

# Child Care in the Wake of Welfare Reform: The Impact of Government Subsidies on the Economic Well-Being of Single-Mother Families

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Using microsimulation techniques to estimate the impact of welfare reform in New York, we find that 5 years after federal and state reforms child-care use and costs will rise substantially and families will bear most of these costs. When family incomes are adjusted for child-care costs, most single-mother families will continue to be poor even with greater earnings, the Earned Income Tax Credit, and food stamps. The distribution of child-care costs between government and families, and the implications for poverty, will depend on the extent to which government subsidizes the child-care costs of single mothers.

## Introduction

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) fundamentally changed systems of public support for families in general and for single-mother families in particular. Although there have been several studies of the impact of welfare reform on employment, family incomes, and poverty, few studies have included data on household-level child-care costs. Understanding what arrangements families make for the care of their children, and how much they pay for that care, is of interest in and of itself. It is also essential for estimating the full effects of welfare reform.

## Background

With the passage of PRWORA Congress fundamentally altered the safety net for single-mother families in the United States. Whether or not these changes would leave poor, single-parent families better off was a source of heated debate. Those who argued that the law would harm families focused their critique on such changes as the elimination of the entitlement for welfare and related child-care services. Those who expected the law to be beneficial focused on the new emphasis on personal responsibility and the strengthening of employment supports, such as the Earned Income Tax Credit (EITC) and child-care subsidies.

Several years later, it appears that welfare reform is having neither the worst consequences predicted by critics nor the greatest benefits anticipated by supporters. Sharon Parrott (1999) finds considerable convergence in the findings of studies that have tracked former welfare recipients in 12 states. In these studies, between one-half and three-quarters of former recipients are employed shortly after leaving welfare. Although the adults in these families work a substantial number of hours, most have earnings well below the poverty line. A recent analysis of data for 13 states in the 1997 National Survey of America's Families concludes that families who exited welfare have economic outcomes that are very similar to, or somewhat worse than, other families with incomes in the near-poor to low-income range (150–200 percent of poverty; Loprest 1999).

These and other studies have helped galvanize a new consensus between the critics and supporters of welfare reform. There is agreement that, given favorable economic conditions, most single parents can and will work (e.g., Haskins and Primus 2000). It is clear, however, that many single-mother families continue to experience economic hardship even after the parent goes to work because earnings are low and employment imposes new costs. With increasing expectations that parents of young children should become self-sufficient outside the welfare system, there is growing recognition that many will continue to need government support if they are to achieve economic security.

Child-care subsidies represent one important form of support for single-mother families. Studies of the impact of welfare reform have been seriously limited by their failure to capture the consequences of child-care expenses and government child-care assistance for these families. This is a particularly serious omission because single mothers with young children, the group most likely to be affected by the federal welfare changes, are also most likely to incur child-care costs if they work. The average cost of full-time market-based child care is estimated to be \$3,000–\$5,000 per year for one child (Ribar 1992; Helburn 1995). For poor and near-poor families, these costs can be prohibitive. For families who pay the cost, child-care expenses can push near-poor families back into destitution. For other families, the high cost of child care may lead to the selection of poor quality care or the choice to forgo employment altogether.

Relatively little is known about the extent and impact of child-care subsidies on the economic well-being of families. Although lower-income and less skilled mothers are considerably more likely to use informal care with relatives, they are also more likely to pay relatives than are other mothers (Anderson and Levine 1999). And despite recent increases in child-care funding, few low-income families appear to receive subsidies (Hofferth et. al. 1990; Long and Clark 1997; Kimmel 1998; Meyers and Heintze 1999; Schumacher and Greenberg 1999). As a result, a large proportion of disadvantaged child-care users pay for that care out-of-pocket (e.g., Meyers and Heintze 1999; Fuller and Kagan 2000), spending a higher proportion of their income than their more affluent peers (Hofferth 1995; Anderson and Levine 1999).

Research into the impact of these costs on the economic well-being of low-income families has been limited by data constraints. Although a number of data sources provide detailed information about household income (e.g., the Current Population Survey [CPS] and the Survey of Income and Program Participation [SIPP]), these national surveys do not collect complete information on child-care expenditures and subsidies. The best national study of child-care costs (the 1990 National Child Care Study) provides only limited and increasingly out-of-date information about household income, earnings, and welfare status. Additional difficulties arise because the increasing variation in child-care policies at the state level limits the usefulness of national datasets for estimating policy effects.

## Research Questions

Several years after major reforms to welfare and child-care policies, we still know little about the financial impact of child-care costs and of subsidies on the economic well-being of families exiting welfare. Because few studies of welfare reform have captured the child-care costs that re-

sult when mothers go to work outside the home, conclusions about the economic impact of these reforms is likely to be biased. On the one hand, studies that capture earnings and earnings-related benefits (such as the EITC) without comparable adjustments for work-related expenses (including child care) are likely to overestimate family income. On the other hand, studies that attribute the full cost of substitute care to low-income families without reflecting the increase in government subsidies are likely to underestimate both resources at the family level and the benefits of government child-care policy. In either case, they will fail to capture the opportunities for government policies to support families' self-sufficiency and economic security.

In this study we use a combination of data sources and techniques to answer the questions (1) How much it will cost to provide child care for single-mother families who enter work or workfare activities as a result of welfare reform? and (2) How are these costs likely to be distributed between families and the government? Using data for New York state and New York City, we begin by estimating the costs of child care used by single mothers in the period immediately before the 1996 federal reform. We focus on single-mother families because they are the group most affected by the Aid to Families with Dependent Children/Temporary Assistance for Needy Families (AFDC/TANF) reforms and because child care is a particularly pressing problem for this group. We focus on a single state, and one city within that state, in order to take into account detailed information about the state's and city's welfare and child-care policies. New York is a particularly suitable case for analysis because it offers a large sample of low-income single-mother families. In comparison to other states, New York provides relatively generous welfare benefits and moderate levels of child-care assistance.

We use microsimulation techniques to ask how key provisions of the welfare reforms will affect child-care use among these mothers and to estimate the total costs of child-care provision under alternative child-care policy scenarios. We estimate both the full costs and the probability of subsidy receipt in order to describe the economic impact on working-poor and welfare-recipient families. We then aggregate these costs and examine their distribution between families and the government.

## Policy Context

### *Federal Welfare and Child-Care Reforms*

The federal welfare reform bill (PRWORA) replaced AFDC, the open-ended entitlement program for poor, mainly single-mother families with children, with TANF, a time-limited program funded by a capped block grant. The 5-year lifetime limit under TANF was initially predicted to end benefits to nearly half of all recipients who were in the system as of 1996.<sup>1</sup>

Due to a combination of more stringent welfare rules and a strong economy, caseloads have fallen even more rapidly than predicted. The TANF caseload has dropped by about 50 percent nationwide and by nearly 80 percent in some states since 1994. States are required to assure that a large and annually increasing proportion of those who remain on aid are engaged in work or work-related activities (such as job search). The proportion reaches 50 percent of the (single-mother) caseload by 2002.

The 1996 law reformed and expanded funding for child-care assistance to low-income families by combining several categorical programs into a single block grant (the Child Care and Development Fund or CCDF) and by authorizing states to transfer funds from TANF to the CCDF. A number of states began increasing state-level funding for child care in the mid-1990s, through investments in means-tested subsidies and expansion of universal prekindergarten (Pre-K) services. Policy changes at the federal and state levels have led to substantially higher overall funding for child-care assistance and variation in child-care policies and funding from state to state. States have used their new flexibility to adopt varying eligibility rules, application and recertification procedures, types of subsidy coverage, and benefit and co-payment levels. This variation underscores the importance of studying child-care policy effects at the subnational level.

#### *New York Welfare and Child-care Reforms*

New York state adopted its welfare reform plan in August 1997. The plan replaced the former AFDC and Home Relief programs with a new, three-tiered program. The first tier is time-limited cash assistance for families with children through TANF. The New York TANF program incorporates the federal emphasis on work or work preparation for aid recipients. Due to falling caseloads and aggressive enrollment of welfare recipients into workfare assignments, particularly in New York City, both the state and the city have been able to meet or exceed federal performance standards for work participation specified in PRWORA.<sup>2</sup>

For individuals who do not qualify for TANF a second tier of assistance may be available through the Safety Net program. The Safety Net program provides a small cash grant for a maximum of 2 years, followed by noncash vouchers for basic living expenses (food and shelter). Safety Net assistance may be provided to childless adults, to families who exhaust their 5 years of lifetime TANF benefits, and to families who lose TANF benefits for other reasons (e.g., sanctions), if they meet income and other program eligibility tests. Finally, for individuals who are deemed too disabled to meet the work requirements of the TANF program but not sufficiently disabled to qualify for Supplemental Security Insurance (SSI), the state provides a small cash grant through the Temporary Disability program.

