

## The foster care crisis: What caused caseloads to grow?

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### **Abstract:**

Foster care caseloads more than doubled from 1985 to 2000. This article provides the first comprehensive study of this growth by relating state-level foster care caseloads to state-specific characteristics and policies. We present evidence that increases in female incarcerations and reductions in cash welfare benefits played dominant roles in explaining the growth in foster care caseloads over this period. Our results highlight the need for child welfare policies designed specifically for the children of incarcerated parents and parents who are facing less generous welfare programs.

**Keywords:** child welfare | foster care | child welfare system | foster child | parental incarceration

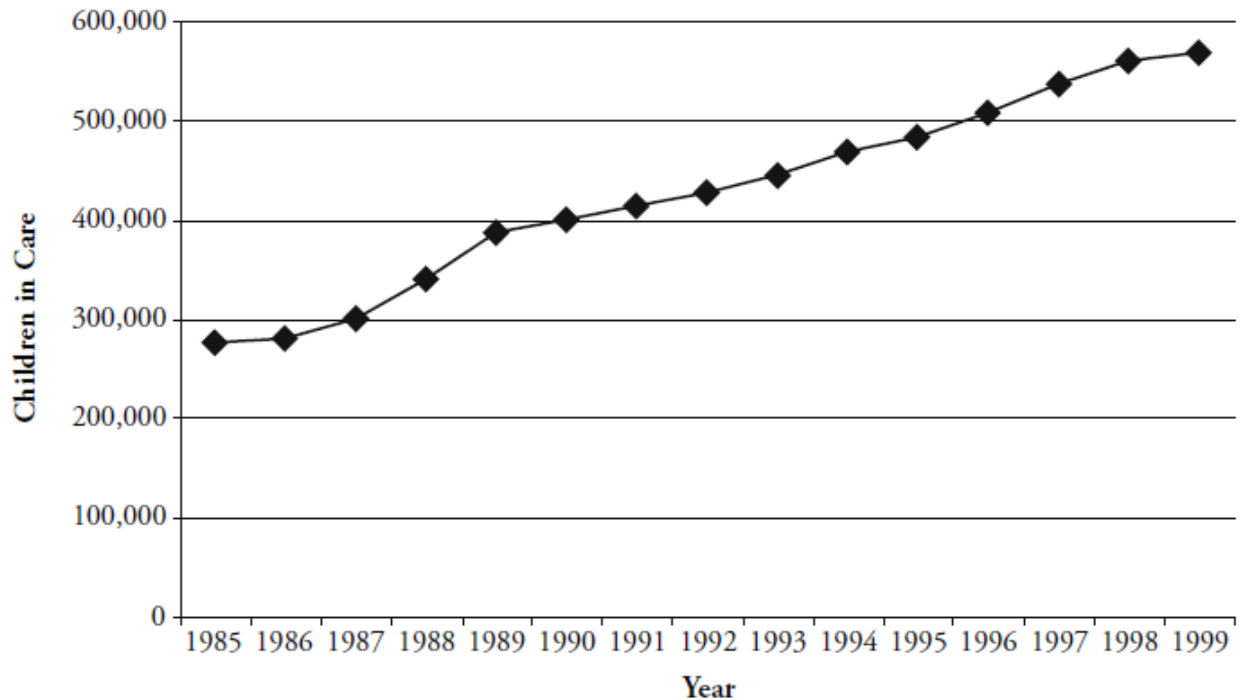
### **Article:**

In 1985, 276,000 children were in foster care. By 1999, this number had more than doubled, increasing to 568,000 (see Figure 1). The dramatic growth in caseloads is well-known, but its causes are poorly understood even though expenditures on foster care are similar in size to those of more widely studied programs such as food stamps, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Temporary Assistance for Needy Families (TANF).<sup>1</sup> Moreover, expenditures on foster care increase with caseloads, and rising caseloads increased the total cost of out-of-home placements by 30% between fiscal years 1996 and 2000 (Bess et al. 2002; Geen, Boots, and Tumlin 1999). Over the same period, Medicaid spending increased by 26%, spending on WIC increased by 8%, and spending on food stamps and cash welfare *fell* by 33% and 19%, respectively.

Beyond the simple dollars and cents of budgets, understanding why caseloads have grown is important because foster children are particularly likely to have emotional, behavioral, developmental, and physical health problems (Fine 1985; Halfon and English 1994). These problems result from the circumstances leading to the use of foster care in the first place and may be further aggravated by foster care (Fine 1985). Moreover, such problems almost certainly lead to personal and professional problems later in life (McDonald et al. 1997).

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<sup>1</sup> Fiscal year 2000 spending on foster care totaled \$9.1 billion, compared with \$17.1 billion for food stamps, \$4.0 billion for WIC, and \$11.5 billion for TANF.



**Figure 1.** Foster Care Caseload  
*Source:* U.S. House of Representatives

Lastly, growth in aggregate foster care caseloads has resulted in larger workloads for individual caseworkers, which is problematic because the mistreatment of foster children is often blamed on the ever-growing number of cases the average caseworker must manage. This issue is especially pressing because significant budget shortfalls are likely to result in cuts in foster care services and make it unlikely that additional caseworkers will be hired. We provide an in-depth investigation of the causes of the growth in foster care caseloads observed in the United States from 1985 to 2000. This period is important because caseloads began their dramatic increase in the mid-1980s and because it covers the crack cocaine and HIV/AIDS epidemics, two widely cited causes for the increase in caseloads in the 1980s. Our analysis relates state-level foster care caseloads to state-specific characteristics and policies that are thought to affect caseloads.<sup>2</sup> It improves upon previous studies, which have been largely anecdotal, based on small samples from select counties, or covered shorter time frames.<sup>3</sup> We account for measurement error in some of our explanatory variables and include state and time fixed effects to control for time-invariant, unobserved state-specific differences and nationwide trends. The previous literature often points to the AIDS and crack cocaine epidemics as the principle causes of the increase in foster care caseloads during the 1980s, but our results suggest that these factors were not the

<sup>2</sup> This technique has been used to investigate the reasons for changes in cash welfare caseloads (e.g., Blank 2001; Council of Economic Advisors 1997, 1999; Ziliak et al. 2000) and food stamp caseloads (Currie and Grogger 2001). Such studies have generally used changes in socioeconomic conditions and policies across states over time to explain changes in the size of the population under study.

<sup>3</sup> Paxson and Waldfogel (2002, 2003) used foster care caseloads as one measure of child maltreatment. However, they did not provide an in-depth analysis of foster care and considered the growth in foster care caseloads only during the 1990s.

most important. Instead, the observed increases in caseloads were driven by higher rates of female incarceration and decreases in welfare benefits.

Our conclusions highlight the importance of interactions among the foster care, criminal justice, and cash welfare systems and the need for child welfare policies to account for these interactions. For example, following the 1986 Anti-Drug Abuse Act, the number of women imprisoned and their average length of sentence substantially increased, and our results suggest that a sizable portion of the growth in foster care caseloads from 1986 to 2000 resulted from these increases. More-recent child welfare policies aimed at shortening the amount of time children spend in foster care are particularly problematic for incarcerated mothers, who may lose parental rights while serving these longer sentences. It is important that child welfare policies account for these interactions.

## **BACKGROUND**

### Brief Overview of Foster Care

Foster care is a social service program that provides temporary, substitute, out-of-home care to children whose families cannot provide them with a safe and nurturing environment.<sup>4</sup> Most children are placed in care following a substantiated report of neglect or abuse. Others enter the system due to parental physical or mental incapacity, criminality, or homelessness, or the child's own personal or emotional problems (Barbell and Freundlich 2001; Lewit 1993). A child entering foster care is typically placed with a family who may or may not be related to the child. The child remains in the care of the state until the situation that precipitated his or her removal from home is resolved, parental rights are terminated and the child is placed for adoption, or the child is no longer a minor. Children may return to the foster care system multiple times and may live with more than one foster family during a single placement.

Although state and local governments have primary responsibility for providing foster care services without any overarching federal program, the federal government has been involved in foster care since at least the White House Conference on Children in 1909 (Cox and Cox 1985b). This involvement has ranged from legislation affecting state foster care policies to the interaction between other government programs and the foster care system.

In the 1980s and 1990s, three pieces of federal legislation were passed to reduce "foster care drift," the movement of foster children from one placement to another for years. The Adoption Assistance and Child Welfare Act of 1980 required child welfare agencies to make a "reasonable effort" to prevent the removal of children from their homes. States were also required to assist in the reunification of foster children with their parents, when appropriate, or to place children in an alternative permanent environment in a timely fashion. In 1993, Congress enacted the Family Preservation and Family Support Program in response to concerns that child welfare agencies were still not successfully keeping families together. This legislation doubled federal funding for family preservation and support services intended to prevent placement. The program was reauthorized in 1997 as part of the Adoption and Safe Families Act (ASFA). While the ASFA reaffirmed the importance of making reasonable efforts to preserve or reunify families, it

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<sup>4</sup> For more detailed overviews of the foster care system, see Barbell and Freundlich (2001) or Cox and Cox (1985a).

emphasized that a child's safety and well-being are the most important criteria when making decisions about service provision, placement, and permanency planning. For example, the law identified certain circumstances when the "reasonable efforts" requirement can be waived to ensure the safety of children. Beyond clarifying the importance of child safety, it also promoted adoption, instituted shorter time limits for making decisions about reunification or the termination of parental rights, and provided states with cash incentives to find permanent homes for children in foster care.

## Interaction Between Foster Care and the Criminal Justice System

The foster care system interacts in important ways with the criminal justice system. Children may enter foster care because they require out-of-home care while their parents are in prison or because the criminal activities and associated behaviors of their parents put them at an increased risk of abuse and/or neglect even before their parents are incarcerated (Seymour 1998). Furthermore, children often remain in foster care after their parents are released from prison because many former inmates have difficulty finding housing, drug and alcohol treatment, mental health counseling, employment, medical care, child care, and/or family support (Katz 1998). Without these resources, parents may not regain custody of their children.

The effects of parental incarceration on foster care caseloads are important in light of dramatic increases in parental incarceration, particularly the incarceration of mothers.<sup>5</sup> Between 1986 and 1997, the number of parents in state and federal prisons more than doubled, while the number of mothers more than tripled (Johnson and Waldfogel 2002). This growth is significant because children are more likely to be removed from home when mothers are incarcerated than they are when fathers are incarcerated (Mumola 2000).

