This section also describes the projected savings through age 18.

Projected direct costs.—Although data do not allow for a precise estimate of the proportion of children who would remain in foster care (and the annual cost of their care) through age 18, two methods, including multiple steps and assumptions, are employed to provide a rough estimate of the total cost difference between adoption and foster care. This work is shown in table 6.

Assumptions 1 and 2 rely on previous calculations for the first 7.7 years, with and without including additional costs, respectively. Assumption 3, following in the tradition of Sedlak and Broadhurst (1993), is that the annual difference in cost remains the same from the time of calculation until children leave foster care at approximately age 18

who become adolescents is offset by the increasing likelihood that children will leave foster care. If all or most of the children in foster care leave before they reach age 18, then these calculations overestimate the savings of adoption. However, if a higher proportion of children who remain in out-of-home care come to reside in residential care, then the estimate of cost savings is conservative. Calculations in table 6 (assumptions 3 and 4) also assume that about 71 percent of the children who have already been in care for 7.7 years remain in care until age 18 at the foster care rate. (This is based on an average decline of 4.4 percent in exits per year, as was the case during the prior 7.7 years.)

Assumption 5 is used for the second method. It holds that the long-term foster children who are not adopted by 7.7 years after entering care and who stay in care will have their care reimbursed at the rate of $34 a day for adolescents. That rate is the average cost for children who were age 10 at the time of entry into care (see table 6, assumption 5), and it is higher than the daily cost based on the state's standard board rate. It also assumes that the adopted children receive subsidies until age 18. Under assumption 5, among the children who entered foster care at age 3, the total costs for care of the long-term foster child are about $149,313, while total costs for the adopted child are $68,438. The difference is $80,875 (see table 6, assumption 5). Across all age groups, the total costs for the long-term foster child are $135,233, while total costs for the adopted child are $66,907; the difference is $68,326 (not shown in the table).

Projected grand total costs.—It also is possible to add additional costs to projected direct costs for children who remain in care until age 18. For the average child who entered foster care at age 3, the grand total cost advantage of adoption over long-term foster care for the remainder of the child's minority years (about 15 years) ranges from $65,422 (see table 6, assumption 4) to $126,825 (see table 6, assumption 6). In states that pay a greater amount for adoption subsidies or use less residential care for children in long-term foster care, these cost advantages would be somewhat smaller. If the projected cost estimates from North Carolina are used for the approximately 50,000 children who are adopted each year in the United States, the governmental savings could range from $3,271,100,000 to $6,341,250,000 for the cohort until 18 years of age. Some states allow youth to remain in care until age 21. This would increase projected cost savings from adoption in those states. Although some states have subsidy rates lower than those in North Carolina, other larger states have higher rates and thus lower projected cost savings.

Discussion

The conclusions of cost-benefit analyses usually end with a discussion of whether the greater costs of providing the additional service are

analysis. Yet, these analyses are not conducted with a large sample, and many factors that are not included or are not well measured might, otherwise, distinguish the groups. Most notable is the possibility of unmeasured differences in the health and mental health problems of the populations. In the best case, these factors are equalized by virtue of their association with other factors that are matched, but this possibility is not testable with the current data.

The methods used to estimate costs and benefits also have limitations. For one, they do consider the fact that adoption expenditures tend to occur toward the beginning of the case and the higher foster care expenditures tend to occur for children who remain in care until adolescence, when care becomes more expensive. The article discounts the funds at a constant rate instead of adjusting the discounting by the timing of the expenditures. This is not optimal, but it may not result in significant error because of the minimal ability of government to invest those dollars that are spent later and to use the proceeds to underwrite the later costs of foster care. The study also fails to control for reductions in savings from aggregation effects. That is, as the numbers of adoptions rise, the fixed costs of foster care are spread over fewer children and, ultimately, increase the cost per child. Changes in per diem foster care costs over the period of this study are not considered here.

