The Impact of Cost-Recovery Child Support Orders on Foster Care Trajectories[a]

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Background and policy relevance. Many public policies and programs in the United States aim to support children and families, and some policies enforce standards related to parents' economic and caregiving responsibilities for children. This study examines interactions between the two systems that arguably play the largest role in regulating parents' behaviors toward children: the child support (Title IV-D) and child welfare (Title IV-E) systems. While these systems are generally thought to function independently, we find that their interaction vis-à-vis cost-recovery child support orders when children are in foster care has serious consequences for children, their families, and taxpayers. Specifically, we examine the impact of cost-recovery child support orders, such that child welfare agencies require a child's custodial parent (primarily mother) and/or noncustodial parent (primarily father) to reimburse the state to offset their children's foster care costs, on foster care trajectories. We find that having a cost-recovery child support order in place substantially lengthens children's time in foster care, decreases their chances of reunifying with their families, and increases their chances of having their parents' rights terminated. Given that the child support collected is a small fraction of the costs of foster care, even putting aside the costs of collection, cost-recovery orders increase net government expenditures. As such, this research has direct implications for policy efforts to align the child welfare and child support systems to better support families, as proposed by recent federal guidance, which advises limiting cost-recovery child support orders to rare occasions. Despite this guidance, however, few state and county jurisdictions have adjusted their policies to date.

Data and methodology. Using data from the Wisconsin Administrative Data Core (WADC) spanning 2004 to 2019, the study examines variation in children's foster care trajectories three-to-five years post-removal as a function of whether their mother and/or father was assigned a cost-recovery child support order. To produce causal estimates, the study employs an instrumental variables strategy that exploits substantial annual variation—ranging from 0% to 100%—in the proportion of foster care cases subject to cost-recovery orders across Wisconsin counties. Notably, this variation is uncorrelated with county demographics or child protective services caseloads, suggesting that it reflects county-specific practices. Outcomes include duration of foster care episode (among those who exit care), family reunification, and termination of parental rights.[d]

Key findings. Results from instrumental variables regressions indicate that:
- *Cost-recovery child support order establishment—for either the (custodial) mother or (noncustodial) father—approximately <u>doubles the number of months children spend in foster care</u> prior to exit.* Specifically, establishing a mother- or father-to-government cost-recovery order

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[d] Termination of parental rights results in the child either becoming a 'ward of the state,' or in the child exiting the child welfare system to another 'permanent' placement, such as adoption or permanent guardianship.

increases the average duration of children's foster care episodes from 15 months to 28-30 months (among children who exit foster care within 36 and 60 months).

- ***Cost-recovery child support order establishment both <u>substantially decreases the likelihood that children will achieve reunification</u> within 60 months of foster care entry and <u>substantially delays reunification</u>.*** On average, mother-to-government cost-recovery order establishment decreases the likelihood of reunification within 12, 36, and 60 months of foster care entry, respectively, from 48% to 7% (an 85% decrease), 61% to 35% (a 43% decrease), and 66% to 43% (a 35% decrease). Similarly, father-to-government cost-recovery order establishment decreases the likelihood of reunification within 12, 36, and 60 months, respectively, from 48% to 10% (a 79% decrease), 61% to 36% (a 41% decrease), and 66% to 41% (a 38% decrease).
- ***Cost-recovery child support order establishment <u>markedly increases the likelihood that children will experience termination of parental rights</u> within 60 months of foster care entry.*** Results indicate that mother-to-government cost-recovery order establishment increases the likelihood of termination of parental rights within 36 and 60 months of foster care entry, respectively, from 6% to 10% (a 67% increase) and 10% to 23% (a 130% increase); father-to-government cost-recovery order establishment increases termination of parental rights in these period from 6% to 8% (a 33% increase) and 10% to 19% (a 90% increase).

Summary of Primary Instrumental Variables Regression Results: Length of episode, % reunified, and % parental rights terminated
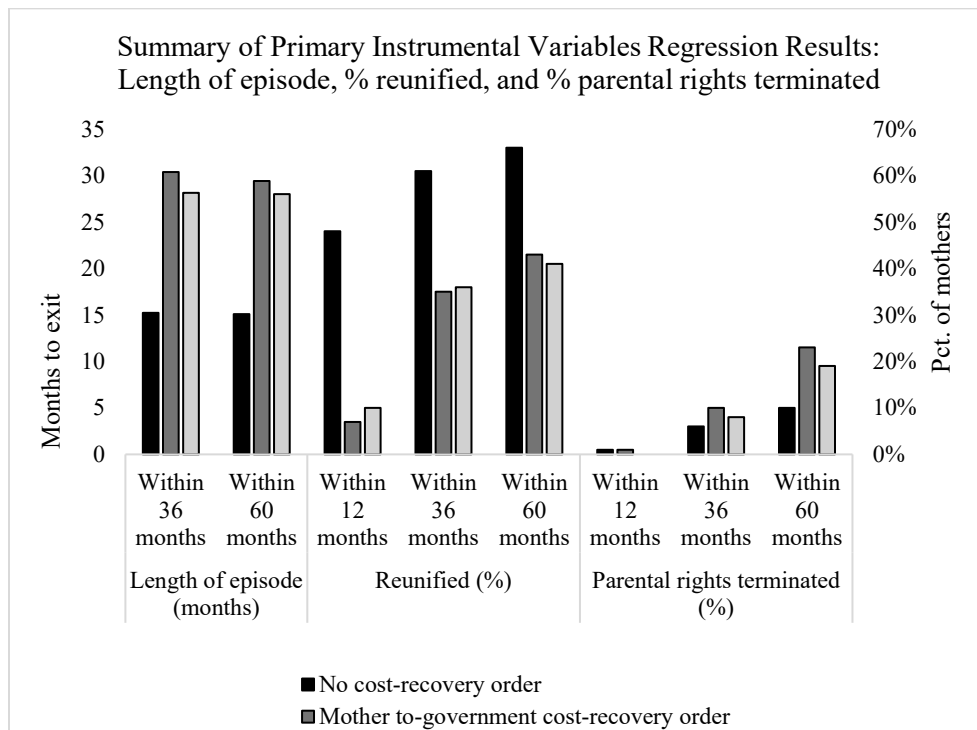
On the whole, these results indicate that placing financial demands on parents with children in foster care has a profound negative influence—increasing the length of time children spend in care, delaying or denying family reunification, and increasing the likelihood that their parent's rights are terminated. As such, they raise concerns about the efficacy and fairness of such cost-recovery practices, as well as whether they are in the 'best interests' of children experiencing foster care.

Conclusion and policy implications. Study findings affirm that cost-recovery child support orders substantially delay foster care exits and family reunifications and increase terminations of parental rights. These outcomes stand in contrast to the best interests of children and families, agencies, and taxpayers. They therefore lend support to recent federal guidelines to curtail such orders.

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Abstract

Many public policies and programs in the United States aim to support children and families, and some policies enforce standards related to parents' economic and caregiving responsibilities for children. This study examines interactions between the two systems that arguably play the largest role in regulating parents' behaviors toward children: the child support and child welfare systems. Using data from the Wisconsin Administrative Data Core (WADC) spanning 2004 to 2019, we examine variation in children's foster care trajectories three-to-five years post-removal as a function of whether their mothers and/or fathers were assigned cost-recovery child support orders to reimburse the state to offset their foster care costs. To produce causal estimates, we employ an instrumental variables strategy that exploits substantial within- and between-county variation in the proportion of foster care cases subject to cost-recovery orders across Wisconsin counties over a 12 year period. Notably, this variation is uncorrelated with county demographics or child protective services caseloads, suggesting that it reflects county-specific practices. We find that having a cost-recovery child support order in place substantially lengthens children's time in foster care, decreases their chances of reunifying with their families, and increases their chances of having their parents' rights terminated. Given that the child support collected is a small fraction of the costs of foster care, even putting aside the costs of collection, cost-recovery orders increase net government expenditures. As such, this research has direct implications for policy efforts to align the child welfare and child support systems to better support families, as proposed by recent federal guidance, which advises limiting cost-recovery child support orders to rare occasions. Despite this guidance, however, few state and county jurisdictions have adjusted their policies to date.

Introduction

Many public policies and programs in the U.S. aim to support children and families—from public education to tax benefits to means-tested income, health, and nutritional support. Some public systems directly enforce standards related to parents' economic and caregiving responsibilities for their children. We analyze the interactions of the two systems that arguably play the largest role in regulating parents' interactions with their children in the U.S.: the child support and child welfare systems. While these systems generally function independently, and are often uncoordinated, we show that their interactions can have serious consequences for children and families, and for taxpayers. Specifically, using the child support system to charge parents for the costs of foster care substantially lengthens children's time in foster care, adding to government costs. Recent innovations in federal guidance and state policy and practice suggest the potential for major reform and highlight the importance of research in informing systems change.

The child support and child welfare systems are arguably designed to protect and support children and families, though some critics of each system have highlighted negative consequences of their interventions and have called for major reforms or even abolition (Dettlaff et al., 2020; Edin et al., 2019; Roberts, 2022). The child support program regulates and enforces expectations for the provision of economic support by parents who live apart from their children, typically due to divorce or nonmarital birth, by providing guidelines for the amount of child support ordered and, often, transferring payments from noncustodial to custodial parents. A majority of U.S. children will live apart from at least one parent and most will be eligible for child support services at some time before they reach adulthood (Andersson et al., 2017). There were over 12 million children served by the program in FY2022 (OCSS, n.d.).

The child welfare system aims to protect children from abuse and neglect. Over 1 in 3 children are the subject of an investigation by child protective services (CPS) before their 18th birthday (Kim et al., 2017). In 2022 over 3 million children were investigated or received an alternative response, of which 558,899 children were substantiated as victims of child abuse or neglect (7.7 per 1,000), and 145,449 children were removed from their home and placed into foster care at an estimated lifetime cost as high as $592 billion per annual caseload (Fang et al., 2012; Klika et al., 2020; Children' Bureau, 2024).

These two systems directly intervene in relationships among children and their parents and/or primary caregivers, and many families are impacted by both systems. But their rules and administrative and financial structures are not well coordinated nor designed to account for these interactions, and there is remarkably little causal evidence documenting the effect of dual systems involvement on child and family wellbeing. On the one hand, child support payments transferred to custodial parents *increase* the resources available to them to care for their children, and robust evidence suggests that they reduce child welfare involvement (Cancian et al., 2013), as would be expected given the strong link between income and child welfare involvement (Skinner et al., 2023). On the other hand, when children are placed in foster care, state governments can collect child support to partially recover foster care costs. This practice mechanically *reduces* the resources available to the foster child's family of origin, likely inhibiting their ability to meet the standards of providing a safe home environment for the child necessary for reunification. In this study, we estimate the impact of such 'cost-recovery' efforts made through the child support system on children's foster care trajectories. Our results illustrate the importance of considering system interactions in evaluating policy and initiating system and practice reform.

Policy Background

Though the 1980 Adoption Assistance and Child Welfare Act (P.L. 96-272) that

established Title IV-E of the Social Security Act (initially established under IV-A, 1961), states

are entitled to Federal reimbursement of up to 50% of the costs associated with investigation and

foster care placement for eligible children, with the remaining costs shouldered by state and,

sometimes, local governments.[1] The Child Support system (Title IV-D of the Social Security Act,

1975) was created in part to recover costs associated with cash income support (cash welfare,

then Aid to Families with Dependent Children; AFDC) that was viewed as replacing financial

support that should be provided by the nonresident parent. The elimination of AFDC and other

program changes have reduced the scope of cost-recovery efforts within the child support

program. The Child Support Enforcement program netted more than $29 billion in child support

in 2022 (OCSS, n.d.), of which 97% was distributed directly to families.

Later stipulations under a 1984 amendment to Title IV-D (§471(a)(17); P.L. 98-378 also

known as the "Child Support Enforcement Amendments of 1984"), required state officials to

recoup foster care costs for children receiving Foster Care Maintenance Payments under Title IV-

E by reassigning existing child support orders from the noncustodial parent to the (pre-

placement) custodial parent to the state and/or assigning new child support orders from the (pre-

placement) custodial parent to the state, comprising what we refer to throughout as cost-recovery

orders. In other words, for a child originally living with their mother, eligible for child support

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[1] Under Title IV-E of the Social Security Act, states are eligible for federal reimbursement of up to 50% of the costs associated with foster care on behalf of children whose custodial parent's income fell below the (historical) Aid to Families with Dependent Children standard in the month prior to their removal (~185% of the federal poverty level), as implemented in 1996 under the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). These reimbursements, known as Foster Care Maintenance Payments, cover the costs of screening, eligibility determination, and child placement, case management, and permanency planning. Other training and administration costs are reimbursed at a higher rate, up to 75%. The non-reimbursed balance, as well as associated costs for children from higher-earning families, is funded directly by the state.

ordered from their father, foster care placement could trigger the transfer of the father's order, and/or establishment of an order for the mother, to pay child support to the state While states were required to "take all steps, where appropriate" to issue cost-recovery orders for Title IV-E children,[2] discussion with policy and practice experts across numerous jurisdictions suggests that there is wide variation in cost-recovery order practices across jurisdictions. Some issue child support orders for all IV-E cases, some for all foster care children, and some issue child support orders on a case-by-case basis (Azevedo-McCaffrey, 2022; Hager & Shapiro, 2021; Shifting Federal Guidance on Mandatory Child Support Orders, 2024).[3]

Given that most families who are involved with Title IV-E public child welfare agencies are low-income or poor (Berger & Waldfogel, 2011; Howard et al., 2013; Pac et al., 2023), assigning child support orders for parents to reimburse the government for children in foster care may be particularly problematic. Child support accounts for almost a third of household income among (pre-child support transfer) poor families who receive support; moreover, child support income has been shown to contribute to stable housing, utilities, food, transportation, and clothing for children (Cancian et al., 2024, Sorensen, 2016, Turetsky & Azevedo-McCaffrey, 2024). Lost child support income when children are in foster care cannot easily be replaced by cash assistance or in-kind benefits, such as housing subsidies, transportation support, and food assistance, for which eligibility and/or benefit size depends on the number of dependent custodial children of the potential beneficiary. In fact, upon removal of children from a parent's household,

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[2] State-funded (non-IV-E) foster care cases are not eligible for IV-D services in support of cost recovery—though some states may nonetheless pursue such orders through the IV-D system. Moreover, the child welfare agency may apply for child support services from the IV-D system on behalf of the child in state-funded cases, with associated child support distributions used paid to foster parents (42 U.S.C. § 657(e)(2)).

[3] States can recoup non-reimbursable foster care costs through a variety of other means as well, such as withholding SSI or SSDI disability payments and deceased or incarcerated parent's pensions and intercepting these and other federal benefits on behalf of the child (see e.g. Hager and Shapiro, 2021).

the parent may lose eligibility for benefits or experience reductions in benefit size for many social welfare programs. As such, parents who were experiencing financial precarity prior to their child(ren)'s placement in foster care may be even less likely to reunify with their children when cost-recovery orders are in place because they lack the economic resources to ensure a safe and stable home to which children can return. A previous study with more limited data found cost-recovery child support orders assigned from mothers (who are the custodial parent of the vast majority of children pre-placement) to government result in longer foster care stays, likely because they reduce the financial resources needed for reunification, such as safe, stable housing and transportation (Cancian et al., 2017).