Child welfare agencies are aware of increases in the number of children of incarcerated parents needing out-of-home placement, but few have specific policies for dealing with these children (Seymour 1998). In fact, the current policy shift toward shorter lengths of stay in foster care creates special problems for incarcerated parents. For example, the Adoption and Safe Families Act requires states to file for petition to terminate parental rights for most children who have been in foster care for 15 of the most recent 22 months. This rule is meant to reduce the likelihood that children stay in foster care for a long period of time, but it also creates difficulties for incarcerated parents because the average time served by parents is 80 months in state prison and 103 months in federal prison (Mumola 2000).

The foster care system also overlaps with the juvenile justice system. Studies have shown a strong link between child abuse and neglect and delinquent behavior. This research indicates that a substantial number of children served by the child welfare system later become involved in the juvenile justice system (Tuell 2003). Children may also move in the other direction between systems. Most directly, if a judicial determination is made that remaining in the home would be detrimental to their well-being, juveniles who are adjudicated delinquent may be placed in out-

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<sup>5</sup> See Smith and Young (2003) for a discussion of the implications of mandatory drug sentencing (as well as changes in foster care policy and welfare policy) for families with incarcerated mothers. See Blumstein and Beck (1999) for a discussion of trends in prison populations.

of-home care, including foster care.<sup>6</sup> Between 1990 and 1999, the number of such out-of-home care placements increased 24% (Puzzanchera 2003). Unfortunately, data are not available on the percentage increase in placements into the foster care system specifically. However, juvenile justice placements in foster care account for only 4% of all federally funded foster care placements (U.S. General Accounting Office 2000), which themselves account for half of all foster care placements.

### Interaction Between Foster Care and Cash Welfare

Foster care interacts with cash welfare programs in at least two ways. First, under Title IV-E of the Social Security Act, the federal government reimburses state and local governments for foster care expenses incurred for children whose natural families either were receiving Aid to Families with Dependent Children (AFDC) payments or were eligible for AFDC at the time of the child's removal.<sup>7</sup> Although welfare reform legislation replaced AFDC with the TANF program, AFDC eligibility criteria continue to be used today, and federal reimbursement to states for foster care is tied to the AFDC program as it existed on July 16, 1996.<sup>8</sup> Over time, federal reimbursements to states will decrease as eligibility criteria, which are not indexed for inflation, erode in real terms. The cost of foster care for children who do not qualify for Title IV-E payments is primarily the responsibility of state and local governments.<sup>9</sup>

Second, the cash welfare and foster care systems are interrelated on an individual level. A disproportionately large number of foster children come from families that receive or have received public assistance (Goerge 2000). Such movement may reflect that poor children are more likely to be reported to child protective service agencies (Barbell and Freundlich 2001). Moreover, reductions in state welfare benefit levels have been associated with increases in foster care placements (Paxson and Waldfogel 2002, 2003). Furthermore, relative caregivers have a financial incentive to switch from the cash welfare system to the child welfare system.<sup>10</sup> The primary source of assistance for most relative caregivers is AFDC/TANF child-only grants, which are generally lower than foster care maintenance payments.<sup>11</sup> Thus, relative caregivers might seek formal child welfare involvement in order to qualify for more generous foster care maintenance payments.

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<sup>6</sup> Other out-of-home care placements include residential treatment centers, juvenile corrections facilities, and group homes.

<sup>7</sup> A number of authors have studied the relationship between foster care and welfare. See, for example, Blank (2001), Geen et al. (2001), Paxson and Waldfogel (2002, 2003), and Shook (1999).

<sup>8</sup> The federal portion of foster care maintenance costs is linked to a state's Medicaid matching rate and varies from 50% to 83%.

<sup>9</sup> Of the \$9.1 billion spent on foster care in fiscal year 2000, an estimated 57% came from federal funds, 33% came from state funds, and 10% came from local funds (Bess et al. 2002).

<sup>10</sup> States have different policies regarding the use of relatives as formal foster care providers. In some states, relatives are recognized as foster parents only if they participate in the same training and licensing process as nonrelative foster parents. Other states have lower licensing standards for kin. In almost all states, relative caregivers are favored over nonrelative caregivers. Relatives are eligible to receive the same foster care maintenance payment as nonrelative foster parents if they meet licensing requirements. However, in some states, unlicensed relatives may receive a modified maintenance payment.

<sup>11</sup> For example, in January 1997 the average child-only TANF grant was \$228 compared with an average foster care payment in 1996 that ranged from \$353 for a 2-year-old child to \$427 for a 16-year-old child.

## DATA

### Foster Care Caseloads

Because there is no national foster care program, data on children in foster care have not been collected in a standardized format, and we obtain data on foster care caseloads from three sources. Data from 1985 to 1995 come from the Voluntary Cooperative Information System (VCIS), a series of surveys fielded by the American Public Welfare Association (now the American Public Human Services Association). These surveys are the precursor to the Adoption and Foster Care Analysis and Reporting System (AFCARS), from which we obtain data from 1995 to 2000. In addition, the Child Welfare League of America (CWLA) collected data on foster care caseloads from 1995 to 1997. When VCIS and AFCARS data are unavailable for one of these three years, we use CWLA data if they are available.

**Table 1.** Summary Statistics of Analysis Variables

Variable	Sample Mean	SD
Foster Care		
Caseload rate per 1,000 children	6.232	3.584
State Characteristics		
Unemployment rate	5.602	1.761
Log monthly AFDC/TANF benefit	5.835	0.426
AFDC/TANF recipients per 1,000 population	3.797	1.771
Family cap	0.141	0.339
Violent crime arrests per 100,000 population	542.406	334.987
AIDS cases per 100,000 population	10.486	14.986
Governor is Republican	0.485	0.500
State senate is Republican	0.398	0.483
State house is Republican	0.353	0.474
Female incarcerations per 100,000 females	37.670	29.181
Male incarcerations per 100,000 males	623.780	449.298
Characteristics of Children		
Working mother	0.676	0.046
Absent father	0.215	0.070
Urban	0.652	0.232
Non-Hispanic white	0.736	0.188
Non-Hispanic black	0.121	0.138
Hispanic	0.095	0.130
Other race	0.048	0.096
Real family income (in \$1,000s)	30.356	5.746
Below 75% of poverty	0.126	0.052
Number of Observations		778

Although these are the data sources used by the federal government to measure the number of children in foster care, the data must be treated with some caution because they come from different sources and because reporting periods and definitions differ across states. Fortunately, for most states, the data series constructed from these three sources appear as if they come from one continuous data source. Appendix Figure A1 graphs foster care caseloads from the VCIS, CWLA, and AFCARS data sources from 1985 to 2000 for the six states with the highest average

foster care caseloads over the period under study. Although we are using data on all 50 states, we present data for these six states because they account for approximately 50% of the nation's foster care caseload. There are no obvious breaks across the data sets in foster care caseloads for each state.<sup>12</sup>

The dependent variable used in our analysis is the logarithm of the foster care caseload rate, where the caseload rate is defined as the number of children in foster care per 1,000 children under age 18. Summary statistics for this variable as well as the explanatory variables discussed next appear in Table 1. Details on the sources for these variables are found in Appendix Table A1.

### Explanations for the Growth in Caseloads

Several explanations have been given in the social work and policy literatures for the observed growth in foster care caseloads. Much of this work is anecdotal, is based on small samples from select counties, or covers relatively short time frames. Our goals are to allow for the possibility that a variety of factors simultaneously influence foster care caseload growth and to determine the degree to which each factor is responsible. We next introduce a number of explanations proposed in the literature and discuss the variables we use to account for them.

Parental substance abuse in general and the crack cocaine epidemic in particular are widely considered the principal factors in this growth in the late 1980s (Child Welfare League of America 1996; U.S. Department of Health and Human Services 1999; U.S. General Accounting Office 1997). Although data on crack cocaine usage or arrests are not available, Boggess and Bound (1997) showed that changes in the number of violent crimes during the 1980s and 1990s are consistent with the timing of the crack cocaine epidemic. Consequently, to proxy for crack cocaine as an explanation for increases in foster care caseloads, we include the number of violent crime offenses per 100,000 population in our analysis.<sup>13</sup>

Researchers have also linked increases in foster care caseloads in the 1980s to the HIV/AIDS epidemic (Groze, Haines-Simeon, and Barth 1994; Merkel-Holguin 1996). Ideally, we would control for male and female AIDS rates separately, since female AIDS rates are likely to be more closely related to foster care rates. Unfortunately, data on female AIDS cases are available only beginning in 1993. To capture the effect of AIDS, we include the number of AIDS cases per 100,000 population in our analysis.<sup>14</sup> It is important to note that beginning in late 1995, drug

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<sup>12</sup> The increase in Florida's caseload between 1995 and 1996 reflects the addition of children in relative care. Prior to 1996, the number of children in foster care did not include those in kinship care arrangements. We include an interaction term in the empirical model to allow for this change.

<sup>13</sup> We would prefer to control for drug usage in lieu of (or in addition to) data on violent crimes, but data on usage are available only at the region level and not for all years in the period we study. In a previous version of this article, we used cocaine arrest data obtained by aggregating agency-level data from the National Archive on Criminal Justice Data's (NACJD) Uniform Crime Reports (UCR) to the state level. Maltz (1999) discussed a number of issues with agency-level UCR data from the NACJD, including nonresponse and a change in imputation procedures in 1994. The FBI's UCR data, which we use, do not contain information on cocaine arrests, but imputation for nonresponse occurs at the state level and is done consistently for our entire sample period.

<sup>14</sup> In 1993, the AIDS surveillance case definition was expanded. This caused a dramatic increase in the number of cases reported because people who had been previously diagnosed with a newly added condition were reported for the first time in 1993. According to the Centers for Disease Control and Prevention (CDC 2000), the resulting

cocktails became available that made AIDS a more manageable disease. This medical advance may have implications for foster care if it means that parents with AIDS who would have been unable to care for their children prior to the introduction of the cocktails are now able to manage their disease and continue caring for their children. To account for this possibility, we allow the number of AIDS cases to have a different effect before and after 1996.

As we discussed in some detail earlier, foster care is related to parental incarcerations and cash welfare. To account for the role of incarcerations, we control for the number of female incarcerations per 100,000 females. In some analyses, we control for the number of male incarcerations per 100,000 males in addition to, or in lieu of, female incarcerations. We also consider the possibility that the effect of parental incarceration on foster care caseloads persists after parents are released from prison by including a measure of the number of females released from prison in addition to the number currently incarcerated.