While eliminating some benefits, New York state moved to protect and enhance others. For families who combine earnings with welfare benefits, more generous disregards of earned income when calculating welfare benefits now permit them to keep a larger share of their earnings. The state has also elected to use federal TANF funds to serve some legal aliens who were resident in the United States prior to August 1996 and to partially compensate other legal aliens, elderly, and disabled individuals for their loss of federal food stamps.

Along with these programmatic changes, New York City (and to a lesser extent, other New York state counties) has revised administrative practices to encourage diversion and rapid exits from TANF assistance, and welfare caseloads have dropped substantially. In New York City, public assistance cases declined 44 percent between February 1996 and May 2000 (New York City Human Resources Administration 2000), while in the state overall caseloads declined 33 percent between 1996 and 1999 (Administration for Children and Families 2000).

New York state and city child-care policies under the CCDF have maintained the historical emphasis on employment support, subsidies for workfare participants, and investments in early education and preschool for the most disadvantaged children. Low-income child care in New York state is provided through three main mechanisms: means-tested public child-care centers, vouchers that can be used to purchase private care in market settings (centers or family day care) or in informal (unregulated) baby-sitting, and nonmeans-tested public prekindergarten programs for 4–5-year-old children. The state also supplements federal funding for Head Start preschools for low-income children. As of 1996–97, when PRWORA was adopted, New York state was providing some form of child-care assistance (considering all funding streams) to an estimated 173,349 children (approximately 100,000 of them in full-day programs; Citizen's Committee for Children 1998). Despite these investments, subsidies reached only a small share of potential recipients. By one estimate, as of 1998, subsidized child-care, prekindergarten, or Head Start services were provided to only 24 percent of low-income New York children (under 13) whose mothers were working or in welfare-to-work activities (Citizen's Committee for Children 1998). As more single parents are required to enter work or work preparation activities as a condition of welfare receipt, the need for assistance is predicted to grow substantially. The New York City welfare agency (Human Resource Administration) estimates that by 2001, 27,500 new full- or part-day subsidized child-care slots will be needed to accommodate just the children of welfare recipients who will be required to participate in employment activities (Office of the State Deputy Comptroller for New York City 1997). This estimate does not capture the additional slots that would be needed to accommodate the growing number of low income, employed child-care users.

Although some forms of early education and prekindergarten services

are provided to New York families without charge, the bulk of child care is provided in the form of means-tested vouchers that include a family co-payment. In New York City, the co-payment schedule is based on family size and gross income and on whether the care is used on a part- or full-time basis. The co-payment rate is progressive with family income so that, for example, families with less than \$11,000 in annual income are assessed a co-payment equal to less than 1 percent of their income, while families with incomes of \$30,000 have a co-payment equal to 16 percent of their income.

## Analytic Approach and Data

### *Approach*

Our basic approach in this article is to use microsimulation to model the likely impact of these federal and state reforms on child-care costs for single-mother families in New York state and New York City. We use microsimulation techniques in order to capture both the magnitude of changes in child-care use and costs and the allocation of costs between government and families under alternative policy scenarios. In general, microsimulation analysis begins by deriving estimates of key outcomes (such as the hours and types of child care used by single mothers) and then applies these estimates to other data in order to predict outcomes that are not directly observed in the data (such as child-care costs). Once initial estimates are derived, underlying assumptions (such as the proportion of families subsidized) can be manipulated to derive estimates of “what would happen” under alternative conditions.

Our approach in this simulation is as follows. We begin by using national data to estimate the probability that single mothers used child care in the prereform period and, if they did, the hours, type, and cost of that care (including whether it was purchased or provided without cost by relatives). We use the parameter estimates from this model to calculate the prereform cost of child care and the probabilities of subsidy receipt for single mothers in New York state and New York City as of 1996. Using these estimates, we allocate child-care costs between the government (for subsidized care) and families (for nonsubsidized care and for co-payments). We then evaluate the impact of these costs on the rate and depth of family poverty.

To gauge the impact of welfare reform, we use the parameter estimates from our child-care models to project child-care use and costs 5 years after the adoption of federal and New York state welfare changes. We simulate policy changes by restricting welfare benefits to capture the impact of TANF time limits and deterrence policies, adjusting the employment outcomes for single mothers leaving AFDC/TANF to capture changes in the labor force participation of low income mothers, and in-

creasing work-related activities for remaining cases to capture new work requirements. We use this simulation to obtain new estimates of mothers' work and welfare status and child-care use and costs for the year 2002. To reflect the anticipated expansion of child-care subsidies, we allow the number of government subsidies to grow along with the number of child-care users, initially keeping the proportion of child-care users who are subsidized and the family co-payment rates constant. We then consider alternative levels of child-care subsidization in order to compare the outcomes we would expect to observe if child-care subsidies were provided to a larger proportion of low-income child-care users. In all of the alternative subsidy scenarios, we assume that subsidized families are "fully" subsidized, that is, that the care for all of their children is subsidized and that they pay only the required co-payment.

This analytic approach has several strengths with regard to the questions we are pursuing. We are able to use several datasets in order to estimate more complete household-level outcomes. For example, we estimate child-care costs considering predicted hours of various forms of care used for all children in the family. This represents a substantial improvement over methods that estimate child-care costs by assuming either "full-day" or "part-day" care without adjusting for variation in types of care and hours that families actually use. We are also able to use additional information, such as prevailing costs and co-payment levels in New York state, to augment data provided from survey self reports.

Several potential limitations are also relevant for interpreting the results. In contrast to the analysis of actual outcomes over time, microsimulation techniques hold constant all factors, other than those manipulated by the analyst, when projecting outcomes into the future. In this analysis, we project economic and demographic characteristics using data for 1996 and information about more recent trends in employment and welfare caseloads. We will thus fail to capture the full impact of actual changes during the 5-year period, for example in rates of employment and welfare use, that may interact with the factors we are studying. Our results should not, therefore, be interpreted as a prediction of actual outcomes in the year 2002. Rather, they provide a range of estimates for these outcomes under alternative policy scenarios.

In developing our model, we make further simplifying assumptions about behavioral responses to policy changes. Most important, our model does not adjust for changes in parents' selection of types of child care that might result if subsidies were more widely available. Research by Charles Michalopoulos, Philip Robins, and Irwin Garfinkel (1992) and others suggests that if subsidies were to become more widely available, some parents who already use child care may use the subsidy to switch from less to more expensive forms of care. Because we do not capture this shift in our simulation, we are likely to underestimate the costs to government if the subsidy budget is unconstrained or to overestimate the fraction of families assisted and underestimate their costs if



the subsidy budget is held constant. In either case, our conclusions will provide low estimates of the costs. We discuss this more fully in our summary of findings.

### *Data*

The lack of appropriate data creates serious limitations for researchers studying the role of child care in welfare reform. To avoid these limitations, we use several datasets in our microsimulation. To estimate family income and to classify the welfare status of each family, we use data from the March 1996 CPS, which provide a large sample of single-mother families in New York state and New York City.<sup>3</sup> The CPS is a large, nationally and state representative dataset that contains detailed information on employment, income, and demographic characteristics. Our 1996 New York sample is composed of 416 single-mother families with children, of whom 256 live in New York City; they represent 774,916 and 423,548 single-mothers in New York state and New York City, respectively.

Unfortunately, the CPS lacks data on child-care arrangements, costs, and subsidies. We therefore use the 1990 National Child Care Survey (NCCS) to estimate the parameters for our child-care models, and then we apply these parameter estimates to the CPS data. The 1990 NCCS provides the most current, nationally representative survey data on child-care use, costs, and subsidy status. The NCCS consists of a main sample and a low-income sample. Combining the two samples yields a sample of 956 single-mother families. We use this sample to model our two key child-care outcomes: child-care utilization (arrangements, hours, and use of no-cost relative care) and the probability of subsidy receipt.<sup>4</sup>

Although the NCCS also includes data on child-care costs, the sample is too small to permit analyses at the state level. Since child-care costs do vary by state, we rely instead on data from the Child Care Market Rate Survey, which is conducted on an annual basis by the State of New York in order to establish rates for child-care subsidy payments (New York State Office of Children and Family Services 2000). Data were collected through a mail survey augmented by data from the City of New York for contracted providers. For regulated providers, maximum reimbursement rates were calculated as the seventy-fifth percentile of reported rates in each of five clusters of counties; for legally exempt family child care (i.e., informal or relative care), maximum reimbursement rates were set based on a separate survey of informal child-care providers. The resulting data provide state-wide averages for the weekly cost of child care, adjusted for the age of the child, type of care, and full- or part-time status. Although market rate surveys are often criticized for underestimating the actual cost of care, the New York Child Care Market Rate Survey provides the most accurate estimate of the costs that the state and city reimburse for low-income child-care users.