When governmental programs achieve cost savings, this does not always translate into benefits for children. Indeed, fewer dollars spent on adopted children might suggest a lower level of benefit for adopted children. For two reasons, subsidy and foster care payments' relationship with benefits to children is not so direct. First, because many of those dollars go to the administering agency that provides specialized foster care and group home placements, the child often does not directly benefit from these payments, and, therefore, dollars spent or saved are not a direct investment in the child. Second, payments for different services have different indirect benefits. The investment in adoption secures a private partner (family) that invests additional resources over a child's lifetime. Barth (1997) uses expenditure patterns among adoptive families of foster children in California to estimate that an adoptive family, on average, contributes over twice the expenditures on a child by his or her eighteenth birthday as a foster family. Less than half of females and one-third of males complete the major developmental tasks associated with the transition to adulthood by age 30; indeed, parental support for children after they reach age 18 totals nearly one-third of all lifetime parental expenditures for children (Furstenberg et al. 2003).

Adoption generally provides access to a lifetime of legal connections between children and their adopted family. This may generate additional utility after age 18 (Levin 1983). Such utility might include always having a place to call home (and less homelessness), obtaining help

measured outcomes for foster children who emancipated in 1987 and 1988 were compared with hypothetical outcomes for adopted children. The adoption outcomes were hypothesized from adoptive parents' predictions about how their recently adopted children would perform as adults. Sedlak and Broadhurst (1993) then use the number of placements of foster children to predict the adopted children's mental health, education, use of welfare, employment, and periods of living in institutions or jail during the years following their foster care. This approach assumes that the child-specific factors associated with the generally poor outcomes for foster youth have the same influence on the future of adopted children. They conclude that the financial and human benefits of adoption (largely resulting from greater placement stability) are substantial and far exceed those of foster care. They offer no dollar estimates for these human benefits. This is wise. Their mixed methods and cross-sample approach are highly inventive but make many assumptions about the extent to which models about foster children are applicable to adopted children. Further, there have been nearly 20 years of federal legislation to improve the outcomes for youth since the time of Sedlak and Broadhurst's (1993) data. A recent study (Kerman, Wildfire, and Barth 2002) focused on young adults who were adopted as older children and on former foster youth who were given a substantial dose of services after leaving foster care. The study shows few short-term differences between the two groups.

The Sedlak and Broadhurst work (1993) is useful in clarifying the many domains of adult life that would need to be addressed if a true social cost analysis were attempted. In related work, James Heckman (2000) considers how social capital and human capital explain performance on developmental milestones that can then be used to predict adult sufficiency. Whereas some information about those domains is beginning to emerge from studies of youth leaving foster care, the data are still limited and difficult to compare with results of adoption studies. Mark Courtney and associates (2001) show high rates of arrest by former foster youth, suggesting the value of considering comparative data on criminal conduct. Unfortunately, there are few follow-up studies in the adoption literature. Although data from Benjamin Kerman and associates (2002), Devon Brooks and Barth (1999), and William Feigelman (1997) suggest that the adult adoptee has lower rates of arrest and higher educational attainment than found by Courtney and associates (2001), the samples are not directly comparable. The longitudinal adoption studies are not predominantly of former foster youth, and the time frames for follow-up vary considerably.

Another issue for social cost analysis is the extent to which the adoptive family obtains social benefit from its experience, as compared with the cost incurred (money that could otherwise be invested in other family members with the same social benefit). Yet, this is not easy to estimate.

helpful to pick up additional up-front costs that expedite the adoption of children. Such costs might include hiring additional recruiters, bonuses for families who adopt older children, and underwritten weekend or summer camp activities for children awaiting and families interested in adoption.

Future research should consider the social costs and benefits of adoption. Adoption certainly shifts some costs to adoptive families. That shifting is minimized but not eliminated by the adoption subsidy. As housing continues to become more expensive and wage growth remains small, social costs to families may take on greater significance. At the same time, the social benefits of adoption should grow, because foster children will have even greater need for a family-based safety net.