To account for interactions between cash welfare and foster care, we control for the AFDC/TANF benefit level for a family of three and the number of AFDC/TANF recipients per 1,000 population. The benefit levels come from Ziliak (2005) and account for differences in statutory benefits as well as differences in exemptions and deductions. It is important that these measures capture the effect of welfare reform in the late 1990s on the benefits that a recipient could expect to receive. These benefits partially capture the effect of welfare reform in the late 1990s on the benefits that a recipient count expect to receive. To further capture the effects of welfare reform, we control for whether states have family caps on welfare benefits.<sup>15</sup> Specifically, we include a variable that indicates the percentage of the year in which family caps are in effect. The variation in this last variable comes from the existence of waiver programs prior to the implementation of TANF, differences in the timing of TANF implementation, and differences in the characteristics of TANF programs.

We allow for the possibility that foster care caseloads are responsive to social norms and behaviors by including changes in the fraction of children with single mothers and the fraction of children with working mothers. These variables may affect both the demand for foster care services and the supply of foster families because they measure family structure (Berrick 1998; Kirby 1997). Unfortunately, our analysis cannot distinguish the demand effect from the supply effect.

To represent the political atmosphere of states, we include variables indicating the majority party of the state senate and house and the political party of the governor. Finally, we control for

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distortion was temporary and had “almost entirely waned” by 1997. However, trends in reported AIDS cases indicate an artificial increase in 1993 and a subsequent decline that would not have existed if the definition had not been expanded. To adjust for this distortion, we estimate the number of AIDS cases as defined prior to 1993 for each state from 1993 to 2000 in the following way. The CDC publishes the estimated number of AIDS cases for each region (Northeast, Midwest, South, and West) using the definition prior to 1993 (CDC 2000, 2001). We use these data to calculate the region-specific growth in AIDS cases in each year, assume that every state in a region experiences the same growth, and then approximate the number of AIDS cases for each state given this growth.

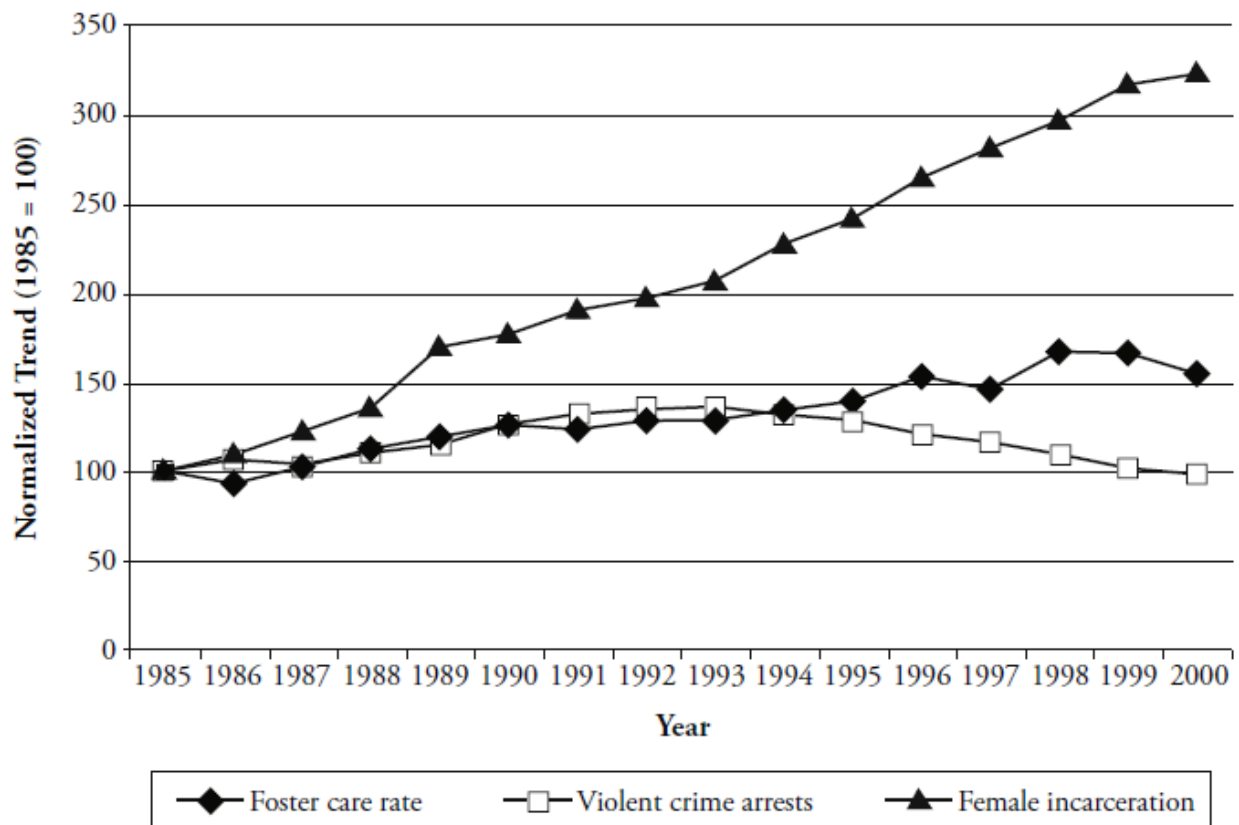
<sup>15</sup> See Waldfogel (2004) for an overview of interactions between welfare reform and child welfare. See Berrick, Needell, and Minkler (1999) and Minkler, Berrick, and Needell (1999) for an examination of the effects of welfare reform on grandparent caregivers.



economic conditions by including the state unemployment rate, the fraction of children living below 75% of the poverty line, and real family income.

### Descriptive Analysis

To provide some understanding of the relationships among these variables and foster care caseloads, Figure 2 presents national trends in the foster care caseload rate and two important criminal justice variables, the female incarceration and violent crime arrest rates.<sup>16</sup> All variables have been normalized to 100 in 1985. There appears to be a positive relationship between the foster care caseload rate and female incarcerations (the correlation is .97), but the relationship between violent crime and foster care is less obvious because violent crime began to fall in 1994 while foster care caseloads continued to rise. (The correlation is .03.)

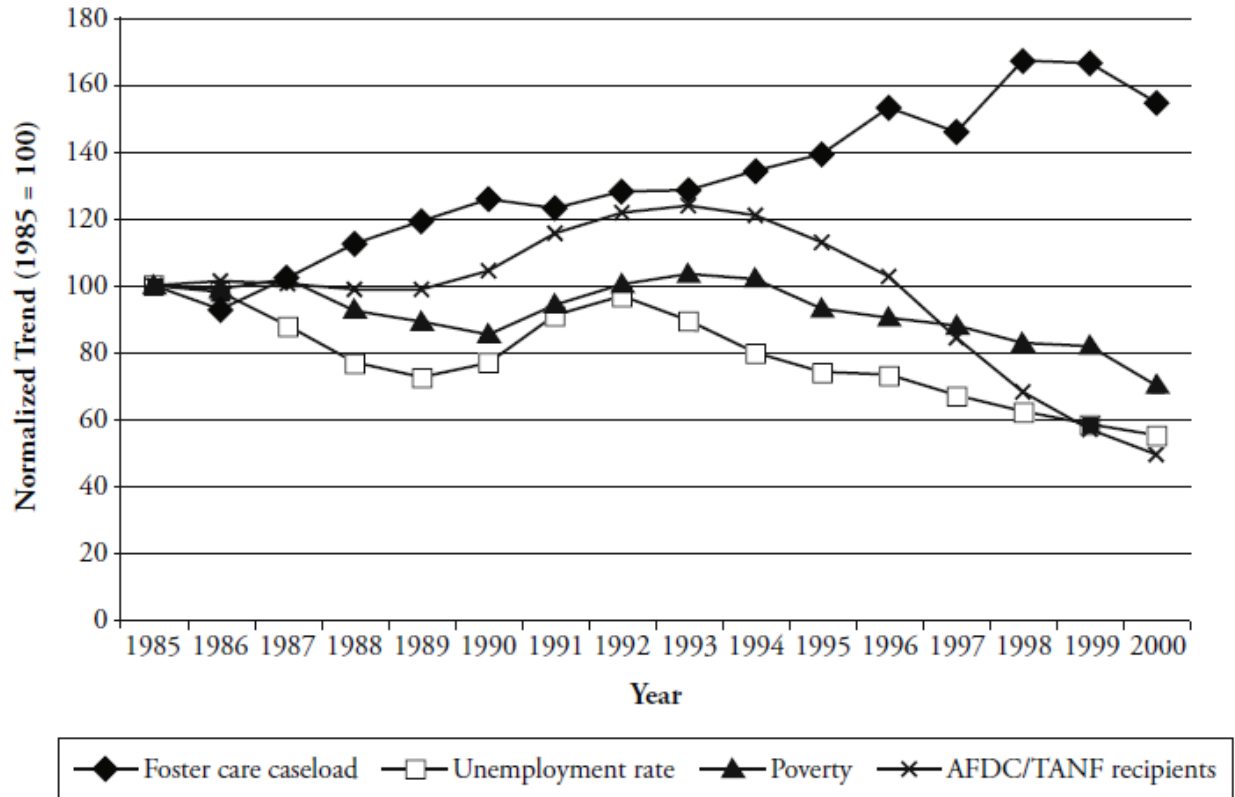


**Figure 2.** Trends in Criminal Justice Variables and Foster Care Caseloads

Figure 3 displays (normalized) national trends in the foster care caseload rate and the unemployment rate, the percentage of children living below 75% of the poverty line, and the number of AFDC/TANF recipients. There is no apparent strong relationship between AFDC/TANF recipients and the foster care caseload rate, while there appears to be a negative

<sup>16</sup> We do not include AIDS in Figures 2 and 3 because the change in the number of AIDS cases was so large in the 1980s that including this variable dramatically alters the scale of the graph and obscures the relationships among the other variables. AIDS cases increased rapidly in the mid-1980s, peaked around 1995, and declined thereafter. The correlation between the trends in AIDS and foster care is .57.

relationship between the foster care rate and both the unemployment rate and poverty measure. These conclusions are borne out by the correlations. All three of the correlations are negative:  $-.55$  for AFDC recipients,  $-.66$  for poverty, and  $-.82$  for the unemployment rate.