To adjust the value of government subsidies for parental co-payments,

we use data obtained from the New York City Human Resources Administration (HRA). The HRA co-payment schedule calculates the size of the co-payment required for families according to monthly gross income, family size, and the schedule of care (full- or part-time).

## Estimation

### *Measures*

Child-care costs are measured at the arrangement level using data from the New York state market rate surveys. We consider three types of care: center-based care (day care or preschools); care by a nonrelative (day-care homes); and relative care (informal care; see app. table A4 for rates). We define child-care costs as the total cost for the hours of other than no-cost relative care, at the prevailing market rate, given the type of care, age of the child, and whether it is full- or part-time. We define subsidized child care as any care for which parents are directly subsidized by a public agency or care in market arrangements that is provided free of charge to parents (such as public prekindergarten and after-school programs). We measure families' co-payments for subsidized care using the New York City HRA data. We apply HRA co-payment rates based on families' gross incomes and the number of adults and children in the family, adjusting for whether the care was full- or part-time.

Our measure of family poverty revises the traditional Bureau of the Census formula to take into account additional sources of income and expenditures. The traditional poverty measure compares families' cash resources (pretax earnings, transfers, and gifts) to an absolute threshold that is adjusted for family need (family size). The traditional poverty measure is widely criticized for its failure to capture additional, noncash income (such as food stamps) and nonelective out-of-pocket expenditures (such as child care and health insurance; Citro and Michaels 1995). To overcome some of these problems, our revised poverty measure adjusts family resources by taking into account all cash income plus the cash value of food stamps and, for those who are eligible, the Earned Income Tax Credit. We adjust earnings by subtracting payroll taxes. To capture child-care costs, we further adjust resources by subtracting out-of-pocket child-care costs for those families who use paid forms of care but do not receive a subsidy and subtracting co-payment amounts for those families who are assigned government subsidies.<sup>5</sup> These resource adjustments are consistent with those recommended by the National Academy of Science panel on the measurement of poverty (Citro and Michaels 1995).

We compare the adjusted measures of family resources to the official poverty threshold, identifying families below the poverty line (poor) and below 75 percent of the poverty line (extremely poor). Because most families affected by the welfare changes were poor even before the changes, measures of poverty status may not be sensitive to changes in

family resources. A more sensitive measure is provided by calculating the poverty gap—the dollar amount that would be needed to bring the income of a poor family up to the poverty level.

*Modeling Child-Care Utilization, Costs, and Subsidy Receipt*

*Child-Care Utilization.*—We begin to model child-care utilization by estimating the probability that a single mother will use any type of child care. Studies suggest that the use of nonparental care is more common among families in which mothers are employed, have higher levels of education, have fewer children, have any children between the ages of 3 and 5, and live with other adults who may provide substitute care (Connelly 1992; Kimmel 1992; Ribar 1992; Barrow 1996; Averett, Peters, and Waldman 1997). Drawing from these studies, we estimate a probit model in which the use of any nonparental care is a function of mothers' hours of work, mothers' age and education, mothers' race and ethnicity, family income, and the ages and number of children and adults in the family. Although the NCCS sample size is too small to estimate child care at the state level, we capture regional variations in child-care use by including dummies for the region of the country.

Appendix table A1 presents the result of the probit estimation. As predicted, use of child care rises with mothers' hours of work and with the number of children needing care, particularly with the number of children between the ages of 3 and 4. The coefficient for the number of other adults in the household is small and nonsignificant, which reflects our coding of the dependent variable as use of any form of nonparental care (i.e., including care by relatives). Overall, 60 percent of single-mother families are predicted to use child-care arrangements other than parental care for their children.

*Child-Care Arrangements.*—We next estimate the type and hours of care for each family using child care. Again, we rely on an extensive body of empirical research about child-care choice in order to specify our model. Research indicates that parents' choices of a type of care and hours of care used vary with the characteristics of the family (including income and number of children), the mother (including education, race and ethnicity, employment status), and child age (Lehrer 1983; Leibowitz, Waite, and Witsberger 1988; Mason and Kuhlthau 1992; Fuller, Holloway, and Liang 1996; Kuhlthau and Mason 1996; Anderson and Levine 1999). We use these child and family characteristics to model the number of hours parents use care in each of three types of arrangements: center-based care (including child-care centers for preschool-aged children and school-related activities for school-aged children), nonrelative care (including care in the child's own home and out-of-home care in family child-care or baby-sitting arrangements), and care by a relative (whether provided in the child's home or the home of the relative).<sup>6</sup>

Estimating child-care arrangements at the family level raises a number of difficulties. First, we must take into account the fact that children are

often placed in multiple arrangements (Han 1998). Second, studies indicate that the choice of care arrangements for any one child in the family is correlated with choices about arrangements for other children in the family (Leibowitz et al. 1988; Lehrer 1989; Johansen, Leibowitz, and Waite 1996). Modeling the type and hours of care separately for each child and each type of care arrangement is likely to overlook that the contemporaneous errors associated with the dependent variables might be correlated, reducing the efficiency of estimates (Zellner 1962).

To overcome these problems we use seemingly unrelated regression (SUR) methods to estimate simultaneously all child-care arrangements for all children in each family. The SUR estimation accounts for the possible correlation of error terms between simultaneous equations. Our SUR model simultaneously estimates 12 equations predicting hours of care at the family level for four categories of children's ages (under age 1, 1–2 years, 3–4 years, and 5–13 years) within each of the three categories of arrangements described above. A test of the correlation between residuals (not shown) indicates that we can reject the hypothesis that the correlation between residuals is zero, supporting the choice of this estimation method.

The results of the SUR estimation are provided in appendix table A2. Most coefficients are in the expected direction, although some do not reach the level of statistical significance. Results suggest that use of all forms of care rises with mothers' working hours. The largest coefficients are observed for center care. Use of informal (relative) care generally declines with mothers' years of education and is positively associated (for some but not all ages) with Hispanic ethnicity. The ages and number of children in the family have the strongest association with care arrangements for children in the age groups most likely to use any care (i.e., toddlers and preschoolers). The coefficients for the number of other adults (and potential baby-sitters) in the household are generally negative for use of market forms of care for infants and toddlers. Coefficients for family income are only weakly related to child-care arrangements, which may reflect the limited variation in income for this sample of single-mother families.

*Child-Care Subsidy Receipt.*—We next use the NCCS data to predict the probability that families will receive a government subsidy if they use a given type of child care.<sup>7</sup> We estimate the probability of government subsidy for families using all forms of care other than free relative care. The few existing studies suggest that subsidy-receipt rates for families who use paid forms of care vary by region (Fuller and Liang 1996) and with type of care and parental characteristics, particularly work and welfare status and fit to local government priorities for allocating scarce resources (Meyers, Heintze, and Wolf 1999). We therefore use similar variables in our estimation of subsidy receipt.

To estimate which families in our sample were likely to have received subsidies, we begin by identifying those respondents in the NCCS who

used paid forms of care. We find that 70 percent of all single mothers using relative care obtain that care without cost. Among those using all other forms of care, we identify those who either reported receipt of child-care subsidies or were using formal (market) forms of child care at zero cost. We use a probit model with the NCCS data to obtain the parameter estimates for the probability that families using paid child care received a subsidy. Explanatory variables include the (predicted) use of each of 12 forms of child care, the mothers' work and welfare status, characteristics of the mother (age, education, working hours), number and ages of children, family income, and number of adults other than parent in the home.

The results of the subsidy estimation are provided in appendix table A3. The strongest predictors of subsidy receipt are the work and welfare status of mothers, with mothers who are working and receiving welfare the most likely to be subsidized, closely followed by those who are working and not receiving aid. This result is consistent with New York subsidy policies, which give the highest priority to current and former welfare recipients in work-related activities. Combining the two types of subsidy cases, we find that approximately 30 percent of single mothers using paid forms of child care were receiving some form of child-care subsidy.<sup>8</sup>

#### *Estimating Child-Care Costs and Family Poverty*

In stage 2 we estimate the aggregate and individual costs of child care and allocate these costs between families and government by using the parameter estimates from our child-care models with the CPS sample of single-mother families. We apply the parameter estimates from our probit estimation of child-care use (app. table A1) to the CPS sample to estimate the probability that single mothers used any child-care arrangement. Based on our earlier estimate that 60 percent of single mothers used care, we select 60 percent of the single mothers in the CPS data who have the highest predicted probability of using care. We employ the parameter estimates from our SUR estimation (app. table A2) to estimate hours of use for each of 12 different categories of care.