References

Allphin, Sally, Brian Phillip Simmons, and Richard P. Barth. 1997. "Adoption Workload in California: Revising the Yardstick: Final Report." Report. University of California School of Social Welfare, Child Welfare Research Center, Berkeley.
———. 2001. "Adoption of Foster Children: How Much Does It Cost Public Agencies?" *Children and Youth Services Review* 23 (11): 865–91.
Barth, Richard P. 1993. "Fiscal Issues and Stability in Special-Needs Adoptions." *Public Welfare* 51 (3): 21–29.
———. 1994. "Adoption Research: Building Blocks for the Next Decade." *Child Welfare* 73 (5): 625–38.
———. 1997. "The Value of Special Needs Adoptions." 171–204 in *Adoption Policy and Special Needs Children,* edited by Rosemary J. Avery. Westport, CT: Auburn House.
Barth, Richard P., and Marianne Berry. 1994. "Implications of Research on the Welfare of Children under Permanency Planning." 323–68 in *Child Welfare Research Review,* edited by Richard P. Barth, Jill Duerr Berrick, and Neil Gilbert. New York: Columbia University Press.
Barth, Richard P., and Chung Kwon Lee. 2003. "Subsidy Costs for Foster Children in the California Long Range Adoption Study." Unpublished raw data. University of North Carolina, School of Social Work, Chapel Hill.
Barth, Richard P., Judith Wildfire, Chung Kwon Lee, and Deborah Gibbs. 2003. "Adoption Subsidy Dynamics: Explorations in the Analysis of State Administrative Data." *Adoption Quarterly* 7 (2): 3–27.
Barth, Richard P., Fred H. Wulczyn, and Thomas M. Crea. 2005. "From Anticipation to Evidence: Research on the Adoption and Safe Families Act." *Virginia Journal of Social Policy and the Law* 12 (3): 371–99.
Bloom, Howard S., Charles Michalopoulos, Carolyn J. Hill, and Ying Lei. 2002. "Can Nonexperimental Comparison Group Methods Match the Findings from a Random Assignment Evaluation of Mandatory Welfare-to-Work Programs?" MDRC Working Papers on Research Methodology. MDRC, New York.
Brooks, Devon, and Richard P. Barth. 1999. "Adult Transracial and Inracial Adoptees: Effects of Race, Gender, Adoptive Family Structure, and Placement History on Adjustment Outcomes." *American Journal of Orthopsychiatry* 69 (1): 87–99.
Cornerstone Consulting Group. 2001. "A Carrot among the Sticks: The Adoption Incentive Bonus." Report. Cornerstone Consulting Group, Houston, TX.
Courtney, Mark E., and Richard P. Barth. 1996. "Pathways of Older Adolescents Out of Foster Care: Implications for Independent Living Services." *Social Work* 41 (1): 75–83.
Courtney, Mark E., Irving Piliavin, Andrew Grogan-Kaylor, and Ande Nesmith. 2001. "Foster Youth Transitions to Adulthood: A Longitudinal View of Youth Leaving Care." *Child Welfare* 80 (6): 685–717.
Cyphers, Gary. 2001. "Report from the Child Welfare Workforce Survey: State and County

stitution in a Medicaid Mental Health Carve Out: Services and Costs." *Journal of Health Care Finance* 28 (4): 11–23.

Maza, Penelope L. 2000. "Using Administrative Data to Reward Agency Performance: The Case of the Federal Adoption Incentive Program." *Child Welfare* 79 (5): 444–56.

Nagelkerke, Nico J. D. 1991. "A Note on a General Definition of the Coefficient of Determination." *Biometrika* 78 (3): 691–92.

NCDHHS (North Carolina Department of Health and Human Services), Division of Social Services. 2002a. "Foster Care Funding." Chap. 4, sec. 1203, of *Children's Services*, vol. 1 of *Family Services Manual*. Raleigh: North Carolina Department of Health and Human Services. http://info.dhhs.state.nc.us/olm/manuals/dss/csm-20/man/CSs1203.pdf.
———. 2002b. "SFY (State Fiscal Year) 2002–2003 Facility Rates." Memorandum (July 1). North Carolina Department of Health and Human Services, Raleigh.