**Figure 3.** Trends in Foster Care Caseloads and Economic Variables

### EMPIRICAL METHODS

The descriptive analysis above suggests that there may be a statistical relationship between foster care caseloads and several variables, such as incarcerations and the unemployment rate. This analysis, of course, is incomplete because it considers each variable in isolation and because it ignores state-to-state differences and time trends in variables. We next use an ordinary least squares regression model to relate the log of the foster care caseload rate to a number of variables that proxy for the different explanations discussed earlier.<sup>17</sup>

The basic econometric model is

$$y_{st} = \alpha_s + \mathbf{X}_{st}\boldsymbol{\beta} + \varepsilon_{st}, \quad (1)$$

<sup>17</sup> Other authors have used this technique, or a variant, to study welfare caseloads (e.g., Blank 2001; Ziliak et al. 2000) and changes in the incidence of child maltreatment during the early to mid-1990s (Paxson and Waldfogel 2002, 2003).

where  $y_{st}$  is the logarithm of the foster care rate in state  $s$  at time  $t$ ,  $\mathbf{X}_{st}$  is a vector of explanatory variables, and  $\varepsilon_{st}$  is a regression disturbance. The parameter  $\alpha_s$  is a state-specific effect,  $\lambda_t$  is a year-specific effect, and  $\boldsymbol{\beta}$  is a vector of parameters.

The state fixed effects account for time-invariant, unobservable state-specific factors that influence foster care enrollments. These may include unchanging state policies, parental attitudes, or community involvement. The year effects represent national trends in variables, such as female labor force participation, the reporting of child maltreatment, and federal child welfare policy, which may be correlated with trends in foster care enrollments but are not included in the model. After state and year effects are included, the observed state and child characteristics affect foster care caseloads only through their effects on changes in caseloads within states over time. To the extent that any omitted variables are correlated with any of the included explanatory variables (rather than being picked up by the state or year effects), the coefficient estimates will capture the effects of the omitted variables as well as the effects of the included variables.<sup>18</sup>

A subset of our variables is constructed from data from the March Current Population Survey (CPS). Because these variables are constructed from samples of the population, they may measure the true population means with error. Deaton (1985) derived a consistent estimator for this case. Let  $\mathbf{Z}_{st}$  be the vector of all observed characteristics including the state and time effects. Then Eq. (1) can be written as

$$y_{st} = \mathbf{Z}_{st}\boldsymbol{\gamma} + \varepsilon_{st} \quad (2)$$

If we assume that

$$\begin{pmatrix} y_{st} \\ \mathbf{Z}_{st} \end{pmatrix} \sim N \left( \begin{pmatrix} y_{st} \\ \mathbf{Z}_{st}^* \end{pmatrix}, \begin{bmatrix} 0 & \mathbf{0}' \\ \mathbf{0} & \boldsymbol{\Sigma} \end{bmatrix} \right), \quad (3)$$

where  $\mathbf{Z}_{st}^*$  is the vector of true population means, then

$$\hat{\boldsymbol{\gamma}} = (\mathbf{Z}'\mathbf{Z} - N\boldsymbol{\Sigma})^{-1}\mathbf{Z}'\mathbf{y}, \quad (4)$$

where  $N$  is the number of state-year observations (stacked over states and years). The variance-covariance matrix of the explanatory variables,  $\boldsymbol{\Sigma}$ , is estimated from the CPS microdata. Elements of this matrix corresponding to variables that are not measured with error (state effects, time effects, and the non-CPS variables) are set equal to zero.

Standard errors are calculated according to

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<sup>18</sup> Eq. (1) implies that each explanatory variable has its full effect on foster care caseloads immediately. However, this may not be the case. For example, because recently released mothers often do not regain custody immediately, the foster care caseload may depend on both the number of women currently in prison and the number who were in prison in previous periods but have been released. We explore this possibility later.

$$\mathbf{VCV}(\mathbf{y}) = \frac{1}{N-k} (\mathbf{Z}'\mathbf{Z} - N\mathbf{\Sigma})^{-1} ((\mathbf{Z}'\mathbf{Z})(\hat{\boldsymbol{\epsilon}}'\hat{\boldsymbol{\epsilon}}) + \mathbf{Z}'\hat{\boldsymbol{\epsilon}}\hat{\boldsymbol{\epsilon}}'\mathbf{Z})(\mathbf{Z}'\mathbf{Z} - N\mathbf{\Sigma})^{-1}, \quad (5)$$

where  $k$  is the number of regressors and  $\hat{\boldsymbol{\epsilon}}$  is the  $(N \times 1)$  vector of residuals (Deaton 1985; Devereaux 2003).<sup>19</sup>

Although not depicted in Eq. (4), the estimates are weighted by the number of children in each state to give more weight to states with more children.<sup>20</sup> This implies that the analysis is conducted at the level of the average child rather than at the level of the average state (as would be the case without weights). However, our conclusions are not significantly affected by the decision to weight. Estimates obtained without weights are reported in Appendix Table A2.

## RESULTS

### The Importance of State Fixed Effects

Table 2 reports parameter estimates from three models in which the logarithm of the number of children in foster care per 1,000 children (the log foster care caseload rate) is regressed on various economic and noneconomic explanatory variables.<sup>21</sup> The columns differ in whether there are (1) no state or year effects, (2) state effects but no year effects, or (3) both state and year effects. We omit the model with only year effects from Table 2 because it is not substantially different from the most basic model.

As a group, these results demonstrate the importance of state fixed effects. The first model, which includes neither state nor year effects, indicates that a number of variables (e.g., AFDC/TANF benefits and recipients, female incarcerations, and the fraction of children with working mothers) are positively related to the foster care caseload rate, while others (e.g., the state unemployment rate, the fraction of children living in urban areas, and the fraction of children who are black) are negatively related to the caseload rate. After state fixed effects are included in the analysis, however, the magnitudes, signs, and significance of the coefficients on a number of explanatory variables change considerably. The magnitude of the positive and significant effect of the female incarceration rate, for instance, doubles. The fraction of children who are black is negatively and significantly related to the foster care caseload rate in column 1, but it becomes positively and significantly related to the caseload rate after state fixed effects are included. The coefficient on the AFDC/TANF benefit level is positive before the inclusion of state fixed effects but negative after we control for state fixed effects. This last result implies that states with permanently high welfare benefits have high foster care caseloads but that increases

<sup>19</sup> These standard errors are derived from the structure of the measurement error model. They do not correct for arbitrary heteroskedasticity or state-level clustering. As part of our sensitivity analysis, we explore the issue of robust standard errors in a model without measurement error.

<sup>20</sup> See Devereaux (2003) for details on including weights in this type of model.

<sup>21</sup> Klerman and Haider (2004) studied changes in welfare caseloads during the 1990s and showed that modeling entries into and exits out of welfare may be preferred to modeling aggregate caseloads. We estimated models of entry into and exit from the foster care system, but these data were available for too few years to obtain reliable results.

in welfare benefits within a given state have a negative impact on foster care caseloads. The changes in the coefficients for the other variables can be given similar interpretations.

**Table 2.** Estimates of the Determinants of Log Foster Care Caseload Rates

Variable	Without State or Year Fixed Effects		With State Fixed Effects Only		With Both State and Year Fixed Effects	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
State Characteristics						
Unemployment rate	-0.073*	0.017	-0.021*	0.009	-0.015	0.015
Log monthly AFDC/TANF benefit	0.616*	0.086	-0.398*	0.130	-0.225 <sup>†</sup>	0.133
AFDC/TANF recipients	0.125*	0.019	0.003	0.015	-0.023	0.020
Family cap	0.336*	0.062	0.007	0.039	-0.024	0.045
Violent crime	0.0003*	0.0001	0.0004*	0.0001	0.0003*	0.0001
Female incarcerations	0.003*	0.001	0.006*	0.001	0.006*	0.001
AIDS cases	0.0002	0.003	0.007*	0.003	0.002	0.003
AIDS cases × Year ≥ 1996	0.012*	0.003	0.002	0.002	-0.001	0.002
State house is Republican	0.017	0.045	-0.027	0.034	-0.040	0.034
State senate is Republican	0.077 <sup>†</sup>	0.042	0.087*	0.038	0.091*	0.039
Governor is Republican	0.009	0.040	-0.032 <sup>†</sup>	0.017	-0.040*	0.018
Characteristics of Children						
Working mother	1.388*	0.515	0.540 <sup>†</sup>	0.328	0.535	0.341
Absent father	3.172*	0.683	-1.107	0.827	-2.257	1.518
Urban	-0.413*	0.139	0.230	0.209	0.137	0.216
Non-Hispanic black	-0.472 <sup>†</sup>	0.261	1.737*	0.799	1.562 <sup>†</sup>	0.832
Hispanic	-0.458*	0.186	0.318	0.529	0.191	0.881
Other race	0.071	0.226	0.973	1.292	0.483	1.543
Real family income	0.008	0.009	0.011	0.013	0.006	0.025
Below 75% of poverty	-0.552	1.201	1.269	1.223	1.572	1.852
Root Mean Square Error	416.040		212.510		209.01	

Note: Each model corrects for measurement error.

<sup>†</sup> $p < .10$ ; \* $p < .05$

The coefficients on several variables lose their statistical significance after we control for state fixed effects (e.g., the number of AFDC/TANF recipients, whether a state has a family cap, and the fraction of children with absent fathers or living in urban areas). This implies that there is an overall national relationship between the number of welfare recipients, for example, and the foster care caseload rate, but no statistically significant association between changes in the number of welfare recipients and foster care rates within individual states.

Other coefficients become statistically significant only after we control for state fixed effects. For example, while the coefficients on the number of AIDS cases and whether the state governor is Republican are statistically insignificant in column 1, they become statistically significant after state effects are included. This indicates that although there is no overall national relationship between AIDS cases and the foster care caseload rate, for instance, there is a significant association between changes in AIDS cases and foster care rates within individual states. Thus, we conclude that failing to control for state effects in our analysis may generate misleading conclusions. Moreover, including state fixed effects substantially improves the fit of our model, as indicated by the root mean square errors shown in Table 2.

Comparing the last two panels of Table 2 illustrates the role played by year fixed effects. Two important differences emerge. First, a number of variables that were statistically significant with state effects but no year effects (e.g., the state unemployment rate, AIDS cases, and the fraction of children with working mothers) become statistically insignificant, while the effects of other variables become smaller in absolute value (e.g., AFDC/TANF payments and the fraction of children who are black). These changes occur because foster care caseloads and AIDS cases, for example, have a similar pattern over time. In the absence of year effects, this pattern is captured by the independent variables. When the year effects allow for a time trend, this portion of the effect of the independent variables disappears. Overall, however, the general conclusions are not changed when year effects are included. We refer to the more general specification in the last panel of Table 2 as our “primary specification.”