For families predicted to use relative care, 70 percent are randomly selected and assigned zero costs. For all other families predicted to use paid forms of care, we impute the cost of this care using the Regional Market Rate Survey, assigning specific rates depending on the age of the child and the type of arrangement (app. table A4). We calculated the co-payment that the family would be assigned if they were subsidized using the New York City Human Resources Administration data, and we adjusted for family income and size.

Finally, we apply the parameter estimates from our probit model of subsidy receipt (from app. table A3) with the CPS data to estimate the probability that a single mother received a subsidy for other than no-cost child care. We begin by assuming that 30 percent of mothers who

used child care received subsidies, the proportion identified in the NCCS data. We further assume that for subsidized families, all children's care is subsidized and that the family pays only the required co-payment.

Once we have estimated child-care costs for each family and adjusted for subsidy receipt and co-payments, we use these estimates to calculate the full (aggregate) cost of child care for all single mothers and to allocate these costs between families (direct payment for nonsubsidized care and co-payments for subsidized care) and the government (subsidy amounts). Note that this procedure assigns family-level child-care costs and co-payments and government expenditures on the basis of predicted hours of various forms of care used for all children in the family. This represents a substantial improvement over methods that have estimated child-care costs by assuming either "full-day" or "part-day" care for all children, without adjusting for variation in types of care and hours, but it does not capture situations in which families use both subsidized and nonsubsidized care for different children. If families are assuming additional costs, we will underestimate their costs and overestimate costs to government.

Finally, to evaluate the impact of these costs on families, we use individual child-care estimates in our revised poverty measure. This counts all family resources (welfare, earnings, and other cash income, along with food stamps and EITC) minus payroll taxes and the out-of-pocket cost of nonsubsidized child care.<sup>9</sup>

### *Simulating the Effects of Welfare Reform*

In the third stage of our estimation, we adjust the work, welfare, and food stamp status of the single mothers in the CPS sample to reflect changes under the AFDC/TANF reforms. The most significant effects of the federal and New York welfare reforms were limits on welfare receipt and work requirements on those who remain on welfare.

To capture the effects of time limits, deterrence activities, and restrictions on welfare and food stamp eligibility for some immigrants, we estimate a 50 percent reduction in the TANF caseload by 2002. This level of caseload change is consistent with recent trends in the state and city, which report caseload declines of 33 and 44 percent, respectively, between 1996 and 1999. We randomly assign 50 percent of families who reported welfare in 1996 to a no-welfare status in 2002 and assume that 60 percent of these single mothers will find employment when they lose welfare—one-half in full-time jobs, the remainder in part-time jobs, at a wage of \$6.38 per hour.<sup>10</sup> This is consistent with both national and New York state estimates of post-TANF employment. For example, a recent study using administrative data to track employment among families exiting the welfare system in New York finds that 71 to 75 percent of all (single- and two-parent) families had an adult employed at some point in the 1-year follow-up period, and 60 percent had an adult employed by

the fourth quarter of the periods (Nelson A. Rockefeller Institute of Government 1999). Data are not analyzed separately for single-parent families in the Rockefeller study, but we would expect these families to have lower rates of employment than families with two adults.

For families who are assigned to the no-welfare status, we assess their eligibility for continued assistance through the food stamp and the New York State Safety Net (former Home Relief) programs, given their earned and other income, and include these benefits as appropriate. Those who are assigned the no-welfare status may also benefit from the EITC and from child-support collection, so we also include these sources of income in our model (using EITC and child-support policies in place as of 1996).

To capture the impact of new work requirements, we randomly select one-half of the single mothers who are predicted to receive AFDC/TANF in 2002 and assume that they will be required to participate 20 hours per week in work or a work-related activity. In the New York context, we assume that this will typically take the form of community work experience or “workfare” and that mothers in these activities will use child care that is similar to that used by single mothers who are employed.

#### *Re-estimating and Allocating Child-Care Costs, Post Reform*

The primary focus of our simulation is the impact of the welfare reforms on the magnitude, allocation, and impact of child-care costs. To obtain these estimates, we use parameter estimates from the child-care models to estimate child-care use, hours, costs, and subsidy status for the single mothers in our sample as of 2002. Although we hold constant the patterns of child-care use and payment estimated from the NCCS data, we project an increase in employment and workfare activities. This results in the prediction that many more single mothers will enter employment or workfare activities and thus use nonparental care. We impute costs for 2002 using the market rates from 1996 under the assumption that hourly costs for care will remain nearly constant during this period. If hourly costs actually rise, this will result in an underestimate of total costs to families and to government. The rate of subsidization is initially held constant at 30 percent of mothers who use paid forms of child care; co-payment rates are also held constant. The resulting estimates are used to calculate aggregate and average child-care costs as of 2002, to allocate them between families and government, and to estimate their impact on families’ poverty status.

#### *Alternative Policy Scenarios*

To extend our results, we estimate the child-care cost and family economic outcomes under alternative policy scenarios. First, we consider the possibility that the government will use welfare savings to extend

child-care subsidies to 50 percent of single mothers who are employed or in workfare and using paid forms of child care. Next, we raise the rate of subsidization to 70 percent of these mothers. To accomplish this, we return to our estimates of subsidy probabilities and select the 50 and then 70 percent of families who have the highest probability of receiving a subsidy. Using our estimates of the types and hours of care and the family's income-adjusted co-payment, we assign the co-payment amount to the family and the balance of child-care costs to the government.

## Results

### *Welfare, Employment, and Child-Care Use*

The impact of the welfare reforms is observed first in the welfare and employment status of single-mother families in New York (table 1). Five years after welfare reform, if the number of single-mother families in the state remains constant and the welfare caseload drops by 50 percent, 194,875 fewer single-mother families will receive welfare benefits in the state of New York. Of these, 126,512 will be single-mother families in New York City. If the minimum federal work requirements for those remaining on welfare are achieved in 2002, 163,749 more single-mother welfare recipients are predicted to be in workfare throughout the state, and 103,707 more are predicted in the city of New York. Under the assumption that 60 percent of single mothers who exit welfare find employment,

**Table 1**

PREDICTED WELFARE AND EMPLOYMENT RATES, SINGLE-MOTHER FAMILIES  
IN NEW YORK STATE AND CITY, PREREFORM (1996) AND POSTREFORM (2002)

	Pre- reform ( <i>N</i> )	Post- reform ( <i>N</i> )	Change ( <i>N</i> )	Change (%)
New York state:				
Single-mother families.....	774,916	774,916	0	0
Single-mother families receiving AFDC/ TANF.....	430,348	235,473	-194,875	-45.3
Single mothers in work or workfare.....	450,289	614,038	163,749	36.4
Single mothers in workfare (with welfare) .....	139,876	154,671	14,795	10.6
New York City:				
Single-mother families.....	423,548	423,548	0	0
Single-mother families receiving AFDC/ TANF.....	255,537	129,025	-126,512	-49.5
Single mothers in work or workfare.....	206,974	310,681	103,707	50.1
Single mothers in workfare (with welfare) .....	60,725	73,927	13,202	21.7

NOTE.—AFDC = Aid to Families with Dependent Children; TANF = Temporary Assistance for Needy Families; *N* = number.



Table 2

PREDICTED CHILD-CARE USE AND SUBSIDY RECEIPT, SINGLE-MOTHER FAMILIES IN NEW YORK STATE AND CITY, PREREFORM (1996) AND POSTREFORM (2002)

	Pre-reform (N)	Post-reform (N)	Change (N)	Change (%)
New York state:				
Single-mother families using child care.....	465,339	614,621	+149,282	+32.1
Single-mother families receiving subsidy.....	141,832	184,104	+42,272	+29.8
New York City:				
Single-mother families using child care.....	225,197	327,578	+102,381	+45.5
Single-mother families receiving subsidy.....	62,359	95,146	+32,787	+52.6

NOTE.—N = number.

the reforms will increase the number of single mothers in work or workfare activities by 36 percent in the state and 50 percent in the city.