Understanding the impact of cost-recovery child support orders on child welfare trajectories is particularly salient given recent Federal guidance from the US Department of Health and Human Services (HHS) Administration for Children & Families that encouraged states to discontinue cost-recovery actions (Children's Bureau, June 8, 2022; addressed in a joint letter from the OCSE Commissioner and the Children's Bureau Associate Commissioner, Schomburg & Gray, 2022). Despite this guidance, which "encourages child welfare agencies to implement across-the-board policies that require an assignment of the rights to child support for children who receive Title IV-E FCMPs [Foster Care Maintenance Payments] only in very rare circumstances," most jurisdictions that have pursued cost recovery continue to do so. Child support distributions on foster care cases accounted for a reported $78.7 million—less than 0.3% of all distributed collections (authors' calculations from Tables P-4 and P-12; OCSS, 2023)—in 2022, and recovered only a small fraction of all child welfare costs. Nonetheless, state and local governments may have an understandable reluctance to forgo an established source of funding; recovered child welfare costs may be seen as an important source of funds for some child welfare

systems, despite that analyses of child support collections suggest that pursuing such orders is not cost effective for the child support system (Dalby, 2020; Washington's Cost Effectiveness for Foster Care Child Support Cases, 2019).

In this paper, we analyze data from Wisconsin, for which the child welfare program is state-supervised but county-operated. As such, counties are given a great deal of autonomy in interpreting state statutes and setting their policies and practices. Specifically, counties independently decide whether to refer families to child support enforcement for cost recovery when a child is in foster care. Child support actions may include reassigning to government an existing order in which the noncustodial parent provides child support to the custodial parent, or establishing a new order, such that the government retains (for cost recovery) the noncustodial parent's payments, and/or initiating a new order, such that the (pre-foster care placement) custodial parent owes child support to government to partially reimburse its foster care expenditures. As we discuss below, we use variation in county practice to identify the impact of cost recovery orders on children's foster care trajectories.

A growing body of evidence indicates that, in general, increased income reduces a family's likelihood of becoming involved with CPS (see review in Pac et al., 2023), and there is evidence that child support income received by custodial parents, in particular, reduces risk of child welfare involvement (Cancian et al., 2013). Looking specifically at cost recovery for foster care, results from an earlier study, using more limited data, addressing a narrower set of outcomes, and focusing only on orders from mothers to government (Cancian et al., 2017), suggest that such orders result in longer foster care spells and delays in permanency. We build on that work, with a much longer and more recent period of observation, considering a both a

broader set of outcomes and cost-recovery orders assigned to mothers and fathers, and using improved analytic techniques.

Data

We employ data from the Wisconsin Administrative Data Core (WADC), a composite of linked administrative data systems encompassing Wisconsin's child welfare system, Child Support Enforcement system, and data capturing benefits from Temporary Assistance for Needy Families (TANF), Social Security Disability Insurance (SSDI), and Supplemental Security Insurance (SSI) programs, and earnings records from the Unemployment Insurance system, among other systems. Our study sample originates from child welfare system data and is augmented with data from the child support system. Additionally, we use earnings and program participation data.

Our unit of analysis is Wisconsin mothers with at least one child placed into foster care for the first time during the study observation period, spanning July 2005 to June 2016, whom we follow for 3 to 5 years after their child's removal, through June 2019. Our base sample consists of mothers who were their child(ren)'s custodial parent in the month before their foster care placement, who had at least one child aged 14 or younger at the time of removal and whose cases were not closed for reasons other than placement exit (e.g., the child ran away or died) (13,784 mothers). We exclude from the sample the 77 mothers for whom we could not identify in the WADC at least one father of any of their children (leaving 13,707 mothers) and the 252 for whom we could not identify a county of residence in the month before their child(ren)'s foster care placement (leaving 13,455 mothers). Our sample sizes for mothers observed for 36-, 48-, and 60-months post child removal are 13,455, 12,363, and 11,215, respectively.

A mother's entry into the sample begins when any of her children are placed in foster care. The period ends when all of her children who have been in foster care have exited care, signifying the end of any placements for any of her children, regardless of whether some or all children were reunified, adopted, or placed in other permanent arrangement. Our focus on periods involving temporary foster care placements is informed by federal and state guidelines allowing cost-recovery child support orders to recoup some foster care expenses.

Our primary outcomes capture several policy-relevant dimensions of foster care trajectories for children and their mothers. We define our outcomes as follows:

a) Episode length: The number of months between when any children are removed from their mother's custody for the first time during the July 2005 to June 2016 observation period and when any children either achieve permanency or exit foster care to a non-permanent setting.

b) Reunification: Any of the mother's children exited foster care by being reunified with their mother.

c) Termination of parental rights (TPR): Parental rights were severed for any of the mother's children, making the child a 'ward of the state.'

Our primary predictors of interest (treatments) are binary indicators that a cost-recovery child support order was assigned from the mother to government and from the father to government to 'recover' foster care costs. In all models, we include a range of covariates to account for differences in permanency and reunification risk due to parental characteristics. These include the mother's race and ethnicity, mother's age, father's age (oldest of any of her children's fathers), oldest sibling's age, number of children in the household, mother's and highest-earning father's earnings (this father may differ from the father for whom we select for

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father's age), and whether the mother received TANF, SSI, SSDI and child support in the year prior to the removal. Additionally, we account for county-level practice differences and economic factors by including as controls the county-level CPS report substantiation rate in the year of removal and the county-level unemployment rate in the year prior to the removal. All models also control for county- and year-of-removal fixed effects to account for unobserved county- and year-specific factors. All dollar amounts are adjusted for inflation using the CPI-U2019.

Methods

A key challenge to estimating the causal effect of foster care cost-recovery child support orders on children's foster care trajectories is that such orders might be endogenous, such that they are related to unobserved characteristics of the family, case, or county agency that are also related to foster care trajectories. For example, counties might pursue orders only when children are expected to be placed for a long period or might use such orders as punitive actions for specific types of cases, such as those involving substance abuse. They may also reflect other factors that are correlated with cost-recovery actions and family CPS trajectories, such as county resources. Estimating the causal effect of cost-recovery orders on foster care trajectories necessitates purging such county-, case-, and family-level sources of bias that are unobserved in our data. We therefore employ a two-stage instrumental variables (IV) strategy in which we instrument (predict) the probability that a mother and/or father receives a cost-recovery child support order based on the county-year proportion of foster care cases that received such orders in the previous year. In the first stage, we predict the mother's and/or father's likelihood of receiving a cost-recovery order with the general estimating equation:

$$(1)\ Order_{ict} = \theta + X_{ict}\vartheta + Z_{c(t-1)}\gamma + \zeta_t + \eta_c + \epsilon_{ict}$$

where $Order_{ict}$ is an indicator that mother and/or father i in county c with a child removed in year t received a cost-recovery order, and is estimated as a function of the instrumental variable, $Z_{c(t-1)}$, the lagged proportion of foster care cases with such orders in place in the county, a vector of covariates X_{ict}, a vector of time-invariant county fixed effects τ_c to account for differences in agency practices that are associated with order assignment and permanency timing, and a vector of year-of-removal fixed effects ρ_t to account for macroeconomic trends, child welfare trends, and other factors that may have driven removal or placement decisions over time, with an error term μ_{ict}.

In the second stage, we use the estimating equation:

$$(2) \ Perm_{ict} = \alpha + \widehat{Order}_{ict}\delta + X_{ict}\beta + \rho_t + \tau_c + \mu_{ict}$$

where $Perm_{ict}$ is a permanency outcome (length of episode, reunification, or termination of parental rights) for mother i in time t, and $\widehat{Order}_{ict}$ is predicted under equation (1) above. We estimate three versions of these equations: (1) where mother-to-government orders are predicted using the one-year lagged county-year mother-to-government order rate and the predicted (instrumented) probability is subsequently used to estimate the causal effect of a mother-to-government order on the foster care outcomes; (2) where father-to-government orders are predicted using the one-year lagged county-year father-to-government order rate and the predicted (instrumented) probability is subsequently used to estimate the causal effect of a father-to-government order on the foster care outcomes; and (3) where mother-to-government and father-to-government orders are simultaneously predicted using both the one-year lagged county-year mother-to-government order rate and the one-year lagged county-year father-to-government order rate, and the predicted (instrumented) probabilities of both are subsequently used to simultaneously estimate the causal effect of both types of orders on foster care outcomes.

This approach remediates any bias in the effect of cost-recovery orders on foster care trajectories, conditional upon our instrumental variable, $Z_{c(t-1)}$ meeting several key assumptions that we discuss in detail below. We interpret our coefficient of interest, δ, as the Local Average Treatment Effect (LATE), or the average effect of cost-recovery orders on compliers, defined as mothers for whom cost recovery orders were put in place due to county-level variation in cost-recovery practice (Angrist & Imbens, 1994).

The first key assumption for causal interpretation in the IV framework is that the instrument is relevant; that is, that the lagged county-level cost-recovery order probability is strongly associated with an increased risk of having a cost-recovery order. We formally assess this assumption using the first estimating equation (1) in which we regress cost-recovery order assignment, $Order_{ict}$, on our instrumental variable(s), Z_{ct-1}. The F-statistics for excluded instruments in the first stage are 175 or greater in all models (see Tables 4 and 5), indicating that our instruments are strong and relevant compared to the minimally acceptable F-statistic threshold of 10 (Stock et al., 2002). Figures 1 and 2 further demonstrate that our identifying variation captures that in cost-recovery practices between counties and over time. Notably, county-year variation in mother-to-government cost-recovery orders span from 0 to 100 percent, with cost-recovery orders assigned for up to 9.1 percent of cases in the first quartile, versus 39 to 100 percent in the fourth quartile. Additionally, father-to-government cost-recovery orders span from 0 to 100 percent, with orders assigned for up to 30.6 percent of cases in the first quartile, versus 51 to 100 percent in the fourth quartile.

The second key assumption for causal interpretation is that the instrument is as good-as-random. In other words, we should not find evidence of selection into counties based on their cost-recovery order probability. We assert that this assumption is met because counties do not

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track nor publish statistics on their cost-recovery practices. We nonetheless minimize this concern by limiting our sample to mothers whose children are removed for the first time during the observation period, eliminating the possibility that previous placements or interactions with CPS workers during the period promulgated cost recovery orders. Moreover, we lag the instrument by one year to ensure both that a mother's cost-recovery order risk is orthogonal to county-level order tendency and that her own cost-recovery order status is not correlated with the instrument. We provide empirical support for this assumption by examining associations among family characteristics, cost recovery orders, and lagged county-year cost recovery rates. Results from regressions of the instruments on cost-recovery order status and the covariates demonstrate that, whereas having a cost-recovery order in place is highly correlated with the corresponding instrument, none of the family characteristics are significantly associated with the instruments, with the sole exception that the father not having an SSN available in the WADC is negatively associated with the lagged county-year father-to-government cost recovery rate (see Appendix Table A1). In contrast, results from regressions of cost-recovery orders on the covariates indicate that several family characteristics are associated with the likelihood that a family receives a cost-recovery order (see Appendix Table A2). Together, these results provide evidence that our instrument, which is highly correlated with having a cost-recovery order in place but not with family characteristics, is sufficiently random. In addition, the results in Appendix Table A3 demonstrate that several family characteristics are associated with children's foster care trajectories, including months in care, likelihood of reunification, and likelihood of experiencing termination of parental rights.

It is also possible that cost-recovery orders are used to penalize parents who are not fulfilling their child welfare treatment plans. Such selection into cost-recovery orders has the

potential to bias our estimates. If this were the case, we would expect cost-recovery orders to disproportionately occur for mothers with children experiencing relatively long foster care episodes and, more generally, to increase over time during the placement episode. However, as shown in Appendix Table A4 and Appendix Figure A1, cost-recovery orders are assigned throughout placement episodes and tend to be assigned relatively early therein, with 56.2% of mother-to-government orders and 75.6% of father-to-government orders being assigned in the first six months of placement, and 82.8% and 89.4%, respectively, being assigned in the first year of placement.

Third, the "exclusion restriction" requires that the instrument, the lagged county cost-recovery order rate, must only affect foster care outcomes through receipt of a cost-recovery order. If, for example, high-probability cost-recovery counties are more likely than low-probability counties to deter reunification or permanency for other reasons, such as ordering parents to participate in interventions that take substantial time to complete, then the exclusion restriction would be violated. While our data offer a rich set of controls, we do not observe the day-to-day practices of the county child welfare and child support agencies that produce our identifying variation. To some extent, the inclusion of county- and year-fixed effects help to guard against such sources of bias. In addition, the distribution of error terms in the first-stage regression, shown in Figure 3, is normally distributed for father-to-government orders, indicating that the other determinants of permanency outcomes are likely random. Although the distribution is somewhat skewed for mother-to-government orders, mother-to-government orders are less common than father-to-government orders. Notably, our results for mother-to-government orders are nearly identical to those for father-to-government orders.

Finally, the monotonicity assumption asserts that if a county with a high cost-recovery order probability is more likely to assign cost-recovery orders than a low-probability county, then all of the mothers for whom cost-recovery orders are issued in the low-probability county would have also received cost-recovery orders in the high-probability county, were they to live there (Angrist & Imbens, 1994). This is conceptually feasible given that our instrument is lagged and relevant. In addition, our first-stage models consistently produce large positive coefficients for the instruments and large and significant F-statistics across a wide range of demographically defined subsamples (see Appendix Table A5), indicating that, in all samples and specifications, living in a high-cost-recovery order county is strongly predictive of receiving an order and, thereby, providing evidence that the monotonicity assumption is met (Frandsen et al., 2023). Conditional on parental and county characteristics, our resulting estimates can therefore be interpreted as the causal effect of receiving a child support cost-recovery order on foster care trajectories.

Results

Descriptive statistics

Child support orders and payments. Panel A of Table 1 presents descriptive statistics for child support orders from fathers to mothers, fathers to government, and mothers to government in the month prior to foster care placement and during placement. In the month prior to having a child placed in foster care, 43.5% of mothers had an order in place for the father to pay them child support and a small fraction had an order in place for the father (4.0%) or them (2.1%) to pay foster care cost-recovery child support to the state, presumably from a foster care spell prior to July 2005. During at least one month of the foster care episode, 52.0% of mothers had father-to-mother orders, 41.1% had father-to-government orders, 26.7% had mother-to-government

orders, and 20.8% had both a mother-to-government and father-to-government order in place. In the month prior to permanency, these figures were 29.0%, 28.1%, 17.9%, and 12.5%, respectively. Among mothers with such orders, the order was in place, on average, for 60.6%, 69.9%, 59.7%, and 54.9% of the months during which children were in care. Orders from fathers to mothers were larger than those from fathers or mothers to government, both prior to and during the placement episode. For example, among those with orders in place, mean orders from fathers to mothers, fathers to government, mothers to government and both fathers and mothers to government, were $509, $271, $208, and $510 in the month prior to permanency.