### Primary Specification

We now look specifically at the parameter estimates of this specification. Consistent with the social work and policy literatures discussed in the “Data” section, the parameter estimates suggest that female incarcerations, the crack cocaine epidemic (as captured by violent crime arrests), and AIDS cases are positively related to the foster care caseload rate. However, the coefficient estimate on AIDS cases is not statistically significant. Specifically, we estimate that each additional incarceration per 100 women is associated with a 6% increase in the foster care caseload rate; each additional violent crime per 100 persons is associated with a 0.3% increase; and each additional AIDS case per 100 persons is associated with a 2% increase before 1996 and a 1% increase from 1996 to 2000.<sup>22</sup>

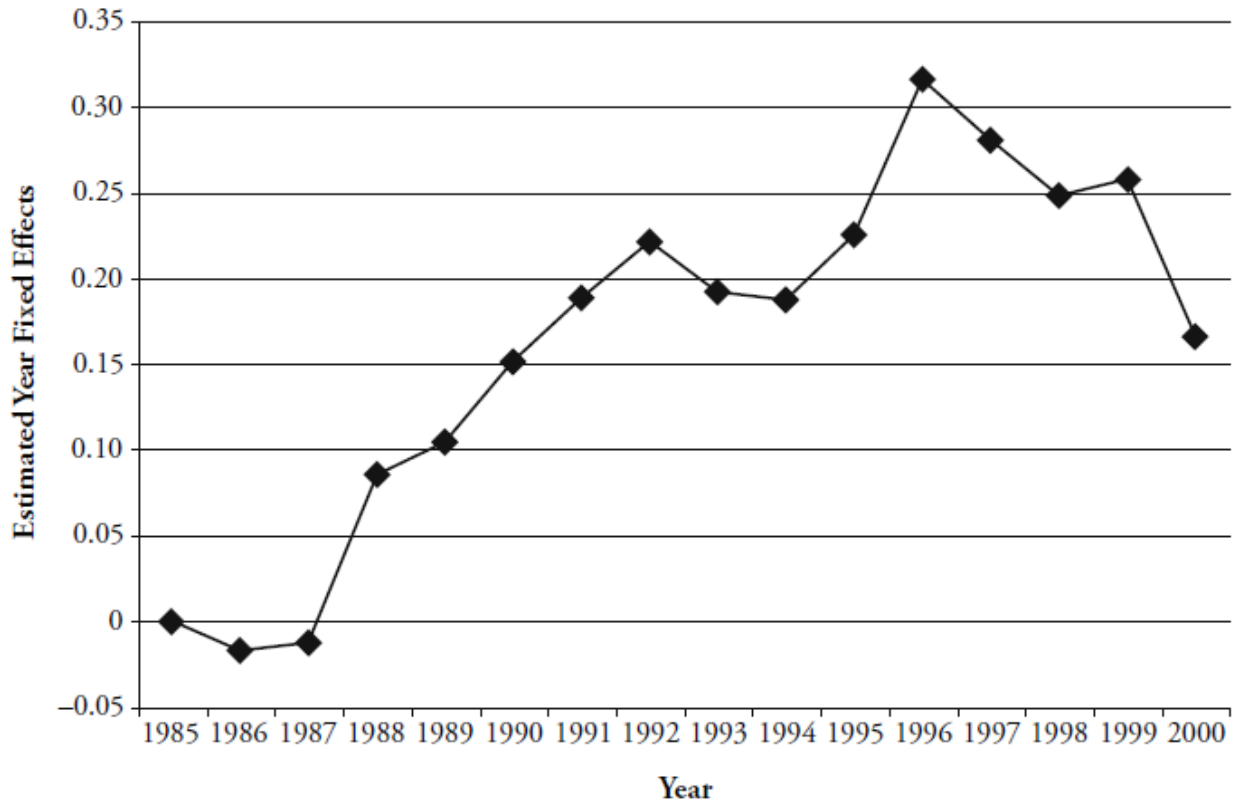
We also find that a 10% reduction in the average monthly AFDC/TANF payment for a family of three is associated with a 2.3% increase in the foster care caseload rate. Furthermore, the estimates show that increases in the fraction of children who are black are associated with increases in the caseload rate, and foster care caseloads are lower in states in which the governor is Republican and higher in states in which the state senate is controlled by Republicans.<sup>23</sup>

Figure 4 charts the estimated year fixed effects from 1985 through 2000. The year effects rise from 1987 until 1992. This is the period of the crack cocaine epidemic, and the increasing year effects may indicate that the violent crime variable does not fully capture the crack cocaine epidemic. The falling year effects in 1993 and 1994 suggest that the Family Preservation and Family Support Program of 1993 (discussed earlier in the “Background” section) may have resulted in less entry or more rapid exit from care. Finally, after rising slightly in 1995 and dramatically in 1996 (the year of welfare reform legislation), the year effects started to decline in 1997. This decline coincides with AFSA and suggests that ASFA may have led to less utilization of foster care by giving states incentives to move children out of foster care and into adoption and other permanent placements.

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<sup>22</sup> Some variables, such as female incarcerations, are expressed per 100,000 persons. Thus, a coefficient of 0.006 represents a 0.006% increase per 100,000 persons, or a 6% increase per 100 persons.

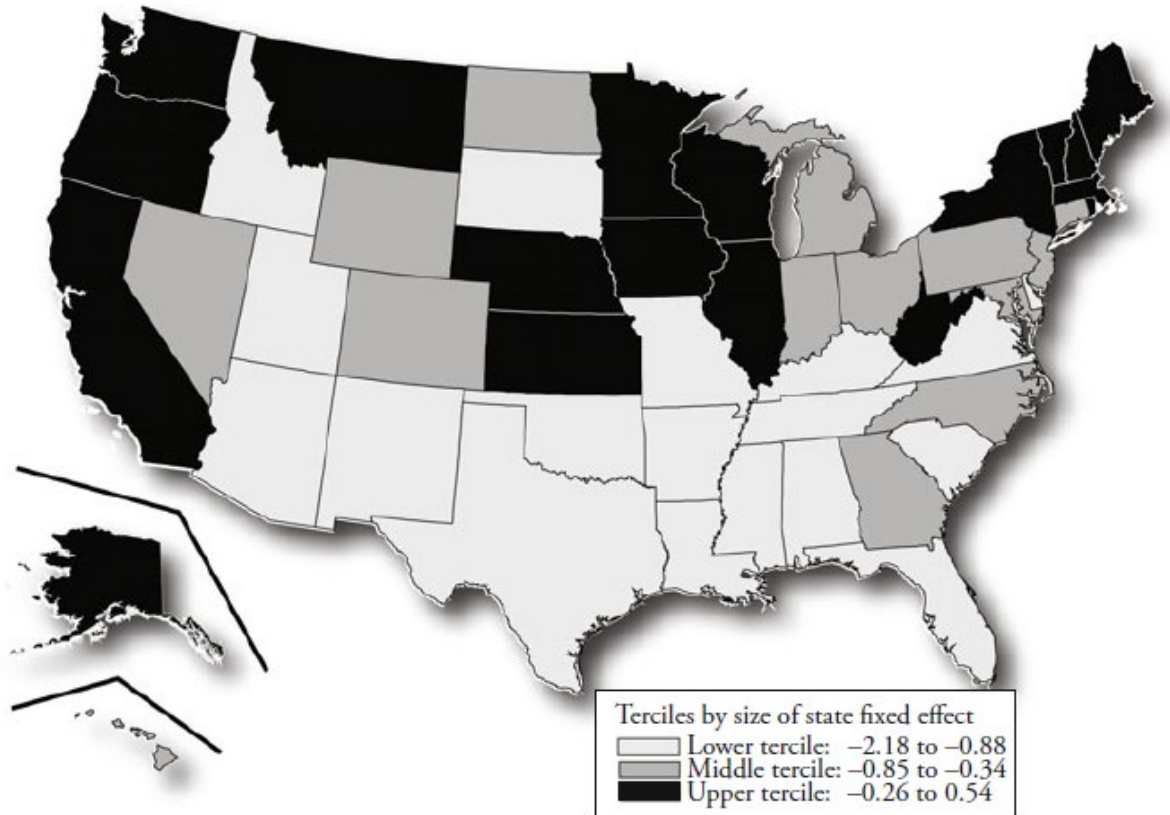
<sup>23</sup> We explored specifications in which the three political variables were interacted in different ways. For instance, we considered whether control of both houses of the legislature might mean more than controlling either of them alone. No discernible pattern emerged, and our other conclusions were robust to these changes in specification.



**Figure 4.** Estimates of the Year Fixed Effects

Figure 5 explores the importance of the state fixed effects. It separates the states into terciles based on the size of the estimated state fixed effects. The map reveals distinct regional differences in which, even after state government politics and other factors such as income and welfare benefit levels are controlled for, the majority of southern states are predicted to have low foster care caseloads (lower tercile), while most northeastern states and West Coast states are predicted to have high foster care caseloads (upper tercile).<sup>24</sup> As discussed in the “Empirical Methods” section, these state-specific effects may measure unchanging state policies, parental attitudes, or community involvement. Regardless of their origins, it is clear that distinct regional differences exist.

<sup>24</sup> California is normalized to be zero. The mean state effect is  $-0.62$ , and the median is  $-0.66$ . Texas’ state effect is the most negative ( $-2.18$ ), Rhode Island’s is the most positive ( $0.50$ ), and 23 of the 25 most negative are significantly different from zero at 0.05.



**Figure 5.** Estimates of the State Fixed Effects

### Predicting Percentage Changes in the Foster Care Caseload Rate

The results in Table 2 provide evidence that a number of variables are significantly associated with foster care caseloads, but the coefficients are not directly informative about which variables play the most important roles in changes in foster care caseloads. Consequently, we make predictions to estimate how much of the observed growth in foster care caseloads from 1985 to 2000 can be attributed to each of the variables. We first predict the foster care caseload rate in 1985 using the coefficient estimates from the last panel of Table 2. We then change each explanatory variable in turn to its observed 2000 value and compute the corresponding predicted caseload rate and the associated percentage change in the caseload rate.<sup>25</sup> To attempt to capture the uncertainty surrounding our prediction, we repeat this exercise with the parameter of the variable under consideration fixed at its upper and lower 95% confidence interval values. These results are included in parentheses in the table. The model (not including the year effects) predicts an increase in the caseload rate of 69%, compared with the observed growth rate of 72.8%. The outcomes of these simulations are presented in Table 3.

<sup>25</sup> This experiment answers questions of the form, If the number of females incarcerated changes to its 2000 value but all other variables are held constant at their 1985 values, how would we expect the foster care caseload rate to change?