The increase in employment and workfare among single mothers is predicted to substantially increase child-care use (table 2). The number of single mothers in New York state using some form of nonparental child care is predicted to grow by 149,282—a 32 percent increase. In New York City, the expected increase is 102,381 families, or over 45 percent compared to the prereform year.

For this initial simulation, we have held the subsidy rate constant at 30 percent of all single-mother child-care users (the rate observed in the NCCS). Even if the rate of child-care subsidization remains constant at 30 percent, the number of single-mother families receiving subsidies is predicted to grow by 30 percent in the state and 53 percent in the city.

*Child-Care Costs*

Columns 1 and 2 of table 3 compare estimates of the average and aggregate child-care costs in the prereform and postreform periods, assuming that 30 percent of single mothers using paid forms of care are subsidized. Because our model assumes that the low-income women entering employment activities will use child-care arrangements that are similar to those observed in 1996, the average cost for child care per family is predicted to remain about the same in the postreform year. This per family cost assumes that single-mother families continue to rely heavily on informal, unregulated care and that this form of care is usually provided without cost. But costs may actually rise if more low-income single mothers enter employment and are unavailable to provide no cost care for friends and relatives (Newman 1999). Single mothers entering employment in coming years may also face higher unit costs if those who worked

in 1996 were most able to find free or inexpensive care (Edin and Lein 1997) or if government subsidies increase the use of expensive forms of care (Michalopoulos, Robins, and Garfinkel 1992).

Even with these conservative assumptions about the average cost of child care, the total cost of providing child care is predicted to rise substantially. In New York state, total spending (by the government and families) is predicted to increase by more than \$373 million; in New York City, it is predicted to rise by more than \$262 million. How heavily these costs fall on low-income families will depend on the rate of subsidization. If only 30 percent of families using paid forms of care are subsidized, child-care costs for single mothers are predicted to rise by 32 (state) and 40 (city) percent. Of the approximately \$373 million total increased spending predicted at the state level, about \$357 million—more than 95 percent—would be absorbed by these families. In the city, single-mother families are predicted to spend \$231 million more on child care postreform, about 88 percent of the total new spending at the city level.<sup>11</sup>

#### *Family Poverty*

To evaluate these new child-care costs for single-mother families, we calculate family income relative to needs using the federal poverty threshold (table 4). Using the adjusted poverty measure to include noncash benefits (food stamps), tax benefits (EITC), payroll taxes, direct child-care expenses, and co-payments, we find that poverty rates for single mothers are extremely high even in the baseline period, from 55 percent statewide and 64 percent in the city. Five years after federal and state welfare reforms, the poverty rate for the state is expected to increase by 5 percentage points, and extreme poverty is predicted to increase by nearly 11 percentage points. In the city, poverty rates are predicted to remain about the same, while extreme poverty increases by nearly 13 percentage points.<sup>12</sup>

Changes in the poverty rate may be misleading because most single-mother families were poor even before the reforms. Our model predicts that the poverty gap will change dramatically—that is, poor families, on average, will have incomes further below the poverty threshold. We estimate an average increase of \$2,072 in the poverty gap statewide and \$2,272 in the city. On average, poor families are predicted to be between 35 and 40 percent further below the poverty threshold in the wake of welfare reforms.

#### *Alternative Policy Scenarios*

In this simulation, the predicted increases in poverty and extreme poverty are driven by the distribution of single-mother families between two alternative postwelfare situations and by the estimated level of child-care use and public child-care subsidies. In the final columns of tables 3 and 4, we estimate child-care costs and family economic outcomes under two

Table 3

PREDICTED CHILD-CARE COSTS FOR FAMILIES AND GOVERNMENT FOR SINGLE-MOTHER FAMILIES  
IN NEW YORK STATE AND CITY, 2002, UNDER ALTERNATIVE SCENARIOS  
(with Change from Prereform Year)

	ALTERNATIVE 1		ALTERNATIVE 2		ALTERNATIVE 3	
	\$	% Change	\$	% Change	\$	% Change
New York state:						
Child-care costs (total):						
Average .....	3,312	-5.9	3,115	-5.9	3,115	-5.9
Aggregate.....	1,541,355,042	+24.2	1,914,503,220	+24.2	1,914,503,220	+24.2
Costs to government:						
Average .....	2,993	-16.2	2,509	-16.2	2,668	-10.8
Aggregate.....	411,036,245	+5.5	714,880,276	+73.9	1,066,871,758	+159.6
Costs to families:						
Average .....	3,141	-8.3	2,611	-16.9	2,200	-30.0
Aggregate.....	1,133,740,330	+31.5	1,214,577,915	+7.1	871,563,343	-23.1
New York City:						
Child-care costs (total):						
Average .....	3,431	-7.9	3,160	-7.9	3,160	-7.9
Aggregate.....	772,650,196	+34.0	1,035,292,068	+34.0	1,035,292,068	+34.0
Costs to government:						
Average .....	3,044	-16.2	2,636	-13.4	2,722	-10.6
Aggregate.....	189,848,359	+19.3	392,110,126	+106.5	570,387,755	+200.4
Costs to families:						
Average .....	3,325	-11.7	2,594	-22.0	2,160	-35.0
Aggregate.....	582,801,837	+39.7	648,434,721	+11.3	471,140,341	-19.2

NOTE.—Alternative 1 assumes a 50% reduction in the welfare caseload, a 60% employment rate among single mothers not on welfare, a 50% workforce participation rate among single mothers on welfare, and a 30% subsidization rate for mothers using child care other than free relative care. Alternatives 2 and 3 apply the same welfare, employment, and workforce participation assumptions but increase the child care subsidization rate to 50% and 70%, respectively.

Table 4

PREDICTED FAMILY POVERTY RATES AND GAP FOR SINGLE-MOTHER FAMILIES  
IN NEW YORK STATE AND CITY, 2002, UNDER ALTERNATIVE SCENARIOS  
(% Change from Prereform Year)

	ALTERNATIVE 1			ALTERNATIVE 2			ALTERNATIVE 3		
	PREREFORM N	(%)	Change in %	N	(%)	Change in %	N	(%)	Change in %
New York state:									
Families below 100% poverty.....	431,205	(55.6)	5.2	463,058	(59.8)	4.2	458,986	(59.2)	3.6
Families below 75% poverty line .....	259,227	(33.5)	10.8	327,377	(42.2)	8.7	323,572	(41.8)	8.3
New York City:									
Families below 100% poverty.....	269,087	(63.5)	1.4	272,709	(64.4)	.9	270,332	(63.8)	.3
Families below 75% poverty line .....	146,535	(34.6)	12.9	191,976	(45.3)	10.7	190,810	(45.1)	10.5
	\$		%	\$		%	\$		%
New York state poverty gap (average).....	5,873		35.3	7,627		29.9	7,109		21.0
New York City poverty gap (average).....	5,756		39.5	7,625		32.5	7,269		26.3

NOTE.—Alternative 1 assumes a 50% reduction in the welfare caseload, a 60% employment rate among single mothers not on welfare, a 50% workforce participation rate among single mothers on welfare, and a 30% subsidization rate for mothers using child care other than free relative care. Alternatives 2 and 3 apply the same welfare, employment, and workforce participation assumptions but increase the child care subsidization rate to 50% and 70%, respectively.

alternative policy scenarios (alternatives 2 and 3) in which more families receive subsidies. Using our starting assumptions about employment and welfare use, we find that providing child-care subsidies for one-half of single mothers who do not rely on free relative care (alternative 2) would increase government costs relative to the prereform period by 74 percent in the state and 107 percent in the city. The public costs of providing more extensive subsidization under this scenario would be more than offset, however, by savings in welfare. The difference in welfare spending at the state level between the prereform year (considering AFDC, food stamps, and Home Relief) and the postreform year (considering TANF, food stamps, and Safety Net assistance) is estimated to be \$806 million (in comparison to \$304 million in new child-care spending). In the city, the welfare savings of \$592 million would also more than cover the \$202 million in new child-care spending.

For families, this investment of welfare savings into more extensive subsidization would very nearly offset the increase in child-care costs for single mothers who enter work or workfare 5 years after welfare reform. If one-half of working single mothers using paid forms of child care received subsidies, the total cost of child care for single-mother families is predicted to rise only 7 percent statewide and 11 percent in New York City—a much smaller increase than the 32 to 40 percent increase predicted if government subsidies continue to reach only 30 percent of child-care users.