Newton, Rae R., Alan J. Litrownik, and John A. Landsverk. 2000. "Children and Youth in Foster Care: Disentangling the Relationship between Problem Behaviors and Number of Placements." *Child Abuse and Neglect* 24 (10): 1363–74.

Parsons, Lori S. 2001. "Reducing Bias in a Propensity Score Matched-Pair Sample Using Greedy Matching Techniques." SUGI Paper no. 214–26 in *Proceedings of the Twenty-sixth Annual SAS Users Group International Conference*, edited by SAS Institute. Cary, NC: SAS Institute. http://www2.sas.com/proceedings/sugi26/p214-26.pdf.

Rosenbach, Margo, Kimball Lewis, and Brian Quinn. 2000. *Health Conditions, Utilization, and Expenditures of Children in Foster Care: Final Report*. Washington, DC: U.S. Department of Health and Human Services.

Rosenbaum, Paul R., and Donald B. Rubin. 1984. "Reducing Bias in Observational Studies Using Subclassification on the Propensity Score." *Journal of the American Statistical Association* 79 (387): 516–24.

Rubin, Donald B. 1997. "Estimating Causal Effects from Large Data Sets Using Propensity Scores." *Annals of Internal Medicine* 127 (8, pt. 2): 757–63.

Schoeni, Robert F., and Karen E. Ross. 2005. "Material Assistance from Families during the Transition to Adulthood." 396–416 in *On the Frontier of Adulthood: Theory, Research, and Public Policy*, edited by Richard A. Settersten, Frank F. Furstenberg Jr., and Rubén G. Rumbaut. Chicago: University of Chicago Press.

Schwartz, Edward E., and Martin Wolins. 1959. *Cost Analysis in Child Welfare Services: Adoption and Foster Home Costs*. Children's Bureau Publication no. 366. Washington, DC: U.S. Department of Health, Education, and Welfare.

Sedlak, Andrea J., and Diane D. Broadhurst. 1993. "Study of Adoption Assistance Impact and Outcomes: Final Report." Report to the U.S. Department of Health and Human Services. Westat, Rockville, MD.

Shadish, William R., Thomas D. Cook, and Donald Thomas Campbell. 2002. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston: Houghton Mifflin.

Smith, Susan L., and Jeanne Howard. 1999. *Promoting Successful Adoptions: Practice with Troubled Families*. Thousand Oaks, CA: Sage.

Spar, Karen, and Christine Devere. 2001. *Child Welfare Financing: Issues and Options*. Report. Washington, DC: Congressional Research Service.

Triseliotis, John. 2002. "Long-Term Foster Care or Adoption? The Evidence Examined." *Child and Family Social Work* 7 (1): 23–33.

USDHHS (U.S. Department of Health and Human Services), Administration for Children and Families. 2003. *Preliminary FY 2001 Estimates as of March 2003*. AFCARS (Adoption and Foster Care Analysis and Reporting System) Report no. 8. Washington, DC: USDHHS. http://www.acf.dhhs.gov/programs/cb/stats_research/afcars/tar/report8.pdf.
———. 2005. *Child Welfare Outcomes 2002: Annual Report*. Report to Congress. Washington, DC: USDHHS.

USDHHS (U.S. Department of Health and Human Services), Office of the Assistant Secretary for Budget, Technology and Finance. 2002. *Summary of Comparable President's Budget—FY 2003*. Washington, DC: USDHHS. http://www.hhs.gov/budget/pdf/hhs2003apt.pdf.

USGAO (U.S. Government Accountability Office). 2004. *Foster Youth: HHS Actions Could Improve Coordination of Services and Monitoring of States' Independent Living Programs*. Report no. GAO-05-25. Washington, DC: U.S. Government Printing Office.

U.S. House of Representatives, Committee on Ways and Means. 2000. *2000 Green Book:*