**Table 3.** Predicted Percentage Changes in the Foster Care Caseload Rate

Variable	Predicted Percentage Change <sup>a</sup>	Percentage of Actual Increase <sup>b</sup> (column 1 / observed increase)
Female Incarcerations	22.54 (12.11, 34.38)	31.09 (16.05, 49.38)
AFDC/TANF Benefit Level	11.11 (-1.68, 25.35)	15.33 (-11.56, 7.08)
AFDC/TANF Recipients	5.87 (-4.07, 16.63)	8.09 (-6.82, 18.94)
Unemployment Rate	5.04 (-4.08, 14.84)	6.95 (-6.97, 16.58)
Working Mother	4.48 (-1.08, 10.37)	6.18 (-0.98, 21.66)
Family Income	2.62 (-3.55, 7.56)	3.62 (-4.76, 10.73)
AIDS	1.67 (-3.55, 7.56)	2.31 (-4.76, 10.73)
Hispanic	1.59 (-10.01, 20.87)	2.19 (-10.91, 39.08)
State Senate Is Republican	1.54 (0.25, 2.86)	2.12 (0.33, 4.05)
Urban	0.56 (-1.21, 2.24)	0.78 (-1.19, 4.34)
Other Race	0.48 (-2.45, 3.85)	0.66 (-3.06, 6.08)
Governor Is Republican	-0.16 (-0.30, -0.02)	-0.22 (-0.41, -0.03)
Black	-0.35 (-1.15, 0.01)	-0.49 (-1.96, 0.02)
State House Is Republican	-0.79 (-2.07, 0.54)	-1.09 (-2.83, 0.76)
Family Cap	-1.30 (-5.76, 3.56)	-1.80 (-7.94, 4.92)
AIDS Cases × Year ≥ 1996	-1.51 (-7.33, 4.94)	-2.08 (-10.11, 6.81)
Violent Crime	-3.37 (-5.96, -0.84)	-4.64 (-9.50, -1.00)
Poverty	-6.29 (-19.58, 8.80)	-8.68 (-47.27, 7.08)
Absent Father	-6.32 (-14.08, 2.04)	-8.71 (-10.83, 5.16)

Notes: The observed increase is 72.81%. Numbers in parentheses are percentages calculated at the upper and lower 95% confidence interval for the parameter under consideration.

<sup>a</sup>Percentage change in the foster care caseload rate predicted by each variable.

<sup>b</sup>Percentage of the total observed increase in the foster care caseload rate attributable to each variable.

Increases in female incarcerations are the largest contributor to the growth in the foster care caseload rate from 1985 to 2000. These increases predict a 22.5% increase in the caseload rate, or 31.1% ( $= 100\% \times 22.5 / 72.8$ ) of the observed growth. Reductions in AFDC/TANF benefits are the second largest contributor, predicting an 11.1% increase in the caseload rate and accounting for 15.3% of the observed growth. Our findings suggest that the crack cocaine and HIV/AIDS epidemics had small effects on caseload growth. From 1985 to 2000, the observed

change in the number of AIDS cases predicts a 0.16% (= 1.67 – 1.51) increase in the caseload rate. Changes in violent crime predict a 3.4% decrease in the foster care caseload rate, accounting for a negative 4.6% of the observed growth.

**Table 4.** Predicted Percentage Changes for 1985–2000, 1985–1990, and 1990–2000

Variable	1985–2000	1985–1990	1990–2000
Female Incarcerations	22.54 (12.11, 34.38)	8.55 (4.72, 12.69)	12.76 (6.99, 19.04)
AFDC/TANF Benefit Level	11.11 (-1.68, 25.35)	0.87 (-0.13, 1.97)	10.16 (-1.55, 22.96)
AFDC/TANF Recipients	5.87 (-4.07, 16.63)	-0.06 (-0.23, 0.02)	5.90 (-4.07, 16.82)
Unemployment Rate	5.04 (-4.08, 14.84)	2.58 (-2.16, 7.38)	2.38 (-1.96, 6.90)
Working Mother	4.48 (-1.08, 10.37)	2.49 (-0.61, 5.64)	1.94 (-0.47, 4.46)
Family Income	2.62 (-17.05, 33.32)	1.07 (-7.67, 12.26)	1.47 (-9.68, 18.10)
AIDS Cases	1.67 (-3.55, 7.56)	2.86 (-5.88, 13.37)	-1.18 (-5.29, 2.53)
Hispanic	1.59 (-10.01, 20.87)	0.27 (-1.35, 4.15)	1.30 (-8.64, 15.97)
State Senate Is Republican	1.54 (0.25, 2.86)	-0.06 (-0.11, -0.01)	1.57 (0.25, 2.93)
Urban	0.56 (-1.21, 2.24)	-0.03 (-0.16, 0.05)	0.59 (-1.24, 2.36)
Other Race	0.48 (-2.45, 3.85)	0.35 (-1.76, 2.76)	0.17 (-0.89, 1.34)
Governor Is Republican	-0.16 (-0.30, -0.02)	0.01 (0.00, 0.02)	-0.17 (-0.32, -0.02)
Black	-0.35 (-1.15, 0.01)	1.30 (-0.06, 2.43)	-1.65 (-3.64, 0.07)
State House Is Republican	-0.79 (-2.07, 0.54)	0.19 (-0.13, 0.51)	-0.93 (-2.42, 0.64)
Family Cap	-1.30 (-5.76, 3.56)	0.00 (0.00, 0.00)	-1.31 (-5.79, 3.58)
AIDS Cases × Year ≥ 1996	-1.51 (-7.33, 4.94)	0.00 (0.00, 0.00)	-1.61 (-7.79, 5.31)
Violent Crime	-3.37 (-5.96, -0.84)	4.96 (1.19, 9.16)	-8.13 (-2.05, -14.21)
Poverty	-6.29 (-19.58, 8.80)	-3.63 (-11.95, 4.77)	-2.61 (-8.14, 3.66)
Absent Father	-6.32 (-14.08, 2.04)	-3.75 (-8.75, 1.15)	-2.43 (-5.33, 0.80)
Observed Percentage Increase	72.81	42.59	21.74
Predicted Percentage Increase	69.01	37.76	22.93

*Note:* Numbers in parentheses are percentages calculated at the upper and lower 95% confidence interval for the parameter under consideration.

A number of the variables have very different paths over the 1985–2000 period. For example, there was a large rise in violent crime in the late 1980s; incarcerations increased relatively

steadily over most of the period; and AIDS cases increased rapidly in the mid-1980s, peaked around 1995, and declined thereafter. Performing the simulations over the entire period may obscure important relationships by ignoring these different paths. In Table 4 we present decomposition results separately for 1985–1990 and 1990–2000.<sup>26</sup>

From 1985 to 1990, changes in violent crime predict an almost 5% increase in the foster care caseload rate (compared with –3.4% in Table 3). This result makes violent crime second only to incarcerations, which predict an 8.6% increase (down from 22.5% over the entire period). Changes in AIDS cases also have a larger (although still small) impact on the foster care caseload rate during this period, predicting a 2.9% increase (compared with 1.7% in Table 3). On the other hand, changes in AFDC benefits only predict a 0.9% increase from 1985 to 1990 (compared with 11.1% over the entire period).

From 1990 to 2000, the relative importance of the various factors changes. Violent crime and AIDS cases predict declines in foster care caseloads over this period. Violent crime is particularly dramatic, as it changes from predicting a 5% increase in the 1985 to 1990 period to predicting an 8.1% decline from 1990 to 2000. Real AFDC/TANF benefits have a substantially larger impact on caseloads during the 1990s, predicting a 10.2% increase. AFDC/TANF recipients similarly have a larger impact on caseloads during the 1990s, predicting a 5.9% increase compared with virtually no impact from 1985 to 1990. In spite of these differences, female incarcerations remain the leading factor in the growth of the foster care caseload rate in the 1990s and predict a 12.8% increase in the foster care caseload rate.

### Robustness of the Results to the Specification of Incarcerations

We now explore the robustness of our incarceration result to a number of different specifications for incarceration.<sup>27</sup> For this analysis, we (1) substitute data on male incarcerations for female incarcerations, (2) include both male and female incarcerations, and (3) include data on the number of female prisoners released from prison in the past two years. The first two specifications explore the different roles of male and female incarcerations. The third specification addresses the extent to which previous incarceration may affect foster care caseloads even after we control for current incarceration. Coefficient estimates, standard errors, and root mean square errors are presented in Table 5.

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<sup>26</sup> We look at the 1980s and the 1990s separately because the largest increases in cocaine use and AIDS occurred during the late 1980s.

<sup>27</sup> We considered two additional extensions to our primary model using data from the NACJD UCR. The first used data on the number of cocaine arrests per 100,000 persons instead of data on violent crimes. The second also included the number of juvenile arrests per 100,000 persons. The results from this second extension indicate that each additional juvenile arrested per 100 persons is associated with a 0.2% *decline* in the foster care caseload rate, suggesting that children who have contact with both systems are more likely to move from foster care to the juvenile justice system than vice versa. We did not include the cocaine or juvenile arrest data in our main analysis because of the issues with the NACJD's UCR data discussed in footnote 13.

**Table 5.** Sensitivity Analysis: Estimates of the Determinants of Log Foster Care Caseload Rates for Different Specifications