In column 4 of table 3, we estimate the distribution of child-care costs if the government subsidized 70 percent of single mothers who used paid forms of care during their work or workfare hours (alternative 3). Under this scenario, total child-care costs would remain constant, but the costs to government would rise by 160 percent in the state and 200 percent in the city. Costs to families, meanwhile, would decline by 19 and 23 percent, respectively. This expansion of child-care subsidies could help reduce economic hardship for many families leaving welfare for work. Then new costs to government—an estimated \$655 million statewide and \$380 million in New York City—would still consume only 81 and 64 percent of welfare savings, respectively.

The last two columns of table 4 suggest that if the proportion of families subsidized was increased from 30 to 50 percent, the poverty rate would remain about the same in the city and rise 4 percentage points in the state, while extreme poverty would rise by 11 (city) and 9 (state) percentage points (concentrated mostly among families in which mothers do not secure employment). If as many as 70 percent of families using paid forms of care were given subsidies, we would expect to observe nearly the same rates of poverty before and after reform but about the same increase (of 8 and 11 percentage points) in extreme poverty.

More extensive subsidization of child care could offset much of the predicted increase in the postreform poverty rate by reducing costs for

single mothers who enter employment. However, child-care subsidies would only begin to reduce the increasing poverty gap. If 30 percent of single mothers using paid forms of child care are subsidized, our model predicts a 40 (city) and 35 (state) percent increase in the poverty gap for poor families. If 50 percent of paid forms of child care were subsidized, the poverty gap is predicted to grow by a smaller but still substantial 33 (city) and 29 (state) percent. Even if child-care subsidies were extended to 70 percent of single mothers using paid forms of care, we would expect that the poverty gap would grow by 26 (city) and 21 (state) percent.

### Summary of Findings

Since the passage of federal welfare reform in 1996, welfare caseloads have plummeted nationwide. While it is clear that fewer single-mother families are receiving welfare, and more are in the workforce, changes in the economic well-being of these families have been more difficult to assess. Our microsimulations provide one estimate of this change by factoring EITC, food stamps, and child-care costs into the measurement of family economic well-being.

An unsurprising finding is that as more New York mothers are enrolled in workfare activities or enter employment, the use of child care rises sharply. This is consistent with the recent growth in both national and state spending for means-tested child-care assistance. It is less obvious to find that single-mother families are estimated to spend between 40 percent more on child care in the city, and 32 percent more statewide, 5 years after welfare reform. Because these mothers are likely to be low earners, they are predicted to experience higher rates of poverty and extreme poverty and a larger poverty gap, even after factoring food stamps and EITC.

The declining economic status of families after reform suggests an important opportunity for government support. At least some of the economic burden of rising child-care expenses could be offset by investing welfare savings in an expansion of child-care subsidies. If government increased the proportion of single mothers receiving subsidies in New York from 30 to 50 percent of those using paid forms of care, we estimate that the public costs of providing child care could be completely met by welfare savings. The total costs to families, in contrast, would either drop or increase only slightly. If subsidies were available to 70 percent of single mothers using paid forms of child care while they work, government costs would still use only about 80 percent of estimated welfare savings, but single-mother families would actually spend from 19 to 23 percent less to purchase child care. Subsidizing child care at this level would nearly eliminate the predicted postreform increase in family poverty, reduce the predicted increase in extreme poverty, and reduce the predicted increase in the poverty gap by about 13 percent.

These predictions are limited in some important respects. First, in

light of the growing variation in state-level child-care policies, our analysis uses data for a single state and city for which relevant policy information was available. If single mothers in New York have very different patterns of child-care use than those observed in national data or if very different local priorities govern the allocation of government subsidies, we will fail to capture these differences in our estimates. More important, the simulations in this article provide estimates of the size and distribution of postreform child-care costs under the child-care policies in place in New York. Results for other states with different subsidy policies will necessarily differ. New York has historically had relatively generous welfare benefits; child-care assistance, in contrast, is not particularly generous relative to those of other states. In states that extend benefits to more families, the total costs to government would be higher and the costs to families proportionately lower. Likewise, in states that provide a more generous benefit—via higher provider reimbursements, lower co-payments, or the exemption of more families from co-payments—a greater proportion of costs would be distributed to government. Although this analysis does not provide specific estimates for other regions of the country, we believe that the basic findings about the increase in child-care costs and the economic impact of nonsubsidized costs on single-mother families can be generalized more broadly.

Second, these predictions fail to capture potentially important dynamics between government policy and individual behavior. We hold constant the rate of postreform caseload decline (at 50 percent) and post-TANF employment (at 60 percent). Significant departures from these trends could substantially affect our conclusions. For example, if caseloads drop even lower and 60 percent of exiters find work, the total costs of child care will be higher. If the economy slows and employment falls among single mothers, child-care costs are likely to fall. The government response to higher levels of need will influence whether poverty rises or falls under these conditions.

We have made a number of starting assumptions that may underestimate child-care costs and the share of costs assumed by parents. These include the assumption that families who receive subsidies pay only required co-payments (i.e., do not pay for some portion of their care), that 70 percent of families who use relative care are able to arrange this care at no cost, and that the hourly cost of market forms of care does not rise by the year 2002. If these assumptions are not accurate, we would expect that the total costs of child care and the costs to families will be higher than in our predictions.

Our models also assume that single mothers who go to work or workfare in 2002 will use the same types of child care that they used in 1996. Our comparison of data for 1990 and 1996 (see n. 7) suggests that patterns of child-care use among single, employed mothers were relatively stable during the early 1990s, but these patterns may change along with changes in employment patterns and subsidy availability. As more single

mothers enter employment, the supply of family members to provide free or inexpensive care may decline, forcing families either to pay for relative care or to rely on more expensive market forms of care. There is also some evidence that if subsidies become more widely available, mothers using inexpensive relative care would switch to higher cost market care. In our scenarios, which impose a fixed government budget (via the subsidization rate), such shifts would result in fewer families receiving help and, potentially, higher rates of poverty. If, on the other hand, subsidy rates are held constant but the government budget is allowed to increase, the shift from lower- to higher-cost care would increase costs to government.

## Conclusions and Discussion

Our simulation of child-care costs 5 years after welfare reform suggests three important conclusions. First, if welfare rolls decline by half, 50 percent of those who remain on welfare are enrolled in workfare, and 60 percent of those who exit go to work, child-care use and expenditures will increase by 30 percent or more. This represents a major transformation not only in employment activities but in arrangements for the care of children in single-mother families.

Second, if government continues to subsidize only 30 percent of child-care users who are not able to arrange free relative care, the majority of these new child-care costs will fall on single-mother families. Government will spend more and subsidize more families, but most single mothers will continue to absorb the full cost of their child care. When these costs are considered, poverty rates are predicted to rise 5 years out from reform even if most mothers find work at above-minimum wage jobs, receive EITC, and continue to receive food stamps. A number of studies reach more optimistic conclusions about the economic well-being of single-mother families after welfare reform (e.g., Cancian et al. 1999; Loprest 1999). Since many of these studies do not adjust incomes for child-care costs, conclusions about changes in family income following welfare reform are likely to be unrealistically high.

Third, government child-care subsidies could offset much of the increased child-care costs for single-parent families. By extending subsidies to at least 70 percent of mothers who use paid forms of care, government policies could guarantee that single mothers actually spend less (in total) on child care after welfare reform and suffer less of an overall decline in economic well-being. The cost of this expansion in subsidies would use less than 80 percent of the savings government enjoys through reduced welfare spending.

Even with such an expansion in government assistance, most single mothers would still not be able to lift their families out of poverty. An effective antipoverty program for single-mother families would need to combine child-care assistance with more extensive income support than



is currently provided through food stamps and EITC. An expansion of child-care subsidies to cover at least one-half of single mothers using paid child care would, however, at least offset some of the extra costs of going to work that are predicted to leave these families worse off in the wake of welfare reform.

Under any set of assumptions, the cost of providing child care will rise sharply as more single mothers enter employment. A critical policy question is: Who will bear these costs? If federal and state welfare programs continue the present emphasis on moving single mothers with very young children into work and work-preparation activities but fail to dramatically expand the rate of child-care subsidization, these costs are likely to fall heavily on very poor, single-mother families. If the substantial savings that result from declining welfare caseloads are invested in child-care subsidies, however, these new costs could be largely offset. Subsidization of child care cannot serve as a full antidote to poverty. This is particularly true for families likely to be living in extreme poverty, who rely on the minimal provisions of the public safety net or on other sources of nonmarket income. But for those who go to work, enhancing the rate of child-care subsidization could keep them from winding up much poorer after they leave welfare.