Panel B of Table 1 shows descriptive statistics for child support payments by order type. The overall pattern is quite consistent with that for orders in that payments from fathers to mothers are most prevalent both prior to and during the foster care episode, followed by payments from fathers to government, payments from mothers to government, then payments from both fathers and mothers to government. It is also consistent with the pattern for orders in that mean payments from both parents to government and from fathers to mothers during the foster care episode are largest in magnitude, followed by payments from fathers to government, then payments from mothers to government.

Characteristics of families by child support order status. Table 2 presents descriptive statistics by family characteristics for the likelihood that each type of order was in place, the amount of the order, whether payments were made on the order, and the amount paid (if any) on the order, before and during foster care. On the whole, the estimates indicate that child support orders and payments from fathers to mothers are more common and largest among families with the highest-earning fathers and highest-earning mothers. In contrast, the likelihood of father-to government orders varies less by fathers' or mothers' earnings, and father-to-government order

amounts increase with fathers,' but less so with mothers' earnings. The likelihood of mother-to-government orders does not vary systematically with fathers' earnings, though the amount of such orders is somewhat higher for the highest earning mothers. Across all types, orders and payments are disproportionately more likely among families in which the mother has children with more than one father, but total order and payment amounts (among all fathers) are usually higher for families in which the mother has children with only one father. Finally, mothers who received TANF and child support are disproportionately likely to have each type of order and to have payments made from fathers to mothers and fathers to government on those orders; mother-to-government orders and payments are less likely for mothers who received SSDI and SSI. Orders from fathers-to-mothers, and from mothers-to-government, and payment amounts of all types, are highest for mothers who received child support prior to the foster care episode and lowest for those who received TANF and SSI and, to a lesser extent, SSDI prior to the episode.

Permanency outcomes by child support order status. Table 3 presents descriptive statistics for foster care episode length by child support order status. On average, placements were shortest in duration with no order in place (16.2 months) and with father-to-mother orders in place (21.2 months). By comparison, episodes averaged 28.9 months with father-to-government orders and 32.0 months with mother-to-government orders in place. This general pattern holds for the time-to-reunification indicators for whether any of a mother's children reunified with her. That is, reunification with the mother is more likely to occur, and occurs more quickly with no order in place or a father-to-mother order in place. In contrast, reunification is less likely to occur, and occurs less quickly, with father-to-government or mother-to-government orders in place. Termination of parental rights is rare in the first 12 months—though most common among those with no order. As children spend longer durations in care, however,

termination of parental rights becomes more common with father-to-government and, especially, mother-to-government orders in place than with no order or a father-to-mother order in place.

Instrumental variables regression results

Time to foster care exit. Table 4 presents second-stage estimates from IV regressions for the effect of having a mother-to-government and father-to-government cost-recovery child support order in place on the length of time children spend in foster care among children who exited care during the relevant observation period. We use three samples for these analyses: children who entered care between 2005 and 2016 and exited care during the subsequent 36 months, those who entered care between 2005 and 2015 and exited care during the subsequent 48 months, and those who entered care between 2005 and 2014 and exited care during the subsequent 60 months.[4] For each observation period, we present results from three IV models, one examining only mother-to-government orders, one examining only father-to-government orders, and one simultaneously examining both mother- and father-to-government orders. First-stage F-statistics are large in magnitude in all models, with the lowest F-statistic of 174.79 far exceeding the minimum of 10 (Stock et al., 2002). The coefficient estimates are interpreted as the increase in foster care duration (in months) resulting from a family being assigned a cost-recovery child support order. Dividing the regression coefficient by the average number of months spent by the control group, those without a cost-recovery child support order, in foster care produces the proportional increase in duration in care.

Our estimates indicate that having a mother- and/or father-to-government order in place substantially increases the length of time children spend in care. Without accounting for whether

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[4] First-stage results are presented in Appendix Table A6. Appendix Table A7 shows the full set of second-stage results.

a cost-recovery order is also assigned to the other parent, we find that having a mother-to-government order increases the length of the foster care by 15.2 months (100%), 13.8 months (91.4%), and 14.3 months (94.7%) for those who exited foster care within each of the 36-month, 48-month, and 60-month observation samples, respectively, and that having a father-to-government order in place results in increases of 12.9 months (84.9%), 12.5 months (82.8%), and 12.9 months (85.4%). Accounting for whether an order has also been assigned to the other parent, we find increases in foster care duration of 11.5 months (75.7%), 10.1 months (66.9%), and 9.0 months (59.6%) resulting from mother-to-government orders and of 6.8 months (44.7%), 7.1 months (47.0%), and 6.9 months (45.7%) resulting from father-to-government orders.[5]

Probability of reunification and termination of parental rights. Table 5 presents second-stage results from linear probability IV regressions estimating the likelihood that children reunify and experience termination of parental rights within 12, 24, 36, 48, and 60 months, as a function of whether a cost recovery order is in place.[6] Again, the first-stage F-statistics are extremely large in magnitude. The estimates are interpreted as the percentage point difference in the probability of achieving permanency or experiencing termination of parental rights that is associated with a one percentage point increase in the probability that an order is in place in the relevant period.

Overall, these results indicate that having a mother-to-government and/or father-to-government cost-recovery order in place substantially reduces the likelihood that any of a mother's children reunify in each period (columns 1-3 of Table 5). Furthermore, the pattern of

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[5] In supplemental analyses, we also estimated IV models that considered whether mother-to-government, father-to-government, and both parents-to-government orders were in place. Results, shown in Appendix Table A8, are consistent with those from our primary models and the interaction term (cost-recovery orders in place for both parents) is never statistically significant, indicating that both parents having such an order has no additional impact on foster care duration beyond that of each parent's order.
[6] First-stage results are presented in Appendix Table A9.

estimates indicates that these effects are particularly large with respect to reunification within 12 months and decrease in magnitude over time. For example, we find that having a mother-to-government child support order reduces the likelihood that any of a mother's children reunify within 12 months by 41 percentage points (Panel A) and the likelihood that any of her children reunify within 60 months by 23 percentage points (Panel E). Given that mothers with no order in place experience, on average, a 48% likelihood that any of their children will reunify within 12 months and a 66% likelihood that they will do so within 60 months, these estimates indicate that having a cost-recovery order in place reduces the likelihood of reunification within 12 and 60 months by 85.4% and 34.8%, respectively. Effect sizes for father-to-government orders are relatively similar in magnitude to those for mother-to-government orders.[7]

Turning to termination of parental rights shown in columns 4-6 in Table 5, we find that having a mother-to-government order in place substantially increases the probability that children experience termination of parental rights once they have been in care for 36 months or longer.[8] Specifically, we find that having a mother-to-government order increases the likelihood of termination of parental rights by 4-5 percentage points (66.7-83.3%) by 36 months, 9-11 percentage points (100.0-122.2%) by 48 months, and 11-13 percentage points (110.0-130.0%) by 60 months.

Robustness tests. We conducted two supplemental analyses to test the robustness of our results. First, to ensure that the cost-recovery child support orders preceded foster care trajectories, rather than longer durations in foster care leading to a higher probability of cost-

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[7] In supplemental analyses, we also estimated IV models that considered whether mother-to-government, father-to-government, and both parents-to-government orders were in place. Results, shown in Appendix Table A10, are consistent with those from our primary models.

[8] We also find a significant positive effect for mother-to-government orders at 24 months in model 3, which accounts for whether a father-to-government order is in place.

recovery order assignment (e.g. to rule out reverse causality), we limited our sample to mothers for whom orders were assigned within the first six months of the foster care episode. Results presented in Appendix Table A11 are consistent with those from our primary models. Second, we tested whether our results are robust for mothers who had only one child and that child was placed in foster care, had multiple children and all their children were placed in care, and had multiple children and only some of them were placed. Notably, the sample sizes for these subgroups are substantially smaller than those of our primary analyses and, accordingly, the effects are less precisely estimated in some models. However, the overall pattern of results, presented in Appendix Table A12, is consistent with our primary models.

Discussion and conclusions

Recent federal guidance calls for eliminating cost recovery orders for families of IV-E eligible children in foster care, with rare exception. A small number of states and other jurisdictions quickly responded, with changes in law or regulation in California, Colorado, Michigan, Montana, North Dakota, Oregon, Washington, and the cities of New York and Philadelphia.[9] But a recent survey of child welfare and child support practitioners highlights a range of challenges to reform, including policy and practice design, changing regulations or rules, and modifying IT systems (Child Support Engagement for Child Welfare Involved Families: State Policy Landscape- Survey Results, 2023).[10] Notably, 83% of child welfare affiliated respondents and 75% of child support affiliated respondents cited budget impacts as a barrier to reform.

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[9] In addition to these changes following the new guidance, the Families Not Fees website reports that 7 states had previously taken steps to limit child support referrals on foster care cases (Arizona, Florida, Indiana, Nevada, New Mexico, Rhode Island, Vermont).

[10] The survey was a collaboration fielded by the American Public Human Services Association (APHSA), Casey Family Programs, and the Child Welfare League of America (CWLA). In total, 34 jurisdictions responded to the survey, with most respondents working in the child support and/or child welfare system.

Across the country, just $78.7 million was reported recovered and distributed to state

child welfare systems because of foster care cost-recovery orders in 2022; nonetheless, these

resource constrained systems are understandably reluctant to lose this revenue. However, our

results imply that the costs recovered are a very small fraction of the cost incurred due to longer

stays in foster care for those with orders, given that foster care is extremely expensive. For

reference, Wisconsin spends an approximately $191 million per year in state, local, and Federal

funds annually on foster care programming ($56 million in Federal funding and $135 million in

state and local funds).[11] We find that having a mother- and/or father-to-government order in

place substantially increases the length of time children spend in care—from 44.7% to 100.0%

depending on the timeframe considered and specification (Table 4). Further, we find that having

a mother-to-government and/or father-to-government cost-recovery order in place substantially

reduces the likelihood that any of a mother's children reunify in each period and substantially

increases the probability that children will experience termination of parental rights once they

have been in care for 36 months or longer.

In addition, in supplemental analyses, we find suggestive evidence of larger effects of

cost-recovery orders for families with lower incomes despite that cost recovery orders occur at a

roughly similar rate for families across the income distribution (see Appendix Table A13). This is

consistent with child support orders delaying reunification by reducing economic resources that

may be necessary to provide, for example, safe and stable housing, or other resources required

for reunification. Additional research should further explore evidence of heterogeneous effects

and consider this and other evidence regarding the mechanisms underlying the effect of child

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[11] A Child Trends report estimates that the state spent $191,510,685 in 2020 on foster care expenses on behalf of 11,434 children, or around $16,749 per child. When considering Federal funding alone, authors of a Casey Family Programs report estimate that Wisconsin spent $63,530,760 on behalf of 2,410 Title IV-E children in 2020 ($26,361 per child).

support orders on foster care trajectories. Future research examining in detail the costs and benefits of cost-recovery orders and, potentially, the elimination thereof is also warranted as we rely only on aggregate estimates of the general cost of foster care and reports of child support distributions in our assessment that such orders are not cost-effective vis-à-vis total collections relative to the cost of increased durations foster care. Relatedly, it is also important for future research to disentangle how costs and savings are distributed across systems (e.g., child support enforcement, TANF, and child welfare), and jurisdictions (Federal, State, and County), particularly outside of Wisconsin where cost-recovery orders are a common state-level practice, albeit with considerable variation across counties.

Our study provides evidence that eliminating child support orders for foster care cost recovery can reduce the length of foster care placement, increase reunification and time thereto, and reduce termination of parental rights. Doing so represents a cost saving strategy, given that foster care costs typically far exceed child support ordered and recovered (even putting aside collection costs and compliance issues). Moreover, reducing time to reunification can have benefits to children and families that extend well beyond financial considerations. Our results are consistent with widespread concerns that referring foster care cases to child support enforcement is contrary to the best interests of children and families, agencies, and taxpayers. Thus, our findings both support current federal guidance and highlight the value of additional analysis to inform policy and implementation efforts at the state and local levels.

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Tables and Figures
Figure 1. County variation in cost-recovery order rate, 2005-2016

Note. Author's calculations from the WADC.

Figure 2. Distribution of mothers by lagged county-year mother/father-to-government cost-recovery order rate. (2005-2016)
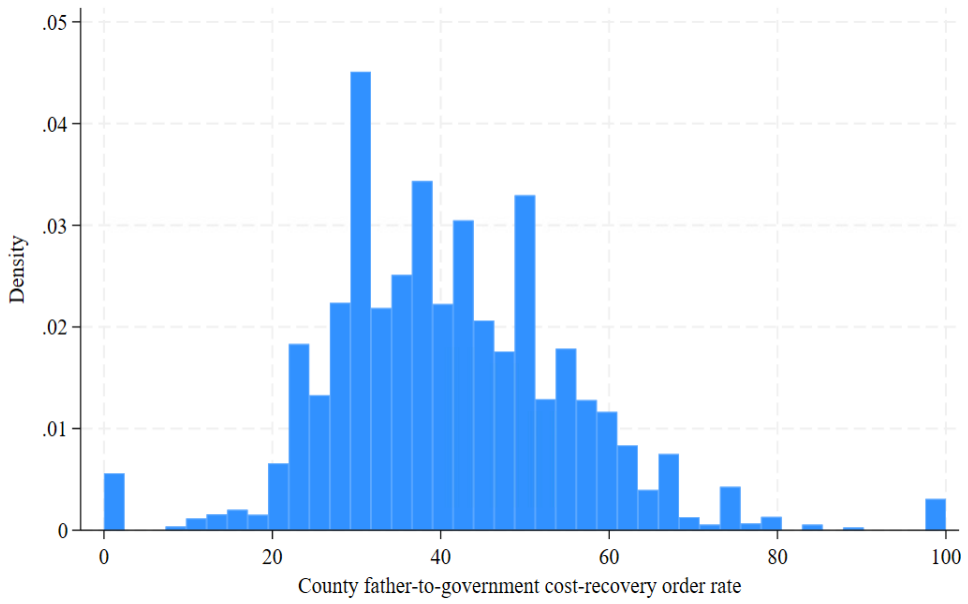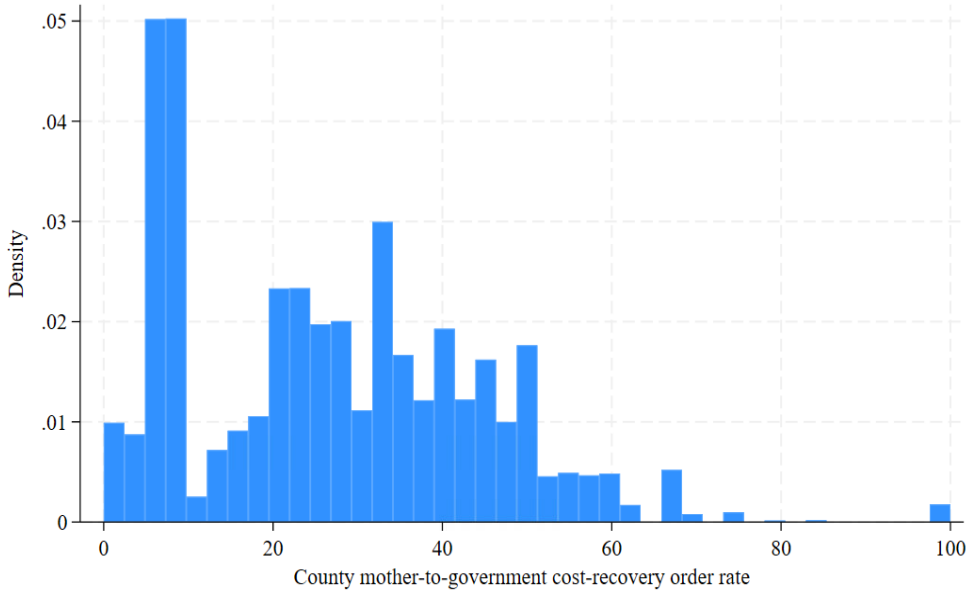
Note. Author's calculations from the WADC.