Variable	Primary Specification		Male Incarceration		Male and Female Incarceration		Females Released From Prison		No Measurement Error	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE <sup>a</sup>
State Characteristics										
Unemployment rate	-0.016	0.015	-0.014	0.015	-0.016	0.015	-0.017	0.015	-0.012	0.024
Log welfare payment	-0.225 <sup>†</sup>	0.133	-0.213	0.134	-0.226 <sup>†</sup>	0.132	-0.224 <sup>†</sup>	0.131	-0.243	0.195
Welfare recipients	-0.023	0.020	-0.011	0.019	-0.023	0.020	-0.025	0.020	-0.019	0.029
Family cap	-0.024	0.045	-0.024	0.046	-0.024	0.045	-0.024	0.045	-0.025	0.073
Violent crime	0.0003*	0.0001	0.0004*	0.0001	0.0003*	0.0001	0.0003*	0.0001	0.0003*	0.0001
Female incarcerations	0.006*	0.001			0.006*	0.002	0.005*	0.001	0.005*	0.001
AIDS cases	0.002	0.003	0.002	0.003	0.002	0.003	0.002	0.003	0.002	0.005
AIDS cases × Year ≥ 1996	-0.001	0.002	-0.003	0.002	-0.001	0.003	-0.001	0.002	-0.001	0.004
State house is Republican	-0.040	0.034	-0.050	0.035	-0.040	0.035	-0.040	0.034	-0.036	0.036
State senate is Republican	0.091*	0.039	0.101*	0.040	0.091*	0.039	0.091*	0.038	0.092	0.091
Governor is Republican	-0.040*	0.018	-0.044*	0.018	-0.040*	0.018	-0.040*	0.018	-0.037	0.028
Male incarcerations			0.001*	0.0001	-0.000003	0.0002				
Female prisoner released							0.0010 <sup>†</sup>	0.0005		
Child Characteristics										
Working mother	0.535	0.341	0.494	0.355	0.536	0.345	0.559 <sup>†</sup>	0.339	0.400	0.373
Absent father	-2.257	1.518	-2.691 <sup>†</sup>	1.496	-2.256	1.519	-2.076	1.545	-1.160*	0.372
Urban	0.137	0.216	0.090	0.220	0.137	0.216	0.189	0.215	0.139	0.262
Non-Hispanic black	1.562 <sup>†</sup>	0.832	1.471 <sup>†</sup>	0.827	1.562 <sup>†</sup>	0.833	1.567 <sup>†</sup>	0.824	0.826	0.629
Hispanic	0.191	0.881	-0.042	0.846	0.192	0.887	0.106	0.875	0.203	0.696
Other race	0.483	1.543	0.444	1.569	0.483	1.544	0.745	1.543	0.265	0.953
Real family income	0.006	0.025	-0.002	0.025	0.006	0.026	0.008	0.026	0.007	0.009
Below 75% of the poverty income	1.572	1.852	1.132	1.841	1.571	1.858	1.713	1.872	1.018	0.690
Root Mean Square Error	209.010		211.610		209.160		208.35		0.18 <sup>b</sup>	

<sup>a</sup>Heteroskedasticity-robust standard errors allowing for state-level clustering.

<sup>b</sup>Not comparable to the root mean square errors for the other models.

<sup>†</sup>  $p < .10$ ; \* $p < .05$

The estimated association between the female incarceration rate and the foster care caseload rate is remarkably robust to the model's specification. We estimate that each additional incarceration per 100 women is associated with a 5%–6% increase in the foster care caseload rate in each specification. When we control only for male incarcerations, we predict that each additional incarceration per 100 men is associated with a 1% increase in the foster care caseload rate. When we control for both male and female incarcerations, the coefficient estimate on male incarcerations becomes very small and insignificant, while the coefficient estimate on female incarcerations remains at 0.006. These results are consistent with the fact that children of incarcerated mothers are more likely to require out-of-home care than children of incarcerated fathers (Johnson and Waldfogel 2002; Mumola 2000) and support the view that maternal incarcerations have a larger (and more important) impact on children's out-of-home placement than paternal incarcerations.

Finally, when we control for the number of female prisoners released from federal or state jurisdiction in the last two years, we predict that each additional female released per 100 females is associated with a 1% increase in the caseload rate. The coefficient estimate on current female incarcerations falls to 0.005. This result suggests that, when current incarcerations are held constant, states with higher levels of ever-incarcerated women have higher foster care caseloads.

#### Sensitivity of Results to the Modeling of Measurement Error

The last panel of Table 5 reports the parameter estimates of a model that does not correct for measurement error. This simplification allows us to compute heteroskedasticity-robust standard errors that also incorporate state-level clustering.<sup>28</sup> The results reveal that, compared with the primary specification, the coefficient estimate on female incarcerations is slightly smaller in magnitude but remains statistically significant. The effect of arrests is unchanged, while the coefficient on welfare benefits loses its statistical significance. As expected, the coefficients on variables that are potentially measured with error are more sensitive to this change. For example, the coefficients on the fraction of children with absent fathers and the fraction of children who are black fall substantially, suggesting attenuation bias due to measurement error.

## DISCUSSION

This article provides the first comprehensive investigation of the factors associated with the dramatic growth in foster care caseloads observed in the United States from 1985 to 2000. Our parameter estimates suggest that female incarcerations, welfare benefits, violent crime arrests, and a number of other variables are statistically significantly related to foster care caseloads. Using these estimates and the observed paths of the explanatory variables, we estimate the percentage of the increase in caseloads that is attributable to each variable. We provide new evidence that incarcerations were the largest contributor to the rise in foster care caseloads from

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<sup>28</sup> Bertrand, Dufio, and Mullainathan (2004) raised an issue with differences-in-differences (DD) models in which substantial serial correlation leads to understated standard errors. Our situation is somewhat different because, unlike the typical DD case that examines a single, discrete change in policy, our explanatory variables generally vary, in many cases substantially, over time. State-level clustering is, however, one of their suggested remedies. Neither Deaton (1985) nor the literature that follows it has addressed the issue of robust standard errors or clustering on groups. Because the covariance matrix of the parameters is nonstandard when we correct for measurement error, we perform this analysis assuming there is no measurement error in the CPS-derived variables.

1985 to 2000, predicting a 23% increase in the foster care caseload rate and accounting for 31% of the observed growth. Falling AFDC/TANF benefits were the second largest contributor, predicting an 11% increase and accounting for 15% of the growth. We now explore these two principal findings in turn.

The strong association we found between incarcerations and foster care caseloads comes from a number of sources. First, it reflects the direct impact on caseloads of parental absence when the parent is in prison. Between 1986 and 1999, the number of children with incarcerated mothers increased 98% (Mumola 2000). Researchers have estimated that only between 10% (Johnston 1993) and 14% (McGowan and Blumenthal 1978) of these children are in foster care, and a 1997 survey of inmates reported that roughly 9% of children with incarcerated mothers are in foster care (Mumola 2000). However, these estimates likely understate the increasingly important use of relatives as formal foster parents.<sup>29</sup> Nonetheless, the available estimates suggest that foster children whose mothers are currently incarcerated make up only a small proportion of all foster children and, thus, account for a small share of the observed doubling in foster care caseloads over this period. Consequently, this direct effect is likely small.

Second, because many former inmates have difficulty regaining custody of their children after leaving prison, children often remain in foster care long after their parents are released from prison. Thus, the impact of parental incarceration on foster care caseloads also reflects how many foster children have parents who have been incarcerated *at some point* (Katz 1998). While this effect is difficult to quantify, it grows over time as the number of parents who have been in prison increases. Our sensitivity analysis indicates that, after controls for both the number of females currently incarcerated and the number released from prison in the previous two years, increases in the number released explain 8.4% of the growth in the caseload rate.<sup>30</sup>

Finally, we are limited by an inability to control for all factors that affect foster care caseloads (as is common in this type of literature). Thus, changes in incarceration rates may partially capture the effect of variables that are imperfectly included or not included in the model if these variables vary over time and lead to increased rates of both incarceration and foster care. For example, increases in incarceration rates may capture increases in the rates of substance abuse, mental illness, sexual and physical abuse, and prior incarceration among incarcerated parents (Johnson and Waldfogel 2002). Incarceration rates may also capture characteristics of communities, such as violence, crime, and homelessness. These parental- and community-risk factors lead to deteriorating living conditions for children even before parents are incarcerated and, thus, increase the likelihood that children are placed in foster care (Johnson and Waldfogel 2004). Changes in incarcerations may also partially reflect changes in state laws and enforcement policies that affect the incidence of reported child maltreatment (and thus the foster care caseload), as well as incarceration more generally.

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<sup>29</sup> In 1997, for example, 79% of children of incarcerated mothers lived with relatives (Mumola 2000). Due to embarrassment or ignorance, inmates may not have disclosed that some of these children were in formal kinship foster care, instead reporting only that the children lived with a relative (Katz 1998). While it is difficult to identify this group of foster children, data from the 1997 National Survey of America's Families suggests that approximately 29% of kinship care arrangements involve the child welfare system. If this figure is true, it is possible that an additional 23% of children with incarcerated mothers were in foster care in 1997.

<sup>30</sup> Current incarcerations account for 28.7% of the observed growth in this model, down from 31.1% in the primary model.

Nonetheless, our findings clearly identify a strong association between female incarcerations and foster care caseloads. This result is important because, although child welfare administrators are aware of increases in the number children of incarcerated parents needing out-of-home placement, few have specific policies for dealing with the special needs of this growing cohort of foster children (Seymour 1998).<sup>31</sup> It is likely that much of the growth in incarcerations is due to the 1986 Anti-Drug Abuse Act, which imposed mandatory minimum sentences and shifted sentencing power from federal judges to prosecutors. Following this legislation, the number of women incarcerated for drug offenses rose by 888% between 1986 and 1996, compared with a 129% increase in non-drug-related offenses during the same period (Mauer, Potler, and Wolf 1999). Moreover, the average imposed prison term for those convicted of a drug-related offense increased from 62 months in 1986 to 74 months in 1999, and actual time served increased from 30 months to 66 months over the same period (Scalia 2001).

While child advocates, child welfare officials, and academics are aware of this issue, relatively little is still known about the impact of parental incarceration on inmates' children (Johnson and Waldfogel 2002).<sup>32</sup> Our results suggest the importance of developing specific policies for the out-of-home placement of children of incarcerated parents. They also suggest avenues for future research, such as gaining a better understanding of the causes of the increase in incarceration and investigating the pre- and postincarceration experiences of inmates' children.

Turning to the role of welfare policy, consistent with previous literature (Brandon 2000; Courtney 1995; Geen et al. 2001; Paxson and Waldfogel 2002, 2003; Shook 1999), our results suggest that AFDC/TANF benefit levels are significantly associated with foster care caseloads. Lower welfare benefit levels may increase foster care caseloads for three reasons. First, to the extent that recipients are not working, lower welfare benefits decrease family income and increase the likelihood that children are maltreated and/or reported to child welfare officials. Second, lower welfare payments may induce relative caregivers to become formally involved with the foster care system in order to qualify for foster care maintenance payments. Finally, foster care may be a direct substitute for welfare. There is evidence of substantial movement from the AFDC/TANF program to out-of-home care. Using data from California, Illinois, and North Carolina, Goerge (2000) found that the majority (60%) of entrants into foster care come from AFDC. Similarly, Bitler, Gelbach, and Hoynes (2006) found that welfare reform is associated with a large increase in the probability that black children live in households with neither parent present, and Johnson and Waldfogel (2004) showed that children with incarcerated mothers are more likely to be in foster care if their mothers received public assistance prior to being incarcerated.

The relationship between welfare benefits and foster care caseloads suggests the value of increased coordination between the child welfare and cash welfare systems. Most children of incarcerated mothers reside with relatives other than their fathers. Before the implementation of TANF, relative caregivers could apply for child-only AFDC benefits and be exempted from any

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<sup>31</sup> In a few states (Alaska, California, Colorado, Louisiana, and North Dakota), parental incarceration is considered to be a circumstance under which the "reasonable efforts" requirement of the ASFA to reunify families can be waived (Travis, Cincotta, and Solomon 2003).