## Appendix

Table A1

PROBIT ESTIMATES OF THE PROBABILITY OF USING ANY  
NONPARENTAL CHILD CARE, SINGLE-MOTHER FAMILIES IN THE  
1990 NATIONAL CHILD CARE SURVEY

Variable	Coefficient (SE)
Intercept.....	.7578 (.6693)
Mother's weekly working hours.....	.0176 (.0023)
Mother's age.....	-.0641 (.0409)
Mother's age squared.....	.0544 (.0600)
High school graduate.....	.0523 (.1183)
Some college.....	.1085 (.1367)
College plus.....	.0570 (.1738)
Black.....	-.0718 (.1014)
Hispanic.....	-.1278 (.1516)
South.....	.0439 (.1240)
Midwest.....	-.0271 (.1408)
West.....	-.1049 (.1467)
Number of children < 1.....	.1921 (.1489)
Number of children 1-2 years old.....	.3175 (.1109)
Number of children 3-4 years old.....	.6658 (.1082)
Number of children 5-13 years old.....	.1260 (.0632)
Family total annual income (in log).....	.0202 (.0148)
Number of other adults.....	.0393 (.0495)
Pseudo R <sup>2</sup> .....	.1073
Log likelihood.....	-53.50578
Number of observations.....	956

NOTE.—Listed estimates are coefficients; and standard errors are in parentheses.

Table A2

SEEMINGLY UNRELATED OLS REGRESSION ESTIMATES OF WEEKLY HOURS OF VARIOUS CHILD-CARE ARRANGEMENTS, SINGLE-MOTHER FAMILIES USING ANY NONPARENTAL CHILD CARE IN THE 1990 NATIONAL CHILD CARE SURVEY

VARIABLE	INFANT			TODDLER		
	Center-Care Coefficient (SE)	Nonrelative Care Coefficient (SE)	Relative Care Coefficient (SE)	Center-Care Coefficient (SE)	Nonrelative Care Coefficient (SE)	Relative Care Coefficient (SE)
Intercept.....	-1.2241 (2.4466)	-7.0484 (4.6023)	16.2186 (7.3820)	-12.4158 (8.6580)	-3.5080 (5.6963)	14.9898 (8.1566)
Mother's weekly working hours .....	.0165 (.0077)	.0292 (.0145)	.0363 (.0232)	.1097 (.0272)	.0342 (.0179)	.0358 (.0256)
Mother's age.....	.0497 (.1742)	.5120 (.3276)	-1.0951 (.5254)	.4949 (.6163)	.0322 (.4055)	-.9161 (.5806)
Mother's age squared .....	-.0901 (.2869)	-.8712 (.5396)	1.6532 (.8656)	-.9390 (1.0152)	.0320 (.6679)	1.3632 (.9564)
High school graduate .....	.0995 (.3662)	-.9294 (.6889)	-1.8131 (1.1050)	1.3257 (1.2960)	-1.0340 (.8527)	-1.5143 (1.2209)
Some college .....	.2236 (.4153)	.4320 (.7812)	-2.7389 (1.2530)	1.0827 (1.4696)	.6560 (.9669)	-2.1898 (1.3845)
College plus.....	-.1873 (.5150)	-.8640 (.9688)	-.5552 (1.5340)	3.5699 (1.8226)	.9924 (1.1991)	-1.4561 (1.7170)
Black.....	-.4964 (.2920)	.9439 (.5305)	-.1144 (.8508)	-.7727 (.9979)	.3806 (.6566)	.6836 (.9401)
Hispanic .....	-.4453 (.4667)	-.9187 (.8780)	.9283 (1.4083)	-2.7288 (1.6517)	4.2484 (1.0867)	-2.6350 (1.5560)
South .....	.4011 (.3300)	-1.7809 (.6210)	1.2245 (.9960)	1.6977 (1.1681)	-.4452 (.7685)	-.1667 (1.1005)
Midwest .....	-.0720 (.3958)	-2.0122 (.7445)	2.5351 (1.1942)	-.2395 (1.4006)	.8937 (.9215)	-.8222 (1.3194)
West .....	-.0399 (.4490)	-1.7339 (.8447)	1.3402 (1.3548)	-.7788 (1.5890)	1.9040 (1.0454)	-1.5924 (1.4970)
Number of children < 1 .....	2.0294 (.4266)	7.9000 (.8025)	9.6754 (1.2872)	-.8468 (1.5097)	-.6847 (.9933)	-3.4352 (1.4223)
Number of children 1-2 years old.....	-.0757 (.2842)	-.5304 (.5347)	-1.5431 (.8577)	10.3956 (1.0059)	3.8084 (.6618)	7.0390 (.9476)
Number of children 3-4 years old.....	.0157 (.2889)	-.0964 (.5434)	-.6383 (.8716)	1.0259 (1.0223)	-.2525 (.6726)	-.4840 (.9631)
Number of children 5-13 years old.....	-.2647 (.1786)	-.3914 (.3359)	-.3236 (.5387)	-.3058 (.6319)	-.2213 (.4157)	-.3978 (.5953)
Family total annual income (in log) ...	.0357 (.0487)	.1099 (.0916)	.1368 (.1469)	.1525 (.1723)	.1564 (.1134)	.1381 (.1623)
Number of other adults.....	-.1298 (.1333)	.4815 (.2508)	.0867 (.4023)	-.2673 (.4718)	.1049 (.3104)	.4092 (.4445)
Pseudo R <sup>2</sup> .....	.0653	.2155	.1577	.2229	.1938	.1782
Number of observations .....	574	574	574	574	574	574

	PRESCHOOL AGE			SCHOOL AGE		
	Center-Care Coefficient (SE)	Nonrelative Care Coefficient (SE)	Relative Care Coefficient (SE)	Center-Care Coefficient (SE)	Nonrelative Care Coefficient (SE)	Relative Care Coefficient (SE)
Intercept.....	4.0936 (9.6614)	-2.8146 (5.9401)	7.7286 (9.2556)	5.0386 (9.8354)	-3.0127 (6.2767)	5.9658 (8.7927)
Mother's weekly working hours .....	.0840 ( .0304)	.0539 ( .0187)	.0609 ( .0291)	.0118 ( .0309)	.0079 ( .0197)	.0263 ( .0276)
Mother's age.....	-.6814 ( .6877)	.2539 ( .4238)	-.4554 ( .6588)	-.2302 ( .7001)	.4539 ( .4468)	-.1911 ( .6259)
Mother's age squared .....	.9811 (1.1329)	-.5309 ( .6965)	.3786 (1.0853)	.1732 (1.1533)	-1.0498 ( .7360)	.2054 (1.0310)
High school graduate .....	1.6658 (1.4462)	-.5193 ( .8892)	.6412 (1.3854)	-.7777 (1.4722)	.1795 ( .9395)	1.0725 (1.3162)
Some college.....	6810 (1.6399)	-.5507 (1.0083)	1.1345 (1.5711)	2.3578 (1.6695)	.0488 (1.0654)	-.6550 (1.4925)
College plus.....	3.7970 (2.0338)	-.6972 (1.2504)	1.2221 (1.9484)	-.7214 (2.0704)	.3506 (1.3212)	-.4913 (1.8509)
Black.....	.5418 (1.1136)	-1.2912 ( .6846)	.2164 (1.0668)	1.6292 (1.1336)	-.0816 ( .7235)	.0583 (1.0134)
Hispanic .....	.8570 (1.8431)	-.7373 (1.1332)	.3916 (1.7657)	1.1523 (1.8763)	-.3078 (1.1974)	-.1.3695 (1.6774)
South .....	1.4774 (1.3035)	.1705 ( .8014)	-.5138 (1.2488)	.5093 (1.3270)	.2302 ( .8469)	-.2106 (1.1863)
Midwest .....	1.2601 (1.5629)	-.9398 ( .9609)	1.3703 (1.4972)	1.5750 (1.5910)	1.5707 (1.0154)	-.6894 (1.4224)
West .....	.6063 (1.7731)	-.9074 (1.0902)	-.5416 (1.6987)	5.9024 (1.8051)	1.3200 (1.1520)	.2744 (1.6137)
Number of children < 1.....	-2.7556 (1.6847)	-.1152 (1.0358)	-1.8284 (1.6139)	3.0843 (1.7150)	-1.5850 (1.0945)	-2.6564 (1.5332)
Number of children 1-2 years old.....	-3.5628 (1.1225)	-.4808 ( .6901)	-2.1006 (1.0753)	-2.2918 (1.1427)	-1.4111 ( .7292)	-1.8615 (1.0216)
Number of children 3-4 years old.....	12.7716 (1.1408)	3.1929 ( .7014)	5.3143 (1.0928)	-2.7461 (1.1613)	-1.9774 ( .7411)	-2.6572 (1.0382)
Number of children 5-13 years old.....	-1.0764 ( .7051)	-.2471 ( .4335)	-.6393 ( .6755)	2.3045 ( .7178)	1.1190 ( .4581)	2.4340 ( .6417)
Family total annual income (in log) ...	.4066 ( .1923)	.0142 ( .1182)	.1108 ( .1842)	.0131 ( .1958)	-.0018 ( .1249)	-.1277 ( .1750)
Number of other adults.....	.9815 ( .5265)	-.3895 ( .3237)	-.3044 ( .5044)	.0701 ( .5360)	-.5146 ( .3421)	.3200 ( .4792)
Pseudo R <sup>2</sup> .....	.3029	.0751	.0945	.1003	.0702	.0919
Number of observations .....	574	574	574	574	574	574

NOTE.—Standard errors are in parentheses.