Figure 3. Distribution of absolute value of error terms from first-stage instrumental variables regression.
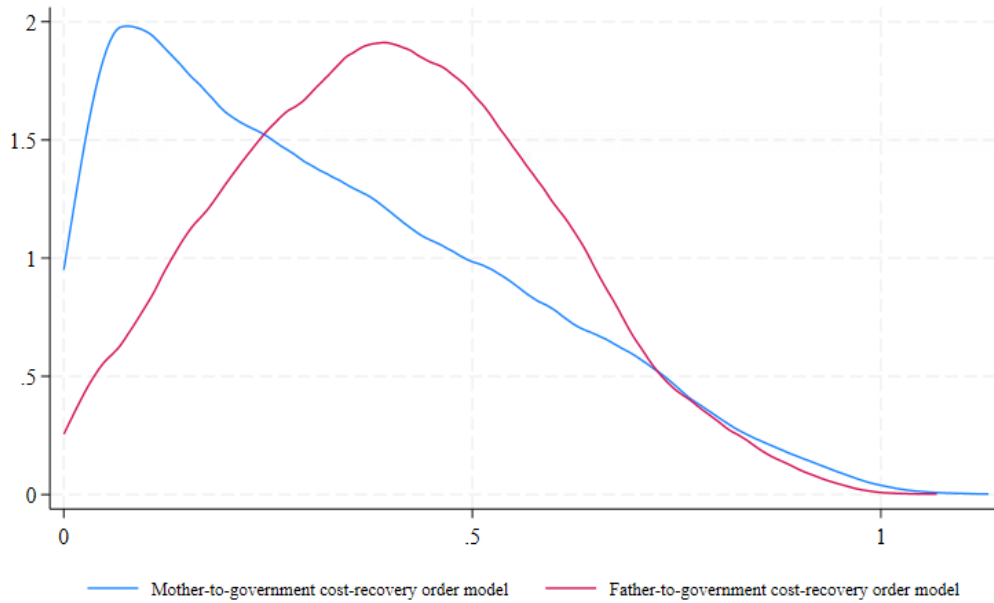
Note. 13,455 observations of mothers in Wisconsin with at least one child aged 14 or younger who entered foster care for the first time during the July 2005 to June 2016 observation period and lived with the mother in the month before entering care. Percent of mothers or mean dollar amounts (in 2019 dollars) presented.

Table 1. Child support orders and payments before and during foster care placement

	Father-to-mother order	Father-to-government cost-recovery order	Mother-to-government cost-recovery order	Both parents-to-government cost-recovery orders
	(1)	(2)	(3)	(4)
Panel A: Child support orders				
Any support ordered:				
In month prior to foster care	43.5%	4.0%	2.1%	1.2%
During any month of foster care	52.0%	41.1%	26.7%	20.8%
In month prior to permanency	29.0%	28.1%	17.9%	12.5%
Proportion of foster care months with order in place, conditional on order in place	60.6%	69.9%	59.7%	54.9%
Mean support ordered:				
In month prior to foster care	$239.82	$9.26	$3.65	$4.95
During any month of foster care (over all months)	$157.26	$75.27	$33.16	$67.69
In month prior to permanency	$147.64	$76.15	$37.29	$63.67
Mean support ordered, conditional on order in place:				
In month prior to foster care	$550.73	$233.00	$173.04	$411.08
During any month of foster care (in months with orders)	$421.69	$254.93	$203.73	$490.25
In month prior to permanency	$509.22	$270.64	$208.04	$509.90
Panel B: Child support payments				
Any support paid				
In month prior to foster care	32.2%	2.0%	0.9%	0.2%
During any month of foster care	44.7%	31.2%	20.4%	13.6%
In month prior to permanency	25.4%	17.5%	10.7%	4.6%
Proportion of foster care months with payments made, conditional on any payments made	84.1%	80.2%	72.7%	67.3%
Mean support paid:				
In month prior to foster care	$195.35	$3.69	$1.93	$0.88
During any month of foster care (over all months)	$130.63	$40.13	$17.61	$30.73
In month prior to permanency	$130.88	$48.16	$26.71	$25.69
Mean support paid, conditional on any payments made:				
In month prior to foster care	$605.92	$188.21	$212.53	$406.44
During any month of foster care (in months with order)	$529.22	$145.26	$111.41	$433.77
In month prior to permanency	$516.27	$274.94	$250.29	$555.71

Note. 13,455 observations of mothers in Wisconsin with at least one child aged 14 or younger who entered foster care for the first time during the July 2005 to June 2016 observation period and lived with the mother in the month before entering care. Percent of mothers or mean dollar amounts (in 2019 dollars) presented.

Table 2. Child support ordered and paid during foster care placement by parents' characteristics

	Obs.	Pct. of sample	Any support owed (%)			Mean support owed if positive			Any support paid (%)			Mean support paid if positive		
			Father-to-mother	Father-to-gov't	Mother-to-gov't	Father-to-mother	Father-to-gov't	Mother-to-gov't	Father-to-mother	Father-to-gov't	Mother-to-gov't	Father-to-mother	Father-to-gov't	Mother-to-gov't
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
All mothers	13,455	100%	52.0%	41.1%	26.7%	$423.14	$255.58	$203.96	44.7%	31.2%	20.4%	$711.11	$197.71	$150.55
By earnings of highest-earning father in year before foster care														
No SSN	693	*5.2%*	20.8%	12.4%	18.6%	$387.47	$240.53	$203.84	17.7%	7.4%	12.7%	$569.77	$173.82	$139.15
No UI reported earnings	4,542	*33.8%*	48.7%	36.6%	24.4%	$410.98	$232.36	$204.77	36.0%	23.4%	18.3%	$616.40	$159.68	$146.29
< $5,000	2,208	*16.4%*	53.0%	48.5%	31.5%	$356.68	$218.89	$199.77	41.3%	34.0%	23.3%	$557.79	$111.58	$134.12
$5,001 to $10,000	1,353	*10.1%*	56.8%	44.6%	27.4%	$329.41	$229.55	$204.95	50.5%	36.0%	22.2%	$532.57	$156.79	$134.82
$10,001 to $25,000	2,539	*18.9%*	54.5%	44.3%	28.8%	$374.97	$247.76	$204.40	51.9%	37.7%	22.4%	$757.07	$196.14	$155.11
> $25,001	2,120	*15.8%*	62.5%	46.3%	26.5%	$610.86	$361.21	$206.31	63.3%	42.2%	20.8%	$977.08	$339.97	$184.89
By earnings of mother in year before foster care														
No SSN	1,118	*8.3%*	34.6%	30.8%	10.3%	$433.91	$246.52	$185.66	30.0%	22.5%	5.9%	$909.51	$207.35	$164.72
No UI reported earnings	5,044	*37.5%*	47.3%	41.0%	24.3%	$377.31	$251.94	$193.27	40.8%	30.8%	15.9%	$710.94	$181.62	$106.13
< $3,000	2,538	*18.9%*	52.1%	44.7%	32.9%	$367.28	$252.72	$199.23	44.7%	33.9%	24.2%	$642.08	$190.44	$110.62
$3,001 to $10,000	1,946	*14.5%*	57.5%	42.4%	30.5%	$438.68	$263.78	$196.27	49.8%	33.5%	25.7%	$728.03	$201.89	$138.38
> $10,001	2,809	*20.9%*	63.7%	41.2%	29.4%	$513.57	$261.73	$232.68	53.9%	31.6%	27.0%	$709.36	$227.10	$236.84
By mother's race/ethnicity														
Non-Hispanic White	7,457	55.4%	53.3%	44.7%	32.4%	$448.99	$279.23	$210.11	49.1%	36.4%	25.4%	$785.08	$227.44	$154.28
Non-Hispanic Black	3,470	25.8%	52.2%	35.6%	14.5%	$334.30	$193.14	$180.15	38.4%	22.8%	9.9%	$468.95	$106.75	$124.93
Non-Hispanic Asian/ Hawaiian Paci	237	1.8%	40.9%	35.9%	22.8%	$659.74	$263.06	$219.13	34.2%	25.3%	18.6%	$1,092.67	$275.01	$161.44
Non-Hispanic American Indian	1,025	7.6%	51.9%	43.0%	31.7%	$459.00	$253.98	$193.92	43.3%	32.4%	23.6%	$758.41	$159.38	$153.23
Hispanic	1,235	9.2%	47.3%	35.0%	23.9%	$452.04	$252.58	$202.29	39.7%	24.5%	17.5%	$722.59	$190.81	$153.03
None or missing	31	0.2%	9.7%	9.7%	0.0%	$235.67	$126.92	$0.00	9.7%	9.7%	0.0%	$219.21	$194.42	$0.00
By number of men with whom mother has children														
One	4,031	30.0%	36.0%	33.8%	23.5%	$525.67	$262.31	$215.16	28.5%	25.6%	18.1%	$975.12	$201.62	$172.04
2 fathers	4,997	37.1%	55.0%	42.3%	27.2%	$413.48	$257.39	$205.22	46.6%	31.5%	20.8%	$663.55	$212.69	$163.41
3+ fathers	4,427	32.9%	63.3%	46.3%	29.1%	$379.51	$249.23	$194.40	57.2%	36.1%	22.0%	$640.02	$180.05	$120.55
By benefit receipt														
TANF received	2,753	20.5%	58.3%	45.0%	25.9%	$304.22	$231.36	$198.49	47.9%	32.1%	19.0%	$553.09	$155.36	$111.24
Child support received	5,981	44.5%	83.4%	55.2%	29.4%	$458.09	$271.29	$205.11	81.0%	46.0%	23.6%	$752.57	$211.69	$157.55
SSDI received	868	6.5%	51.3%	41.2%	14.6%	$375.58	$266.79	$142.67	48.6%	31.3%	11.6%	$741.78	$199.69	$118.17
SSI received	1,649	12.3%	42.9%	39.8%	8.7%	$319.95	$240.74	$152.24	40.2%	27.8%	5.4%	$729.86	$182.54	$109.74

Note. 13,455 observations of mothers in Wisconsin with at least one child aged 14 or younger who entered foster care for the first time during the July 2005 to June 2016 observation period and lived with the mother in the month before entering care. Percent of mothers or mean dollar amounts (in 2019 dollars) presented.

Table 3. Children's foster care trajectories by child support order status

	No order	Father-to-mother order	Father-to-government cost-recovery order	Mother-to-government cost-recovery order
	(1)	(2)	(3)	(4)
Placement length (months)	16.21	21.20	28.85	32.04
Standard deviation	(26.36)	(31.18)	(35.57)	(37.67)
Reunification				
within 12 months	50.8%	42.8%	26.7%	20.3%
within 24 months	59.4%	56.2%	42.6%	38.3%
within 36 months	61.2%	60.9%	48.4%	44.9%
within 48 months	63.0%	64.0%	52.0%	49.0%
within 60 months	63.8%	67.0%	55.0%	52.0%
Termination of Parental Rights				
within 12 months	1.3%	0.3%	0.4%	0.3%
within 24 months	4.8%	1.8%	3.0%	3.5%
within 36 months	7.7%	4.4%	7.6%	9.4%
within 48 months	11.0%	8.0%	13.0%	16.0%
within 60 months	10.0%	10.0%	16.0%	20.0%

Note. 13,455 mothers in Wisconsin with at least one child aged 14 or younger who entered foster care for the first time during the July 2005 to June 2016 observation period and lived with the mother in the month before entering care are observed at 12, 24, and 36 months; 12,363 mothers in Wisconsin with at least one child aged 14 or younger who entered foster care for the first time during the July 2005 to June 2016 observation period and lived with the mother in the month before entering care are observed at 48 months; and 11,215 mothers in Wisconsin with at least one child aged 14 or younger who entered foster care for the first time during the July 2005 to June 2016 observation period and lived with the mother in the month before entering care are observed at 60 months. Mean placement length (in months) or percent of mothers presented.

Table 4. Instrumental variables regression results, months to foster care exit among those who exited care

	Exited within 36 months			Exited within 48 months			Exited within 60 months		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mother-to-government cost-recovery order	15.15***		11.50***	13.82***		10.08***	14.31***		9.03**
	(1.65)		(2.19)	(1.39)		(1.62)	(1.56)		(3.10)
Father-to-government cost-recovery order		12.91***	6.79**		12.52***	7.05***		12.92***	6.89***
		(1.66)	(2.17)		(1.49)	(1.70)		(1.53)	(1.85)
First-stage F-statistic	901.60	725.54	310.39	836.54	628.63	270.94	799.52	606.43	174.79
Observations	12,655	12,655	12,655	11,757	11,757	11,757	10,799	10,799	10,799
Mean episode length (in months), full sample	17.88	17.88	17.88	17.62	17.62	17.62	17.67	17.67	17.67
Mean episode length (in months), no cost-recovery order comparison group	15.22	15.22	15.22	15.06	15.06	15.06	15.10	15.10	15.10

Note. Second-stage coefficients (and White robust standard errors) from instrumental variables (IV; two-stage least-squares) regressions. First-stage results shown in Appendix Table A5; covariate results shown in Appendix A6. Samples consist of all mothers for whom a child exited foster care during the 36-, 48-, or 60-month observation period. All models control for mother's race and ethnicity, mother's age, oldest father's age, oldest sibling's age, number of children in the household, mother's and highest earning father's earnings, whether the mother received W2/TANF, SSI, SSDI and child support in the year prior to the removal, county CPS report substantiation rate in the year of removal, county unemployment rate in the year prior to the removal, and county and year of removal fixed effects.