<sup>32</sup> In 1998, an entire issue of *Child Welfare* was devoted to parental incarceration and its impact on children.

work requirements that would typically apply. However, the amount of these benefits has been declining since the early 1990s, and welfare reform removed such exemptions. Consequently, relative caregivers, many of whom have insufficient financial resources to cover the extra expenses associated with the children in their care (Phillips and Bloom 1998), may have no choice but to enter formal foster care in order to qualify for foster care maintenance payments. This interdependence between the welfare and foster care systems should not be overlooked.

Changes in federal welfare policy may have also affected the incentives states face in placing children in the foster care versus the cash welfare system. For example, welfare reform legislation changed the funding structure of cash welfare from a federal matching grant to a block grant. Because foster care continued to be funded as a matching grant, this may have given states an incentive to shift children from TANF to foster care when possible. However, other aspects of the legislation had incentives that worked in the opposite direction.<sup>33</sup> Thus, the overall impact is not clear. While it is true that the number of children covered by Title IV-E foster care increased immediately following welfare reform—which is consistent with states moving children from TANF to Title IV-E—the increase began well before welfare policies changed. The fiscal federalism issues raised by the interaction of these programs are complicated and warrant further study.

Lastly, we note that the lack of available data on state-level foster care policies over the past two decades prevents us from analyzing how these policies are associated with the observed increase in foster care caseloads. Changes in these policies over time may have played a substantial role in caseload dynamics. For instance, beginning in the late 1980s, many states made it easier for children to be placed in foster care with relatives. Furthermore, many states have also significantly altered their child abuse reporting laws over the past two decades. A systematic collection of such data, similar to that for state AFDC/TANF programs, would greatly improve our understanding of foster caseload dynamics.

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<sup>33</sup> For example, welfare reform legislation tied eligibility for federal reimbursement to states for foster care to the AFDC program as it existed on July 16, 1996. Over time, federal reimbursements will decrease as eligibility criteria erode in real terms. Bess et al. (2002) discuss these issues in more detail.



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## Appendix

**Appendix Table A1. Data Sources**

Variable	Source
Children in foster care per 1,000 children	Foster care caseloads obtained from the Voluntary Cooperative Information System for 1985–1995, the Adoption and Foster Care Analysis and Reporting System for 1995–2000, and the Child Welfare League of America for 1995–1997.
	Number of persons under age 18 obtained from the <i>Current Population Reports</i> and the Census Bureau’s website. <sup>a</sup>
Real family income in thousands of dollars	March CPS
Fraction of children with family income less than 75% of poverty line	March CPS
Fraction of children living in urban areas	March CPS
Fraction of children who are white, black, Hispanic, or other race	March CPS
Fraction of children with a working mother	March CPS
Fraction of children with an absent father	March CPS
AIDS cases per 100,000 population	HIV/AIDS Surveillance Report, Centers for Disease Control
Unemployment rate	Bureau of Labor Statistics website <sup>a</sup>
Monthly AFDC/TANF payment (for a family of 3)	Ziliak (2005)
AFDC/TANF recipients per 1,000 population	Monthly Benefit Statistics, U.S. Department of Health and Human Services (HHS), and HHS website <sup>a</sup>
Family cap on AFDC/TANF benefits	The Welfare Rules Database, The Urban Institute <sup>a</sup>
Violent crime offenses per 100,000 population	FBI Uniform Crime Report downloaded from <a href="http://www.ojp.usdoj.gov/bjs">http://www.ojp.usdoj.gov/bjs</a>
Governor is Republican	<i>The Book of States</i> <sup>a</sup>
State senate is controlled by Republicans	<i>The Book of States</i> <sup>a</sup>
State house of representative is controlled by Republicans	<i>The Book of States</i> <sup>a</sup>
Female (Male) incarcerations per 100,000 females (males)	<i>Sourcebook of Criminal Justice Statistics</i>
Number of female prisoners released from state or federal jurisdiction	Bureau of Justice Statistics, National Prisoner Statistics data series

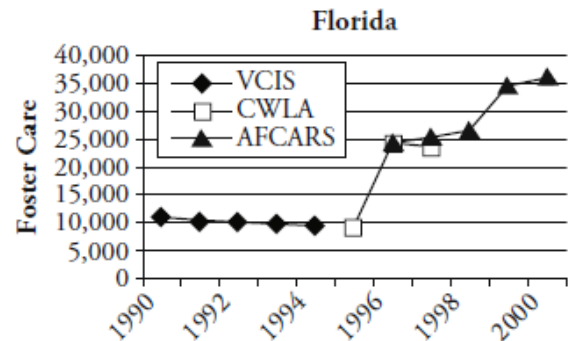
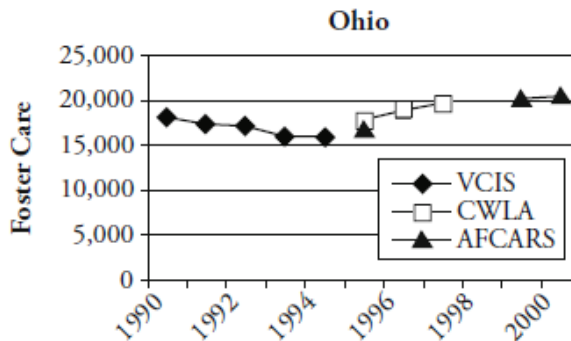
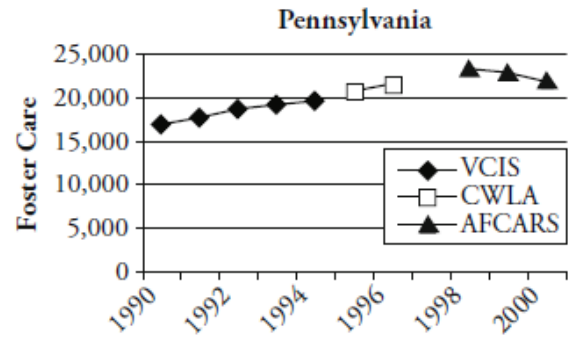
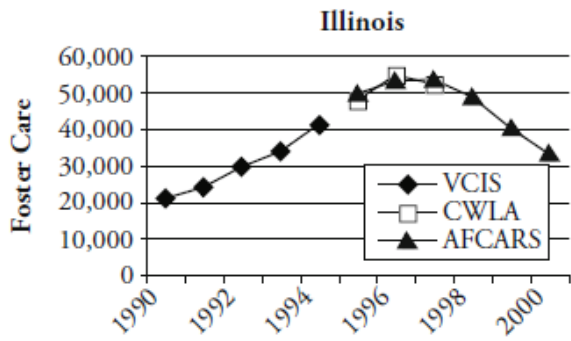
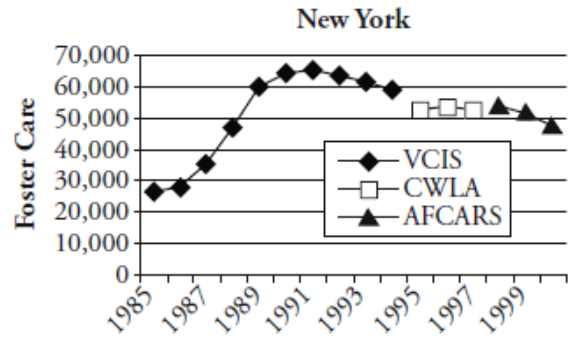
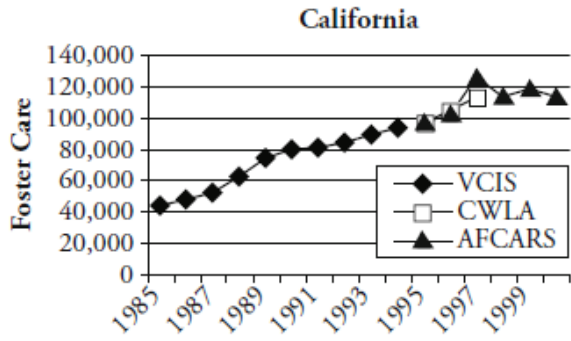
<sup>a</sup>Data from 1982-1996 were made available courtesy of Rebecca Blank.

**Appendix Table A2.** Estimates of the Determinants of Log Foster Care Caseload Rates With and Without Weighting

Variable	With Correction				Without Correction, With Weighting	
	With Weighting		Without Weighting		Coefficient	SE
	Coefficient	SE	Coefficient	SE		
State Characteristics						
Unemployment rate	-0.016	0.015	-0.013	0.013	-0.012	0.012
Log Monthly AFDC/TANF payment	0.225 <sup>†</sup>	0.133	-0.342*	0.133	-0.243 <sup>†</sup>	0.126
AFDC/TANF recipients	-0.023	0.020	-0.028	0.020	-0.019	0.016
Family cap	-0.024	0.045	-0.013	0.040	-0.025	0.037
Violent crime	0.0003*	0.0001	0.0002*	0.0001	0.0003*	0.0001
Female incarcerations	0.006*	0.001	0.004*	0.001	0.005*	0.001
AIDS cases	0.002	0.003	0.002	0.003	0.002	0.003
AIDS cases × Year ≥ 1996	-0.001	0.002	0.000	0.002	-0.001	0.002
State house is Republican	-0.040	0.034	-0.053	0.036	-0.036	0.031
State senate is Republican	0.091*	0.039	0.098*	0.036	0.092*	0.037
Governor is Republican	-0.040*	0.018	-0.035 <sup>†</sup>	0.019	-0.037*	0.016
Child Characteristics						
Working mother	0.535	0.341	0.411	0.324	0.400 <sup>†</sup>	0.241
Absent father	-2.257	1.518	-1.662 <sup>†</sup>	0.919	-1.160*	0.373
Urban	0.137	0.216	0.135	0.188	0.139	0.165
Non-Hispanic black	1.562 <sup>†</sup>	0.832	1.281	0.818	0.826 <sup>†</sup>	0.455
Hispanic	0.191	0.881	-0.401	0.755	0.203	0.452
Other race	0.483	1.543	0.469	1.347	0.265	0.758
Real family income	0.006	0.025	0.008	0.016	0.007	0.006
Below 75% of poverty	1.572	1.852	1.608	1.376	1.018*	0.507
Number of Observations	778		778		778	

Note: Although not reported, all models include state and year effects.

<sup>†</sup>  $p < .10$ ; \* $p < .05$



Appendix Figure A1. Data Sources for the Six Highest Foster Care States