**Table A3**

PROBIT ESTIMATES OF THE PROBABILITY OF GETTING  
CHILD-CARE SUBSIDY, SINGLE-MOTHER FAMILIES USING  
ANY NONPARENTAL CHILD CARE (NCCS)

Variable	Probability of Getting Subsidy (SE)	
Intercept .....	.8381	(.3429)
Infant center care weekly hours .....	-.0013	(.0059)
Infant nonrelative care weekly hours.....	.0026	(.0032)
Infant relative care weekly hours.....	-.0008	(.0020)
Toddler center care weekly hours .....	.0047	(.0018)
Toddler nonrelative care weekly hours.....	-.0001	(.0026)
Toddler relative care weekly hours.....	-.0022	(.0019)
Preschooler center care weekly hours.....	.0019	(.0016)
Preschooler nonrelative care weekly hours .....	.0009	(.0025)
Preschooler relative care weekly hours .....	-.0031	(.0016)
School-age center care weekly hours .....	.0047	(.0015)
School-age nonrelative care weekly hours .....	.0083	(.0023)
School-age relative care weekly hours.....	-.0041	(.0016)
Mother's weekly working hours .....	-.0028	(.0016)
Mother's age .....	-.0488	(.0246)
Mother's age squared .....	.0785	(.0404)
High school graduate.....	.0673	(.0515)
Some college .....	.1308	(.0582)
College plus .....	.0860	(.0724)
Black.....	-.0029	(.0393)
Hispanic .....	.0179	(.0659)
South.....	.0149	(.0462)
Midwest.....	.0262	(.0555)
West.....	-.0470	(.0635)
Number of children < 1 .....	-.1238	(.0723)
Number of children 1-2 years old .....	-.1253	(.0513)
Number of children 3-4 years old.....	.0092	(.0514)
Number of children 5-13 years old .....	.0221	(.0258)
Family total annual income (in log).....	-.0046	(.0068)
Number of other adults .....	-.0018	(.0187)
Working and in AFDC.....	.2594	(.0999)
Not working and in AFDC .....	.1402	(.0748)
Working and not in AFDC .....	.1717	(.0903)
R <sup>2</sup> .....	.1373	
Number of observations.....	574	

NOTE.—Listed estimates are coefficients, and standard errors are in parentheses.

**Table A4**

CHILD-CARE COSTS FOR SINGLE-MOTHER FAMILIES IN NEW YORK  
BY AGE OF CHILD AND TYPE OF CARE

AGE (YEARS)	CENTER		NONRELATIVE		RELATIVE	
	Weekly	Hourly	Weekly	Hourly	Weekly	Hourly
< 1.....	215	5.38	127	3.18	46	1.15
1-2.....	215	5.38	127	3.18	46	1.15
3-4.....	148	3.70	102	2.55	40	1.00
5-13 .....	148	3.70	102	2.55	40	1.00

NOTE.—(1) The market rate for family day care has been used for nonrelative care, and the market rate for informal care has been used for relative care in our sample; (2) weekly hours have been assumed to be 40 hours per week for the above weekly market rate.

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## Notes

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1. States are allowed to exempt up to 20 percent of their caseload from the time limit for good cause.

2. The federal law gives states "credit" for falling caseloads when calculating compliance with the performance standard for work participation. In New York City, e.g., a 15.5 percent caseload decline led to a downward adjustment from 30 to 14.5 percent in the federal standard for work activities in single-mother families—a target that the city easily met with its workfare program (New York City Independent Budget Office 1998).

3. Because the CPS does not differentiate between AFDC benefits and Home Relief benefits, we consider the value of the "Public Assistance and Welfare" variable to be either AFDC or Home Relief according to the demographic characteristics of the families or persons. It is well documented that the value of these benefits is systematically underreported in the CPS; to correct for this we impute receipt in some cases in order to reach aggregate

and mean levels of benefits comparable to published administrative data for the state and city. In the case of AFDC, imputing benefits to single-mother families is not quite sufficient to reach that level, and an adjustment factor is used. This discrepancy is in large part explained by the fact that the true determination process of AFDC eligibility and benefit level takes into account monthly income, while benefits are reported in the CPS on a yearly basis. By using an average monthly income, we assume an even distribution of income throughout the year, which results in an underestimation of the true eligibility and benefit levels. We do not find the same discrepancy in rates of Home Relief and food stamp receipt. For details see Waldfogel et al. (2000).

4. The SIPP provides more recent information about some aspects of child-care use and expenses, but we were unable to use it because it does not contain data on child-care subsidies, and it collects information on child-care costs only for employed mothers. As a check on the possibility that patterns of child-care use and subsidization have changed since the 1990 NCCS, we have compared data from the NCCS to a comparable sample from the 1993 wave 6 of the SIPP (working single mothers only). We find that the percentage of families using relative (i.e., nonmarket) care is very similar (37 percent in SIPP vs. 36 percent in NCCS), and the percentage of families who do not pay for care in centers (i.e., those families in the SIPP most likely to be subsidized) is also similar (54 percent in SIPP vs. 53 percent in NCCS). The proportion of single working mothers who use relative care that is provided free of cost is higher in the more recent SIPP data (70 percent in SIPP vs. 63 percent in NCCS), but the difference is not large. This suggests that patterns of child-care use and payment are relatively stable over time, and our use of the earlier NCCS data does not impose a serious limitation on the accuracy of our estimates.

5. Due to data limitations, the adjustment to the traditional resource measure used in this article cannot reflect all the improvements to the measure that have been recommended by various expert panels. It does reflect, however, most of the adjustments endorsed by researchers at a recent conference on poverty measurement sponsored by the Institute for Research on Poverty.

6. Due to data limitations in the CPS and problems of endogeneity, we do not include price in our child-care model. Few prior studies have included a price variable. Two recent studies (Han 1998; Connelly and Kimmel 1999) estimate the effects of child-care price on the child-care choices of single mothers. These studies find that the higher the price of center care, the lower the probability that single-mothers chose this form of care. The prices of other forms of care (including relative care and day-care homes) are not found to have significant effects. This suggests that our model may overestimate the use of center care by single mothers.

7. This approach assumes that parents first choose their child-care arrangements and then pursue subsidies. It is equally plausible that families base their child-care choices on their subsidy status. Although it is not feasible to model these two decisions simultaneously, we estimate our models using both sequences. Results (not shown) are substantively the same whether we first estimate child-care arrangements and then subsidy receipt or first estimate subsidy receipt and then child-care arrangements.

8. The 30 percent estimate is slightly above the 24 percent estimated by Citizen's Committee for Children (1998) for all low-income children whose parents were in employment or welfare-to-work programs in New York state. Since parents who were not working or in welfare-to-work programs were eligible for some forms of care, such as Head Start and pre-kindergarten programs, the 30 percent estimate appears reasonable.

9. These estimations do not include the value of the Child and Dependent Care Tax Credit, an important source of financial assistance for some child-care users. Because the tax credit is nonrefundable, however, it is rarely claimed by low-income families and is unlikely to have substantial bearing on the poverty status of the single mothers in this analysis.

10. The wage is based on reported earnings for those leaving welfare for work in New York City; it is also consistent with the national average wage for single mothers.

11. Family level spending on child care is predicted to be lower in New York City than in New York state as a whole primarily because single-mother families in the city have lower incomes, on average, and are thus liable for lower co-payments.

12. Differences in the rate of change in poverty and extreme poverty between the state and city are due primarily to lower average incomes for single mothers in the city. Because more families had incomes below the poverty line in the city, and their incomes were very low, the primary impact of the reforms is to shift already poor families into extreme poverty.