*** p<.001; ** p<.01; * p<.05; + p<.1.

Table 5. Instrumental variables regression results-probability of reunification and termination of parental rights

	Reunification			Termination of parental rights		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Within 12 months						
Mother-to-government cost-recovery order	-0.41***		-0.29***	0.00		0.01
	(0.04)		(0.04)	(0.01)		(0.01)
Father-to-government cost-recovery order		-0.38***	-0.23***		-0.01	-0.02*
		(0.04)	(0.04)		(0.01)	(0.01)
Observations	13,455	13,455	13,455	13,455	13,455	13,455
First-stage F-statistic	1,011.43	790.43	349.07	1,011.43	790.43	349.07
Outcome mean, full sample	0.42	0.42	0.42	0.01	0.01	0.01
Outcome mean, no cost-recovery order comparison group	0.48	0.48	0.48	0.01	0.01	0.01
Panel B: Within 24 months						
Mother-to-government cost-recovery order	-0.31***		-0.21***	0.02		0.04*
	(0.04)		(0.04)	(0.01)		(0.02)
Father-to-government cost-recovery order		-0.30***	-0.19***		-0.01	-0.03
		(0.04)	(0.04)		(0.01)	(0.02)
Observations	13,455	13,455	13,455	13,455	13,455	13,455
First-stage F-statistic	1,011.43	790.43	349.07	1,011.43	790.43	349.07
Outcome mean, full sample	0.54	0.54	0.54	0.03	0.03	0.03
Outcome mean, no cost-recovery order comparison group	0.59	0.59	0.59	0.03	0.03	0.03
Panel C: Within 36 months						
Mother-to-government cost-recovery order	-0.26***		-0.17***	0.04*		0.05*
	(0.04)		(0.04)	(0.02)		(0.02)
Father-to-government cost-recovery order		-0.25***	-0.16***		0.02	-0.01
		(0.04)	(0.04)		(0.02)	(0.02)
Observations	13,455	13,455	13,455	13,455	13,455	13,455
First-stage F-statistic	1,011.43	790.43	349.07	1,011.43	790.43	349.07
Outcome mean, full sample	0.58	0.58	0.58	0.07	0.07	0.07
Outcome mean, no cost-recovery order comparison group	0.61	0.61	0.61	0.06	0.06	0.06
Panel D: Within 48 months						
Mother-to-government cost-recovery order	-0.26***		-0.17***	0.11***		0.09***
	(0.04)		(0.05)	(0.02)		(0.03)
Father-to-government cost-recovery order		-0.27***	-0.18***		0.07**	0.02
		(0.04)	(0.05)		(0.02)	(0.03)
Observations	12,363	12,363	12,363	12,363	12,363	12,363
First-stage F-statistic	912.42	677.56	300.00	912.42	677.56	300.00
Outcome mean, full sample	0.61	0.61	0.61	0.10	0.10	0.10
Outcome mean, no cost-recovery order comparison group	0.64	0.64	0.64	0.09	0.09	0.09
Panel E: Within 60 months						
Mother-to-government cost-recovery order	-0.23***		-0.13**	0.13***		0.11***
	(0.04)		(0.05)	(0.03)		(0.03)
Father-to-government cost-recovery order		-0.25***	-0.18***		0.09***	0.03
		(0.04)	(0.05)		(0.02)	(0.03)
Observations	11,215	11,215	11,215	11,215	11,215	11,215
First-stage F-statistic	853.64	648.38	290.48	853.64	648.38	290.48
Outcome mean, full sample	0.63	0.63	0.63	0.12	0.12	0.12
Outcome mean, no cost-recovery order comparison group	0.66	0.66	0.66	0.10	0.10	0.10

Note. Coefficients (and White robust standard errors) from instrumental variables (IV; two-stage least-squares). First-stage results shown in Appendix Table A9. All models control for mother's race and ethnicity, mother's age, oldest father's age, oldest sibling's age, number of children in the household, mother's and highest earning father's earnings, whether the mother received W2/TANF, SSI, SSDI and child support in the year prior to the removal, county CPS report substantiation rate in the year of removal, county unemployment rate in the year prior to the removal, and county and year of removal fixed effects.
*** $p<.001$; ** $p<.01$; * $p<.05$; + $p<.1$.

Appendix

Appendix Figure A1. Kaplan-Meier survival curve estimates of time from foster care entry to cost-recovery order assignment
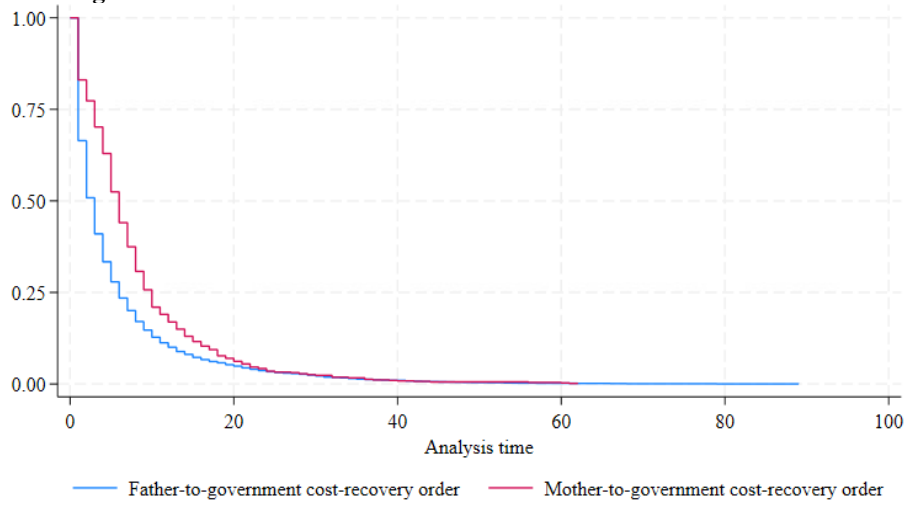
Note. Author's calculations from the WADC.

Appendix Table A1. OLS regression results, associations of cost-recovery order status and family characteristics with instrument

	County mother-to-government cost-recovery order rate	County father-to-government cost-recovery order rate
Mother-to-government cost-recovery order	7.35***	
	(0.27)	
Father-to-government cost-recovery order		6.12***
		(0.23)
Mother is Black non-Hispanic	0.13	-0.02
	(0.22)	(0.23)
Mother is Hispanic	-0.48	-0.55
	(0.33)	(0.35)
Mother is other non-Hispanic race/ethnicity	-0.25	-0.23
	(0.38)	(0.41)
Mother's age	0.00	-0.03
	(0.03)	(0.03)
Oldest father's age	0.00	0.00
	(0.01)	(0.01)
Oldest child's age	-0.02	-0.01
	(0.03)	(0.03)
Number of children	-0.06	-0.11
	(0.08)	(0.08)
2 fathers	-0.06	-0.41
	(0.25)	(0.26)
3+ fathers	0.49	0.00
	(0.29)	(0.30)
Earnings of highest earning father <5K (but >0)	-0.05	-0.21
	(0.37)	(0.38)
Earnings of highest earning father 5-10K	-0.20	-0.06
	(0.45)	(0.47)
Earnings of highest earning father 10-25K	0.03	-0.17
	(0.40)	(0.41)
Earnings of highest earning father >25K	-0.08	-0.07
	(0.35)	(0.36)
Earnings of mother <3K (but >0)	-0.30	-0.04
	(0.37)	(0.40)
Earnings of mother 3-10K	0.31	0.05
	(0.40)	(0.42)
Earnings of mother >10K	0.19	-0.09
	(0.38)	(0.40)
Mother has no SSN in the WADC system	-0.19	-0.37
	(0.40)	(0.42)
Mother is not in the UI system	-0.38	0.10
	(0.35)	(0.36)
Father has no SSN in the WADC system	-0.57	-0.97*
	(0.44)	(0.49)
Father is not in the UI System	-0.19	0.30
	(0.25)	(0.26)
Mother SSI received	0.38	-0.04
	(0.30)	(0.32)

Mother SSDI received	-0.21	-0.13
	(0.41)	(0.43)
Mother W2 (TANF) received	0.03	0.08
	(0.22)	(0.24)
Mother Child support received	0.23	-0.15
	(0.21)	(0.23)
Observations	13,455	13,455

Note. Coefficients from OLS regressions with White robust standard errors. All models also control for county and year-of-removal fixed effects. Income and benefits observed in the year prior to removal.
*** p<.001; ** p<.01; * p<.05; + p<.1.

Appendix Table A2. OLS regression results, associations of family characteristics with cost-recovery order

	Mother-to-government cost-recovery order	Father-to-government cost-recovery order
Mother is Black non-Hispanic	-0.07***	-0.05***
	(0.01)	(0.01)
Mother is Hispanic	-0.04**	-0.06***
	(0.01)	(0.01)
Mother is other non-Hispanic race/ethnicity	-0.01	-0.02
	(0.01)	(0.02)
Mother's age	-0.00**	0.00
	(0.00)	(0.00)
Oldest father's age	0.00	-0.00
	(0.00)	(0.00)
Oldest child's age	0.00	0.00
	(0.00)	(0.00)
Number of children	0.03***	0.04***
	(0.00)	(0.00)
2 fathers	0.01	0.02*
	(0.01)	(0.01)
3+ fathers	0.04***	0.03**
	(0.01)	(0.01)
Earnings of highest earning father <5K (but >0)	0.03*	0.15***
	(0.01)	(0.02)
Earnings of highest earning father 5-10K	0.00	0.12***
	(0.02)	(0.02)
Earnings of highest earning father 10-25K	0.02	0.13***
	(0.02)	(0.02)
Earnings of highest earning father >25K	-0.02	0.07***
	(0.01)	(0.02)
Earnings of mother <3K (but >0)	0.03*	0.00
	(0.01)	(0.02)
Earnings of mother 3-10K	0.00	-0.02
	(0.02)	(0.02)
Earnings of mother >10K	0.01	-0.02
	(0.01)	(0.02)
County substantiation rate of the first removal year	-0.05	-0.01
	(0.09)	(0.09)
Unemployment rate	-0.03**	-0.02
	(0.01)	(0.01)
Mother has no SSN in the WADC system	0.02	0.00
	(0.02)	(0.02)
Mother is not in the UI system	0.05***	0.03*
	(0.01)	(0.02)

Father has no SSN in the WADC system	0.00	0.17***
	(0.02)	(0.02)
Father is not in the UI System	-0.02	-0.02
	(0.01)	(0.01)
Mother SSI received	-0.14***	0.03
	(0.01)	(0.01)
Mother SSDI received	-0.04**	-0.01
	(0.01)	(0.02)
Mother W2 (TANF) received	-0.01	0.03**
	(0.01)	(0.01)
Mother Child support received	0.01	0.21***
	(0.01)	(0.01)
Observations	13,455	13,455

Note. Coefficients from OLS regressions with White robust standard errors. All models also control for county and year-of-removal fixed effects. Income and benefits observed in the year prior to removal.
*** p<.001; ** p<.01; * p<.05; + p<.1.

Appendix Table A3. OLS regression results, associations of family characteristics with foster care outcomes

	Months to exit	Reunification					Termination of Parental Rights				
		within 12 months	within 24 months	within 36 months	within 48 months	withing 60	within 12 months	within 24 months	within 36 months	within 48 months	within 60 months
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Mother is Black non-Hispanic	-0.55	0.08***	0.05***	0.04***	0.04**	0.03**	0.00	-0.02***	-0.03***	-0.05***	-0.05***
	(0.61)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Mother is Hispanic	-1.18	0.06***	0.05**	0.04*	0.03	0.03	-0.00*	-0.01*	-0.03***	-0.04***	-0.04**
	(0.76)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Mother is other non-Hispanic race/ethnicity	-0.40	0.03	0.01	0.01	0.00	0.00	0.00	0.00	-0.01	-0.02*	-0.02
	(0.73)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Mother's age	-0.05	0.00***	0.01***	0.01***	0.01***	0.01***	0.00	-0.00***	-0.00***	-0.00***	-0.00***
	(0.05)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Oldest father's age	0.09**	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	0.00*	0.00***	0.00***	0.00***	0.00***
	(0.03)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Oldest child's age	-0.14*	0.00	0.00	0.00	0.00	0.00	-0.00**	-0.00***	-0.00***	-0.01***	-0.01***
	(0.05)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Number of children	4.31***	-0.02***	-0.01***	0.00	0.00	0.01*	0.00	-0.01***	0.00	0.01**	0.01***
	(0.27)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2 fathers	0.56	0.00	0.01	0.02	0.02	0.02	0.01**	0.01	0.01	0.01	0.01
	(0.46)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
3+ fathers	1.39*	-0.02	-0.01	0.00	0.01	0.01	0.00	0.01*	0.02**	0.02**	0.03***
	(0.57)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Earnings of highest earning father <5K (but >0)	1.05	-0.01	-0.04*	-0.05**	-0.06**	-0.05**	0.00	0.01	0.01	0.01	0.01
	(0.88)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Earnings of highest earning father 5-10K	-0.46	0.03	-0.01	-0.02	-0.02	-0.02	0.00	0.00	0.00	-0.01	-0.01
	(0.99)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.02)
Earnings of highest earning father 10-25K	-0.30	0.05**	0.02	0.03	0.01	0.02	0.00	0.00	-0.01	-0.02*	-0.03*
	(0.89)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Earnings of highest earning father >25K	-2.21**	0.08***	0.05***	0.04**	0.04*	0.04*	0.00	-0.01	-0.01	-0.03**	-0.04**
	(0.79)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Earnings of mother <3K (but >0)	-1.09	0.00	0.01	0.02	0.03	0.06**	0.00	0.00	0.00	-0.01	-0.01
	(0.97)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Earnings of mother 3-10K	-2.34*	0.06***	0.07***	0.07***	0.07***	0.10***	0.00	-0.01	-0.01	-0.03**	-0.05***
	(0.98)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Earnings of mother >10K	-4.32***	0.10***	0.13***	0.13***	0.12***	0.15***	0.00	-0.02***	-0.04***	-0.06***	-0.07***
	(0.86)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
County substantiation rate first yr. removed	-3.07	-0.10	0.04	0.06	0.11	0.11	0.00	-0.04	-0.02	-0.08	-0.05
	(4.32)	(0.10)	(0.10)	(0.10)	(0.10)	(0.11)	(0.02)	(0.03)	(0.05)	(0.06)	(0.07)
Unemployment rate	-0.01	0.00	0.00	0.00	-0.01	-0.01	0.00	0.00	0.00	-0.01	0.00
	(0.41)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Mother has no SSN in the WADC system	0.01	0.01	0.01	0.02	0.01	-0.03	-0.01*	-0.01*	-0.02	-0.02	-0.01
	(0.96)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Mother is not in the UI system	-0.50	0.03	0.03	0.03*	0.02	0.03	-0.01	-0.03***	-0.03**	-0.03*	-0.03
	(0.91)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Father has no SSN in the WADC system	1.20	0.03	0.04	0.03	0.02	0.03	-0.01*	-0.04***	-0.08***	-0.09***	-0.09***
	(0.84)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
Father is not in the UI System	-1.56**	0.05***	0.05***	0.04***	0.04***	0.04***	0.00*	0.01*	0.01*	0.00	0.00
	(0.58)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Mother SSI received	2.01*	-0.04**	-0.05**	-0.04**	-0.04**	-0.04*	0.00	0.00	0.00	0.01	0.02
	(0.78)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Mother SSDI received	0.40	0.02	0.02	0.03	0.02	0.03	0.00	-0.01*	-0.01	-0.02	-0.02
	(0.95)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Mother W2 (TANF) received	-0.11	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00
	(0.58)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Mother Child support received	-1.17**	0.04***	0.05***	0.05***	0.05***	0.05***	-0.00**	-0.01***	-0.03***	-0.03***	-0.04***
	(0.44)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Observations	12,655	13,455	13,455	13,455	11,757	10,799	13,455	13,455	13,455	11,757	10,799

Note. Coefficients from OLS regressions with White robust standard errors. All models also control for county and year-of-removal fixed effects. Income and benefit receipt reported in the year prior to removal. *** p<.001; ** p<.01; * p<.05; + p<.1.

Appendix Table A4. Share of cases with order placed by months (from the removal)

	Mother-to-government cost-recovery order				Father-to-government cost-recovery order			
	All mothers (%)		Mothers with mother-to-government cost-recovery order (%)		All mothers (%)		Mothers with father-to-government cost-recovery order (%)	
	Monthly	Cumulative	Monthly	Cumulative	Monthly	Cumulative	Monthly	Cumulative
Months from removal								
1	3.7	3.7	13.8	13.8	13.5	13.5	32.9	32.9
2	1.5	5.2	5.5	19.3	6.3	19.8	15.3	48.1
3	2.0	7.2	7.5	26.8	4.1	23.9	10.0	58.1
4	2.7	9.9	10.2	36.9	3.1	27.0	7.6	65.6
5	2.8	12.7	10.5	47.5	2.2	29.3	5.4	71.1
6	2.3	15.0	8.8	56.2	1.9	31.1	4.5	75.6
7	1.8	16.9	6.9	63.1	1.4	32.6	3.5	79.1
8	1.6	18.5	6.1	69.3	1.3	33.8	3.1	82.1
9	1.2	19.7	4.5	73.8	1.0	34.8	2.3	84.4
10	1.1	20.8	4.1	77.9	0.8	35.6	2.0	86.5
11	0.7	21.5	2.5	80.3	0.7	36.3	1.6	88.1
12	0.7	22.1	2.5	82.8	0.5	36.8	1.3	89.4
13+	4.6	26.7	17.2	100.0	4.4	41.2	10.6	100.0

Note. 13,455 observations of mothers in Wisconsin with at least one child aged 14 or younger who entered foster care for the first time during the July 2005 to June 2016 observation period and lived with the mother in the month before entering care. Percent shown.

Appendix Table A5. First-stage IV regression results, 36-, 48-, and 60-month observation samples, by demographically-defined subgroups

	Observed for 36 months				Observed for 48 months				Observed for 60 months			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: White mothers												
Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	7,457	7,457	7,457	7,457	6,797	6,797	6,797	6,797	6,172	6,172	6,172	6,172
First-stage F-statistic	656.99	570.10	257.26	257.26	590.58	485.32	223.74	223.74	541.05	466.26	210.06	210.06
Panel B: Black mothers												
Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	3,470	3,470	3,470	3,470	3,235	3,235	3,235	3,235	2,940	2,940	2,940	2,940
First-stage F-statistic	61.04	42.91	21.49	21.49	57.80	34.01	17.05	17.05	62.21	28.55	13.50	13.50
Panel C: Mothers with one child												
Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	6,791	6,791	6,791	6,791	6,209	6,209	6,209	6,209	5,590	5,590	5,590	5,590
First-stage F-statistic	461.39	359.52	171.73	171.73	437.63	309.84	148.60	148.60	388.75	290.35	140.20	140.20
Panel D: Mothers with >1 child												
Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	6,664	6,664	6,664	6,664	6,154	6,154	6,154	6,154	5,625	5,625	5,625	5,625
First-stage F-statistic	536.72	415.32	162.66	162.66	463.87	352.61	140.82	140.82	455.35	338.78	137.26	137.26
Panel E: Mothers < age 26												
Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	4,192	4,192	4,192	4,192	3,892	3,892	3,892	3,892	3,590	3,590	3,590	3,590
First-stage F-statistic	307.40	192.86	90.10	90.10	277.81	164.43	79.58	79.58	242.63	152.46	75.25	75.25
Panel F: Mothers age 26-35												
Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	5,612	5,612	5,612	5,612	5,090	5,090	5,090	5,090	4,543	4,543	4,543	4,543
First-stage F-statistic	424.23	369.53	144.82	144.82	354.40	298.94	113.26	113.26	353.58	279.70	105.62	105.62

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Panel G: Mothers > age 35

Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	3,651	3,651	3,651	3,651	3,381	3,381	3,381	3,381	3,082	3,082	3,082	3,082
First-stage F-statistic	230.74	191.15	90.94	90.94	230.64	177.68	79.58	79.58	198.72	180.21	82.47	82.47

Panel H: Mothers with no UI wages

Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	-0.00+	0.01***		0.01***	-0.00+	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	5,044	5,044	5,044	5,044	4,651	4,651	4,651	4,651	4,168	4,168	4,168	4,168
First-stage F-statistic	363.68	283.70	137.26	137.26	351.12	259.32	125.21	125.21	287.23	229.89	111.98	111.98

Panel I: Mothers with household inome <100% of poverty

Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	10,867	10,867	10,867	10,867	9,937	9,937	9,937	9,937	8,971	8,971	8,971	8,971
First-stage F-statistic	871.96	653.08	287.76	287.76	782.63	560.89	250.66	250.45	740.83	532.51	239.62	239.62

Panel J: Mothers with household inome 100%-200% of poverty

Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	1,060	1,060	1,060	1,060	974	974	974	974	885	885	885	885
First-stage F-statistic	34.11	45.39	15.15	15.15	26.65	35.05	12.79	12.79	20.56	29.73	9.63	9.63

Panel K: Mothers with household inome >200% of poverty

Mother-to-gov't cost recovery order rate	0.01***		0.01***	0.00	0.01***		0.01**	0.00	0.01***		0.01**	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
Father-to-gov't cost recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Observations	410	410	410	410	381	381	381	381	354	354	354	354
First-stage F-statistic	18.86	28.01	9.41	9.41	10.08	15.20	5.34	5.34	13.92	19.11	6.93	6.93

Note. First-stage coefficients from instrumetnal variables (IV; two-stage least-squares) regressions. Instrumental variable is the county-level mother-to-government or father-to-government cost recovery order rate. All models control for mother's race and ethnicity, mother's age, oldest father's age, oldest sibling's age, number of children in the household, mother's and father's earnings, whether the mother received W2/TANF, SSI, SSDI and child support in the year prior to the removal, county CPS report substantiation rate in the year of removal, county unemployment rate in the year prior to the removal, and county and year of removal fixed effects. Each models excludes the corresponding covariates. Income-to-poverty ratio have been created with mother's wage at the year before the removal. *** p<.001; ** p<.01; * p<.05; + p<.1

Appendix Table A6. First-stage IV regression results, months to foster care exit among those who exited care

	Exited within 36 months				Exited within 48 months				Exited within 60 months			
	Mother-to-gov't cost-recovery order	Father-to-gov't cost-recovery order	Mother-to-gov't and father-to-gov't cost-recovery orders		Mother-to-gov't cost-recovery order	Father-to-gov't cost-recovery order	Mother-to-gov't and father-to-gov't cost-recovery orders		Mother-to-gov't cost-recovery order	Father-to-gov't cost-recovery order	Mother-to-gov't and father-to-gov't cost-recovery orders	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
County mother-to-government cost-recovery order rate	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
County father-to-government cost-recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Mother is Black non-Hispanic	-0.07***	-0.05***	-0.07***	-0.05***	-0.06***	-0.05***	-0.06***	-0.05***	-0.06***	-0.05***	-0.06***	-0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother is Hispanic	-0.03*	-0.05***	-0.03*	-0.05***	-0.02	-0.05**	-0.03	-0.05**	-0.02	-0.04**	-0.02	-0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)
Mother is other non-Hispanic race/ethnicity	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02	-0.01	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
Mother's age	-0.00**	0.00	-0.00**	0.00	-0.00*	0.00	-0.00**	0.00	-0.00	0.00	-0.00*	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Oldest father's age	0.00	-0.00***	0.00	-0.00***	0.00	-0.00***	0.00	-0.00***	0.00	-0.00**	0.00	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Oldest child's age	0.00**	0.00	0.00**	0.00	0.00**	0.00	0.00**	0.00	0.00*	0.00	0.00*	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Number of children	0.01*	0.02***	0.01*	0.02***	0.01	0.02***	0.01	0.02***	0.00	0.02***	0.00	0.02***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2 fathers	0.01	0.03**	0.01	0.03**	0.02	0.03**	0.02	0.03**	0.02	0.04***	0.02	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
3+ fathers	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Earnings of highest earning father <5K (but >0)	0.02	0.13***	0.02	0.13***	0.02	0.13***	0.02	0.13***	0.02	0.14***	0.02	0.14***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of highest earning father 5-10K	0.01	0.11***	0.01	0.11***	-0.01	0.11***	-0.01	0.11***	0.00	0.12***	0.00	0.12***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of highest earning father 10-25K	0.02	0.12***	0.02	0.12***	0.01	0.12***	0.01	0.12***	0.02	0.13***	0.02	0.13***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of highest earning father >25K	-0.01	0.07***	-0.01	0.07***	-0.01	0.06***	-0.01	0.06***	-0.01	0.07***	-0.01	0.07***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
Earnings of mother <3K (but >0)	0.03*	0.00	0.03*	0.00	0.03*	0.01	0.03*	0.01	0.03	-0.01	0.03	-0.01
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of mother 3-10K	0.01	-0.01	0.01	-0.01	0.02	0.00	0.02	0.00	0.02	-0.01	0.02	-0.01
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of mother >10K	0.02	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.02	-0.01	0.02	-0.01
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
County substantiation rate of the first removal year	-0.07	-0.02	-0.07	-0.02	-0.07	-0.02	-0.07	-0.02	-0.03	0.02	-0.02	0.02
	(0.08)	(0.09)	(0.08)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)	(0.09)	(0.10)
Unemployment rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother has no SSN in the WADC system	0.05***	0.04*	0.05***	0.04*	0.05***	0.05**	0.05***	0.05**	0.05***	0.06***	0.05***	0.05***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
Mother is not in the UI system	0.02	0.01	0.02	0.01	0.02	0.00	0.02	0.00	0.02	0.01	0.02	0.01
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Father has no SSN in the WADC system	0.00	0.16***	0.00	0.16***	0.00	0.16***	0.00	0.16***	0.00	0.16***	0.00	0.16***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Father is not in the UI System	0.00	-0.01	0.00	-0.01	0.00	-0.02	0.00	-0.02	0.00	-0.02	0.00	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother SSI received	-0.14***	0.02	-0.14***	0.02	-0.14***	0.02	-0.14***	0.02	-0.14***	0.03	-0.14***	0.03
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother SSDI received	-0.04**	-0.01	-0.04**	-0.01	-0.03	0.00	-0.03	0.00	-0.03	-0.02	-0.03	-0.02
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Mother W2 (TANF) received	-0.01	0.03**	-0.01	0.03**	-0.01	0.04***	-0.01	0.04***	-0.01	0.04**	-0.01	0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother Child support received	0.01	0.21***	0.01	0.21***	0.01	0.21***	0.01	0.21***	0.01	0.20***	0.01	0.20***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	12,655	12,655	12,655	12,655	11,757	11,757	11,757	11,757	10,799	10,799	10,799	10,799

Note. First-stage coefficients from instrumetnal variables (IV; two-stage least-squares) regressions. Second-stage results are presented in Table 4 and Appendix Table A6. Samples consist of all mothers for whom a child exited foster care during the 36-, 48-, or 60 month observation period. All models also control for county and year-of-removal fixed effects. White robust standard errors. Income and benefit receipt reported in the year prior to removal. *** p<.001; ** p<.01; * p<.05; + p<.1.

*** p<.001; ** p<.01; * p<.05; + p<.1.

Appendix Table A7. Second-stage IV regression results, months to foster care exit among those who exited care, all estimates

	Exited within 36 months			Exited within 48 months			Exited within 60 months		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mother-to-government cost-recovery order	15.15***		11.50***	13.82***		10.08***	14.31***		10.40***
	(1.65)		(2.19)	(1.39)		(1.62)	(1.56)		(1.78)
Father-to-government cost-recovery order		12.91***	6.79**		12.52***	7.05***		12.92***	7.46***
		(1.66)	(2.17)		(1.49)	(1.70)		(1.53)	(1.72)
Mother is Black non-Hispanic	0.54	0.14	0.64	0.38	0.12	0.50	0.11	-0.15	0.25
	(0.60)	(0.59)	(0.59)	(0.58)	(0.58)	(0.57)	(0.59)	(0.59)	(0.58)
Mother is Hispanic	-0.52	-0.35	-0.24	-0.82	-0.61	-0.55	-1.23+	-1.03	-0.94
	(0.73)	(0.74)	(0.72)	(0.69)	(0.70)	(0.68)	(0.69)	(0.70)	(0.68)
Mother is other non-Hispanic race/ethnicity	-0.05	-0.09	0.03	0.14	0.20	0.25	-0.14	-0.09	-0.05
	(0.69)	(0.69)	(0.68)	(0.68)	(0.68)	(0.67)	(0.71)	(0.71)	(0.70)
Mother's age	0.00	-0.04	-0.01	-0.02	-0.06	-0.03	0.00	-0.03	-0.01
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Oldest father's age	0.10**	0.11***	0.11***	0.09**	0.11***	0.10***	0.09**	0.11***	0.10***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Oldest child's age	-0.17***	-0.15**	-0.17***	-0.13**	-0.11*	-0.13**	-0.14**	-0.13*	-0.14**
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Number of children	3.89***	3.73***	3.68***	3.69***	3.50***	3.48***	3.75***	3.54***	3.51***
	(0.27)	(0.27)	(0.27)	(0.26)	(0.27)	(0.26)	(0.27)	(0.27)	(0.27)
2 fathers	0.34	0.20	0.21	-0.07	-0.19	-0.21	0.10	-0.08	-0.10
	(0.45)	(0.45)	(0.44)	(0.43)	(0.43)	(0.42)	(0.44)	(0.44)	(0.43)
3+ fathers	0.75	0.88	0.64	0.32	0.37	0.19	0.31	0.43	0.17
	(0.55)	(0.55)	(0.54)	(0.52)	(0.53)	(0.52)	(0.53)	(0.53)	(0.52)
Earnings of highest earning father <5K (but >0)	0.60	-0.76	-0.24	0.54	-0.85	-0.37	0.14	-1.41	-0.89
	(0.85)	(0.88)	(0.87)	(0.81)	(0.84)	(0.83)	(0.83)	(0.87)	(0.86)
Earnings of highest earning father 5-10K	-0.50	-1.98*	-1.29	0.18	-1.38	-0.68	-0.10	-1.82+	-1.06
	(0.96)	(0.97)	(0.97)	(0.96)	(0.97)	(0.97)	(0.99)	(1.00)	(1.00)
Earnings of highest earning father 10-25K	-0.54	-1.90*	-1.32	-0.80	-2.15**	-1.61*	-1.36+	-2.80**	-2.25**
	(0.86)	(0.88)	(0.89)	(0.80)	(0.82)	(0.82)	(0.82)	(0.85)	(0.85)
Earnings of highest earning father >25K	-1.95*	-2.98***	-2.41**	-1.84*	-2.81***	-2.29**	-2.29**	-3.39***	-2.81***
	(0.77)	(0.77)	(0.76)	(0.73)	(0.74)	(0.73)	(0.76)	(0.77)	(0.77)
Earnings of mother <3K (but >0)	-1.42	-0.96	-1.27	-2.14*	-1.82*	-2.03*	-2.55*	-2.06*	-2.35*
	(0.94)	(0.94)	(0.93)	(0.87)	(0.88)	(0.86)	(0.99)	(1.00)	(0.98)
Earnings of mother 3-10K	-2.33*	-2.03*	-2.17*	-2.78**	-2.54**	-2.64**	-3.01**	-2.58*	-2.79**
	(0.95)	(0.95)	(0.94)	(0.90)	(0.91)	(0.90)	(1.01)	(1.02)	(1.00)
Earnings of mother >10K	-4.33***	-3.97***	-4.14***	-4.45***	-4.10***	-4.26***	-4.77***	-4.29***	-4.50***
	(0.83)	(0.84)	(0.82)	(0.81)	(0.82)	(0.81)	(0.93)	(0.94)	(0.92)
County substantiation rate of the first removal y	-1.04	-2.73	-1.35	-1.67	-2.96	-1.54	-2.60	-4.07	-2.77
	(4.13)	(4.14)	(4.07)	(3.82)	(3.81)	(3.75)	(4.10)	(4.08)	(4.01)
Unemployment rate	0.23	0.17	0.27	0.33	0.34	0.37	0.37	0.34	0.40
	(0.39)	(0.39)	(0.38)	(0.37)	(0.37)	(0.37)	(0.39)	(0.39)	(0.38)
Mother has no SSN in the WADC system	-1.21	-1.00	-1.31	-1.01	-1.01	-1.18	-0.97	-0.98	-1.19
	(0.89)	(0.89)	(0.88)	(0.89)	(0.88)	(0.88)	(0.89)	(0.89)	(0.88)
Mother is not in the UI system	-0.35	-0.01	-0.27	0.03	0.43	0.15	0.42	0.66	0.46
	(0.93)	(0.93)	(0.92)	(0.90)	(0.90)	(0.89)	(1.01)	(1.01)	(1.00)
Father has no SSN in the WADC system	1.14	-0.91	0.04	1.03	-1.03	-0.13	1.00	-1.19	-0.25
	(0.81)	(0.88)	(0.89)	(0.83)	(0.88)	(0.88)	(0.86)	(0.91)	(0.90)
Father is not in the UI System	-1.36*	-1.33*	-1.28*	-1.62**	-1.47**	-1.49**	-1.91***	-1.71**	-1.75**
	(0.55)	(0.56)	(0.55)	(0.52)	(0.51)	(0.51)	(0.54)	(0.54)	(0.53)
Mother SSI received	4.06***	1.67*	3.39***	3.72***	1.47*	3.01***	3.93***	1.49*	3.12***
	(0.79)	(0.76)	(0.82)	(0.77)	(0.74)	(0.78)	(0.78)	(0.75)	(0.79)
Mother SSDI received	1.00	0.53	0.92	1.08	0.64	0.96	1.17	0.92	1.14
	(0.95)	(0.93)	(0.93)	(0.93)	(0.91)	(0.91)	(0.97)	(0.95)	(0.95)
Mother W2 (TANF) received	0.08	-0.55	-0.20	0.11	-0.51	-0.21	0.42	-0.28	0.06
	(0.56)	(0.57)	(0.56)	(0.54)	(0.55)	(0.54)	(0.57)	(0.57)	(0.56)
Mother Child support received	-1.33**	-3.91***	-2.73***	-1.30**	-3.84***	-2.75***	-1.44***	-3.98***	-2.93***
	(0.42)	(0.57)	(0.63)	(0.40)	(0.51)	(0.53)	(0.41)	(0.53)	(0.54)
Constant	7.08	13.68+	8.11	3.88	8.69+	4.30	5.51	10.04+	5.96
	(7.20)	(7.90)	(7.18)	(4.92)	(4.90)	(4.85)	(5.48)	(5.45)	(5.40)
Observations	12,655	12,655	12,655	11,757	11,757	11,757	10,799	10,799	10,799
First-stage F-statistic	901.60	725.54	310.39	836.54	628.63	270.94	799.52	606.43	267.98
Mean episode length (in months), full sample	17.88	17.88	17.88	17.62	17.62	17.62	17.67	17.67	17.67
Mean episode length (in months), no cost-recov	15.22	15.22	15.22	15.06	15.06	15.06	15.10	15.10	15.10

Note. Second-stage coefficients (and White robust standard errors) from instrumetnal variables (IV; two-stage least-squares) regressions. First-stage results shown in Appendix Table A5; second-stage results are summarized in Table 4. Samples consist of all mothers for whom a child exited foster care during the 36-, 48-, or 60 month observation period. All models also control for county and year of removal fixed effects. Income and benefits observed in the year prior to removal. *** p<.001; ** p<.01; * p<.05; + p<.1.

Appendix Table A8. Second-stage IV regression results, months to foster care exit among those who exited care, both parents have cost-recovery order

	Exited within 36 months		Exited within 48 months		Exited within 60 months	
	(1)	(2)	(3)	(4)	(5)	(6)
Mother-to-government cost-recovery order		12.04*		9.38**		9.03**
		(4.70)		(3.02)		(3.10)
Father-to-government cost-recovery order		7.02***		6.76***		6.89***
		(2.07)		(1.85)		(1.85)
Both parents-to-government cost-recovery orders	15.00***	-0.81	14.16***	1.03	15.17***	2.07
	(1.73)	(5.11)	(1.51)	(3.51)	(1.66)	(3.55)
Mother is Black non-Hispanic	0.45	0.64	0.33	0.50	0.12	0.26
	(0.60)	(0.59)	(0.58)	(0.57)	(0.59)	(0.58)
Mother is Hispanic	-0.48	-0.24	-0.76	-0.55	-1.11	-0.93
	(0.74)	(0.72)	(0.69)	(0.68)	(0.69)	(0.68)
Mother is other non-Hispanic race/ethnicity	-0.13	0.03	0.07	0.25	-0.18	-0.05
	(0.70)	(0.68)	(0.69)	(0.67)	(0.72)	(0.70)
Mother's age	-0.02	0.00	-0.04	-0.03	-0.01	-0.01
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Oldest father's age	0.11***	0.11***	0.10***	0.10***	0.10**	0.10***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Oldest child's age	-0.15**	-0.17**	-0.11*	-0.13**	-0.12*	-0.14**
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Number of children	3.84***	3.68***	3.64***	3.48***	3.67***	3.51***
	(0.27)	(0.27)	(0.26)	(0.26)	(0.27)	(0.27)
2 fathers	0.35	0.20	-0.05	-0.20	0.09	-0.09
	(0.45)	(0.44)	(0.43)	(0.42)	(0.44)	(0.43)
3+ fathers	0.91+	0.63	0.45	0.20	0.46	0.19
	(0.55)	(0.54)	(0.53)	(0.52)	(0.53)	(0.52)
Earnings of highest earning father <5K (but >0)	0.02	-0.24	0.00	-0.38	-0.52	-0.90
	(0.86)	(0.88)	(0.82)	(0.83)	(0.84)	(0.86)
Earnings of highest earning father 5-10K	-1.12	-1.29	-0.38	-0.69	-0.76	-1.07
	(0.96)	(0.97)	(0.96)	(0.97)	(1.00)	(1.00)
Earnings of highest earning father 10-25K	-1.14	-1.31	-1.38+	-1.62*	-2.04*	-2.28**
	(0.87)	(0.90)	(0.81)	(0.82)	(0.83)	(0.85)
Earnings of highest earning father >25K	-2.45**	-2.40**	-2.30**	-2.30**	-2.82***	-2.84***
	(0.77)	(0.77)	(0.73)	(0.73)	(0.77)	(0.77)
Earnings of mother <3K (but >0)	-1.32	-1.27	-2.13*	-2.04*	-2.52*	-2.36*
	(0.94)	(0.93)	(0.87)	(0.86)	(1.00)	(0.98)
Earnings of mother 3-10K	-2.48**	-2.16*	-2.93**	-2.66**	-3.16**	-2.83**
	(0.95)	(0.95)	(0.91)	(0.90)	(1.02)	(1.01)
Earnings of mother >10K	-4.22***	-4.14***	-4.37***	-4.26***	-4.66***	-4.51***
	(0.83)	(0.82)	(0.82)	(0.81)	(0.94)	(0.93)
County substantiation rate of the first removal yea	-2.48	-1.30	-2.77	-1.59	-4.03	-2.90
	(4.17)	(4.08)	(3.86)	(3.77)	(4.16)	(4.04)
Unemployment rate	0.30	0.26	0.43	0.38	0.46	0.42
	(0.39)	(0.38)	(0.38)	(0.37)	(0.39)	(0.38)
Mother has no SSN in the WADC system	-0.97	-1.31	-0.81	-1.17	-0.73	-1.15
	(0.90)	(0.88)	(0.89)	(0.88)	(0.90)	(0.88)
Mother is not in the UI system	-0.17	-0.28	0.23	0.15	0.56	0.47
	(0.93)	(0.92)	(0.90)	(0.89)	(1.01)	(1.00)
Father has no SSN in the WADC system	0.33	0.05	0.25	-0.14	0.09	-0.27
	(0.85)	(0.90)	(0.86)	(0.88)	(0.89)	(0.91)
Father is not in the UI System	-1.56**	-1.27*	-1.78***	-1.50**	-2.03***	-1.77***
	(0.56)	(0.54)	(0.52)	(0.51)	(0.54)	(0.53)
Mother SSI received	3.49***	3.37***	3.22***	3.02***	3.45***	3.16***
	(0.78)	(0.81)	(0.76)	(0.77)	(0.77)	(0.79)
Mother SSDI received	0.79	0.92	0.95	0.96	1.03	1.13
	(0.94)	(0.93)	(0.93)	(0.91)	(0.97)	(0.95)
Mother W2 (TANF) received	-0.07	-0.21	-0.06	-0.21	0.21	0.06
	(0.56)	(0.56)	(0.55)	(0.54)	(0.57)	(0.56)
Mother Child support received	-2.12***	-2.73***	-2.09***	-2.75***	-2.26***	-2.93***
	(0.44)	(0.62)	(0.41)	(0.53)	(0.43)	(0.54)
Constant	10.14	8.07	6.00	4.34	6.78	5.96
	(7.96)	(7.05)	(4.97)	(4.86)	(5.46)	(5.41)
Observations	12,655	12,655	11,757	11,757	10,799	10,799
First-stage F-statistic	965.86	203.45	897.64	176.86	823.07	174.79
Mean episode length (in months), full sample	17.88	17.88	17.62	17.62	17.67	17.67
Mean episode length (in months), no cost-recover	15.22	15.22	15.06	15.06	15.10	15.10

Note. Second-stage coefficients (and White robust standard errors) from instrumetnal variables (IV; two-stage least-squares) regressions. Samples consist of all mothers for whom a child exited foster care during the 36-, 48-, or 60 month observation period. All models also control for county and year of removal fixed effects. Income and benefit receipt reported in the year prior to removal. *** p<.001; ** p<.01; * p<.05; + p<.1.

	Observed for 36 months				Observed for 48 months				Observed for 60 months			
	Mother-to-gov't cost-recovery order	Father-to-gov't cost-recovery order	Mother-to-gov't and father-to-gov't cost-recovery orders		Mother-to-gov't cost-recovery order	Father-to-gov't cost-recovery order	Mother-to-gov't and father-to-gov't cost-recovery orders		Mother-to-gov't cost-recovery order	Father-to-gov't cost-recovery order	Mother-to-gov't and father-to-gov't cost-recovery orders	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
County mother-to-government cost-recovery order	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00
	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)
County father-to-government cost-recovery order rate		0.01***	0.00	0.01***		0.01***	0.00	0.01***		0.01***	0.00	0.01***
		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)
Mother is Black non-Hispanic	-0.07***	-0.05***	-0.07***	-0.05***	-0.06***	-0.05***	-0.06***	-0.05***	-0.06***	-0.05***	-0.06***	-0.05***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother is Hispanic	-0.03*	-0.05***	-0.03*	-0.05***	-0.03	-0.05***	-0.03	-0.05***	-0.03*	-0.05***	-0.03*	-0.05**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
Mother is other non-Hispanic race/ethnicity	-0.01	-0.02	-0.01	-0.02	-0.01	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
Mother's age	-0.00**	0.00	-0.00**	0.00	-0.00**	0.00	-0.00**	0.00	-0.00*	0.00	-0.00*	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Oldest father's age	0.00	-0.00	0.00	-0.00	0.00	-0.00*	0.00	-0.00*	0.00	-0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Oldest child's age	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Number of children	0.02***	0.04***	0.02***	0.04***	0.02***	0.04***	0.02***	0.04***	0.03***	0.04***	0.03***	0.04***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
2 fathers	0.01	0.03**	0.01	0.03**	0.02	0.03**	0.02	0.03**	0.02*	0.04***	0.02*	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
3+ fathers	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.03**	0.04**	0.04**	0.04**	0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Earnings of highest earning father <5K (but >0)	0.03*	0.14***	0.03*	0.14***	0.03	0.14***	0.03	0.14***	0.03	0.15***	0.03	0.15***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of highest earning father 5-10K	0.00	0.12***	0.00	0.12***	-0.01	0.11***	-0.01	0.11***	0.00	0.12***	0.00	0.12***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of highest earning father 10-25K	0.01	0.13***	0.01	0.13***	0.01	0.13***	0.01	0.13***	0.02	0.13***	0.02	0.13***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of highest earning father >25K	-0.02	0.06***	-0.02	0.06***	-0.02	0.05***	-0.02	0.05***	-0.02	0.06***	-0.02	0.06***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
Earnings of mother <3K (but >0)	0.03*	0.00	0.03*	0.00	0.03*	0.00	0.03*	0.00	0.03	-0.01	0.03	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of mother 3-10K	0.00	-0.02	0.00	-0.02	0.01	-0.01	0.01	-0.01	0.01	-0.02	0.01	-0.02
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Earnings of mother >10K	0.01	-0.02	0.01	-0.02	0.01	-0.02	0.01	-0.02	0.01	-0.03	0.01	-0.03
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
County substantiation rate of the first removal year	-0.03	-0.01	-0.03	-0.01	-0.03	-0.02	-0.03	-0.02	-0.03	0.00	-0.03	0.00
	(0.08)	(0.09)	(0.08)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)	(0.09)	(0.10)
Unemployment rate	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother has no SSN in the WADC system	0.05***	0.03*	0.05***	0.03*	0.05***	0.04**	0.05***	0.04**	0.05***	0.05**	0.05***	0.05**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
Mother is not in the UI system	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.01	0.02	0.01
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Father has no SSN in the WADC system	0.01	0.17***	0.01	0.17***	0.00	0.18***	0.00	0.18***	0.00	0.17***	0.00	0.17***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Father is not in the UI System	-0.01	-0.02	-0.01	-0.02	-0.01	-0.03*	-0.01	-0.03*	-0.01	-0.03*	-0.01	-0.03*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother SSI received	-0.13***	0.02	-0.13***	0.02	-0.13***	0.03	-0.13***	0.03	-0.13***	0.03*	-0.13***	0.03*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother SSDI received	-0.04**	-0.01	-0.04**	-0.01	-0.02	0.00	-0.02	0.00	-0.03	-0.01	-0.03	-0.01
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
Mother W2 (TANF) received	-0.01	0.03**	-0.01	0.03**	-0.01	0.04***	-0.01	0.04***	-0.01	0.04**	-0.01	0.04**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Mother Child support received	0.00	0.20***	0.00	0.20***	0.00	0.20***	0.00	0.20***	0.00	0.20***	0.00	0.20***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	13,455	13,455	13,455	13,455	12,363	12,363	12,363	12,363	11,215	11,215	11,215	11,215

Note. First-stage coefficients (and White robust standard errors) from instrumetnal variables (IV; two-stage least-squares) regressions. Second-stage results are presented in Table 5 and Appendix Table A9. All models also control for county and year of removal fixed effects. Income and benefit receipt reported in the year prior to removal. *** p<.001; ** p<.01; * p<.05; + p<.1.

Appendix Table A10. Second-stage IV regression results, reunification and termination of parental rights, both parents have cost-recovery order

	Reunification		Termination of Parental Rights	
	(1)	(2)	(3)	(4)
Panel A. Within 12 months				
Mother-to-government cost-recovery order		-0.39***		0.01
		(0.07)		(0.01)
Father-to-government cost-recovery order		-0.28***		-0.02*
		(0.05)		(0.01)
Both parents-to-government cost-recovery order	-0.39***	0.16*	0.00	0.01
	(0.04)	(0.08)	(0.01)	(0.01)
Observations	13,455	13,455	13,455	13,455
First-stage F-statistic	1,058.49	223.28	1,058.49	223.28
Mean DV	0.42	0.42	0.01	0.01
Control DV	0.48	0.48	0.01	0.01
Panel B. Within 24 months				
Mother-to-government cost-recovery order		-0.24***		0.04
		(0.07)		(0.03)
Father-to-government cost-recovery order		-0.21***		-0.03
		(0.05)		(0.02)
Parent-to-government cost-recovery order	-0.31***	0.05	0.01	0.00
	(0.04)	(0.08)	(0.01)	(0.03)
Observations	13,455	13,455	13,455	13,455
First-stage F-statistic	1,058.49	223.28	1,058.49	223.28
Mean DV	0.54	0.54	0.03	0.03
Control DV	0.60	0.60	0.03	0.03
Panel C. Within 36 months				
Mother-to-government cost-recovery order		-0.24***		0.06
		(0.07)		(0.03)
Father-to-government cost-recovery order		-0.20***		0.00
		(0.05)		(0.02)
Parent-to-government cost-recovery order	-0.25***	0.11	0.03	-0.03
	(0.04)	(0.08)	(0.02)	(0.04)
Observations	13,455	13,455	13,455	13,455
First-stage F-statistic	1,058.49	223.28	1,058.49	223.28
Mean DV	0.58	0.58	0.07	0.07
Control DV	0.61	0.61	0.06	0.06
Panel D. Within 48 months				
Mother-to-government cost-recovery order		-0.25***		0.10*
		(0.07)		(0.04)
Father-to-government cost-recovery order		-0.21***		0.03
		(0.05)		(0.03)
Parent-to-government cost-recovery order	-0.26***	0.11	0.10***	-0.02
	(0.04)	(0.09)	(0.03)	(0.05)
Observations	12,363	12,363	12,363	12,363
First-stage F-statistic	949.77	193.15	949.77	193.15
Mean DV	0.61	0.61	0.10	0.10
Control DV	0.64	0.64	0.09	0.09
Panel E. Within 60 months				
Mother-to-government cost-recovery order		-0.18*		0.10*

	(0.08)		(0.05)
Father-to-government cost-recovery order		-0.20***		0.03
	(0.05)		(0.03)
Parent-to-government cost-recovery order	-0.24***	0.07	0.13***	0.01
	(0.04)	(0.09)	(0.03)	(0.06)
Observations	11,215	11,215	11,215	11,215
First-stage F-statistic	860.88	187.39	860.88	187.39
Mean DV	0.63	0.63	0.12	0.12
Control DV	0.66	0.66	0.10	0.10

Note. Second-stage coefficients (and White robust standard errors) from instrumental variables (IV; two-stage least-squares) regressions. All models also control for county and year of removal fixed effects.
*** p<.001; ** p<.01; * p<.05; + p<.1.

Appendix Table A11. Second-stage IV regression results, removal in first 6 months of foster care

	(1)	(2)	(3)
Panel A. Months to foster care exit among those who exited care			
Mother-to-government cost-recovery order	10.98***		9.67***
	(1.87)		(2.18)
Father-to-government cost-recovery order		9.88***	5.30*
		(1.68)	(2.08)
Observations	11,245	11,445	11,944
First-stage F-statistic	732.17	641.47	294.69
Panel B. Reunification within 12 months			
Mother-to-government cost-recovery order	-0.32***		-0.27***
	(0.05)		(0.04)
Father-to-government cost-recovery order		-0.34***	-0.22***
		(0.04)	(0.04)
Observations	11,880	12,102	12,654
First-stage F-statistic	802.56	688.55	325.59
Panel C. Reunification within 24 months			
Mother-to-government cost-recovery order	-0.22***		-0.19***
	(0.05)		(0.05)
Father-to-government cost-recovery order		-0.26***	-0.17***
		(0.04)	(0.04)
Observations	11,880	12,102	12,654
First-stage F-statistic	802.56	688.55	325.59
Panel D. Reunification within 36 months			
Mother-to-government cost-recovery order	-0.15**		-0.15***
	(0.05)		(0.05)
Father-to-government cost-recovery order		-0.23***	-0.15***
		(0.04)	(0.04)
Observations	11,880	12,102	12,654
First-stage F-statistic	802.56	688.55	325.59
Panel E. Termination of parental rights within 12 months			
Mother-to-government cost-recovery order	0.01		0.01
	(0.01)		(0.01)
Father-to-government cost-recovery order		-0.01	-0.02+
		(0.01)	(0.01)
Observations	11,880	12,102	12,654
First-stage F-statistic	802.56	688.55	325.59
Panel F. Termination of parental rights within 24 months			
Mother-to-government cost-recovery order	0.03+		0.04*
	(0.02)		(0.02)
Father-to-government cost-recovery order		-0.02	-0.03*
		(0.01)	(0.02)
Observations	11,880	12,102	12,654
First-stage F-statistic	802.56	688.55	325.59
Panel G. Panel E. Termination of parental rights within 36 months			
Mother-to-government cost-recovery order	0.05*		0.05*
	(0.02)		(0.02)
Father-to-government cost-recovery order		0.02	-0.01
		(0.02)	(0.02)
Observations	11,880	12,102	12,654
First-stage F-statistic	802.56	688.55	325.59

Note. Coefficients (and White robust standard errors) from instrumental variables (IV; two-stage least-squares). All models control for mother's race and ethnicity, mother's age, oldest father's age, oldest sibling's age, number of children in the household, mother's and father's earnings, whether the mother received W2/TANF, SSI, SSDI and child support in the year prior to the removal, county CPS report substantiation rate in the year of removal, county unemployment rate in the year prior to the removal, and county and year of removal fixed effects.
*** p<.001; ** p<.01; * p<.05; + p<.1.

Appendix Table A12. Second-stage IV regression results by proportion of mothers' children removed

	Mothers with one child removed			Mothers with all children removed			Mothers with some children removed		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A. Months to foster care exit among those who exited care									
Mother-to-government cost-recovery order	12.50***		8.23***	13.13***		8.96***	23.39***		22.96***
	(1.54)		(1.63)	(1.73)		(2.32)	(4.60)		(6.48)
Father-to-government cost-recovery order		12.60***	8.35***		12.78***	8.01***		13.25**	0.72
		(1.63)	(1.68)		(1.74)	(2.29)		(4.94)	(6.68)
Observations	6,244	6,244	6,244	10,436	10,436	10,436	2,219	2,219	2,219
First-stage F-statistic	383.87	330.32	149.45	726.30	584.53	254.58	164.29	124.80	47.78
Panel B. Reunification within 12 months									
Mother-to-government cost-recovery order	-0.35***		-0.21***	-0.38***		-0.26***	-0.56***		-0.47***
	(0.06)		(0.06)	(0.04)		(0.05)	(0.08)		(0.10)
Father-to-government cost-recovery order		-0.38***	-0.27***		-0.37***	-0.24***		-0.42***	-0.15
		(0.06)	(0.06)		(0.04)	(0.05)		(0.08)	(0.10)
Observations	6,745	6,745	6,745	11,170	11,170	11,170	2,285	2,285	2,285
First-stage F-statistic	456.06	356.54	170.09	817.10	645.20	291.05	178.73	125.21	49.31
Panel C. Reunification within 24 months									
Mother-to-government cost-recovery order	-0.28***		-0.16*	-0.29***		-0.19***	-0.40***		-0.34***
	(0.06)		(0.06)	(0.04)		(0.05)	(0.08)		(0.10)
Father-to-government cost-recovery order		-0.31***	-0.23***		-0.29***	-0.19***		-0.31***	-0.11
		(0.06)	(0.06)		(0.04)	(0.05)		(0.08)	(0.10)
Observations	6,745	6,745	6,745	11,170	11,170	11,170	2,285	2,285	2,285
First-stage F-statistic	456.06	356.54	170.09	817.10	645.20	291.05	178.73	125.21	49.31
Panel D. Reunification within 36 months									
Mother-to-government cost-recovery order	-0.24***		-0.14*	-0.25***		-0.17***	-0.30***		-0.24*
	(0.06)		(0.07)	(0.04)		(0.05)	(0.08)		(0.10)
Father-to-government cost-recovery order		-0.28***	-0.21***		-0.25***	-0.17***		-0.25**	-0.11
		(0.06)	(0.06)		(0.04)	(0.05)		(0.08)	(0.10)
Observations	6,745	6,745	6,745	11,170	11,170	11,170	2,285	2,285	2,285
First-stage F-statistic	456.06	356.54	170.09	817.10	645.20	291.05	178.73	125.21	49.31
Panel E. Termination of parental rights within 12 months									
Mother-to-government cost-recovery order	0.02		0.02+	0.01		0.01+	-0.03		0.08+

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	(0.01)		(0.01)	(0.01)		(0.01)	(0.02)		(0.04)
Father-to-government cost-recovery order		0.00	-0.01		0.00	-0.01		-0.05*	-0.03
		(0.01)	(0.01)		(0.01)	(0.01)		(0.02)	(0.04)
Observations	6,745	6,745	6,745	11,170	11,170	11,170	2,285	2,285	2,285
First-stage F-statistic	456.06	356.54	170.09	817.10	645.20	291.05	178.73	125.21	49.31

Panel F. Termination of parental rights within 24 months

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mother-to-government cost-recovery order	0.03		0.04	0.02		0.03*	0.06		0.03*
	(0.02)		(0.02)	(0.01)		(0.02)	(0.04)		(0.02)
Father-to-government cost-recovery order		0.00	-0.02		-0.01	-0.03		0.01	-0.03
		(0.02)	(0.02)		(0.01)	(0.02)		(0.04)	(0.02)
Observations	6,745	6,745	6,745	11,170	11,170	11,170	2,285	2,285	11,170
First-stage F-statistic	456.06	356.54	170.09	817.10	645.20	291.05	178.73	125.21	291.05

Panel G. Panel E. Termination of parental rights within 36 months

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mother-to-government cost-recovery order	0.02		0.03	0.03+		0.03	0.13**		0.15*
	(0.03)		(0.03)	(0.02)		(0.02)	(0.05)		(0.06)
Father-to-government cost-recovery order		0.01	-0.01		0.02	0.00		0.05	-0.04
		(0.02)	(0.03)		(0.02)	(0.02)		(0.05)	(0.06)
Observations	6,745	6,745	6,745	11,170	11,170	11,170	2,285	2,285	2,285
First-stage F-statistic	456.06	356.54	170.09	817.10	645.20	291.05	178.73	125.21	49.31

Note. Coefficients (and White robust standard errors) from instrumental variables (IV; two-stage least-squares). All models control for mother's race and ethnicity, mother's age, oldest father's age, oldest sibling's age, number of children in the household, mother's and father's earnings, whether the mother received W2/TANF, SSI, SSDI and child support in the year prior to the removal, county CPS report substantiation rate in the year of removal, county unemployment rate in the year prior to the removal, and county and year of removal fixed effects.
*** $p<.001$; ** $p<.01$; * $p<.05$; + $p<.1$.

Appendix Table A13. IV regression results, time to foster care exit, and probility that children reach reunification and termination of parental rights (TPR) by income-to-poverty ratio

	No UI wages			<100%			100-200%			200+%		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A. Months in foster care												
Mother-to-gov't cost-recovery order	18.20***		12.15***	15.94***		11.49***	21.08***		20.88*	6.30*		5.55+
	(2.71)		(2.93)	(1.80)		(2.23)	(5.00)		(10.22)	(3.16)		(3.29)
Father-to-gov't cost-recovery order		17.74***	12.23***		14.26***	8.25***		11.01*	0.29		4.57+	1.94
		(3.09)	(3.27)		(1.94)	(2.34)		(5.55)	(9.60)		(2.69)	(2.44)
Observations	4,695	4,695	4,695	8,655	8,655	8,655	1,461	1,461	1,461	1,514	1,514	1,514
First-stage F-statistic	362.47	254.39	120.93	695.49	517.91	225.56	95.71	87.36	29.70	54.86	66.52	27.73
Outcome mean, full sample	20.05	20.05	20.05	19.39	19.45	19.45	14.52	14.52	14.52	11.05	11.05	11.05
Outcome mean, no cost-recovery order comparison group	17.26	17.26	17.26	16.18	16.18	16.18	12.00	12.00	12.00	9.44	9.44	9.44
Panel B. Any children reached reunification												
Mother-to-gov't cost-recovery order	-0.30***		-0.21**	-0.27***		-0.16**	-0.30**		-0.10	-0.13		-0.13
	(0.06)		(0.07)	(0.04)		(0.05)	(0.09)		(0.13)	(0.11)		(0.13)
Father-to-gov't cost-recovery order		-0.27***	-0.18**		-0.28***	-0.20***		-0.34***	-0.29*		-0.06	0.00
		(0.06)	(0.07)		(0.04)	(0.05)		(0.09)	(0.12)		(0.10)	(0.11)
Observations	5,044	5,044	5,044	9,219	9,219	9,219	1,522	1,522	1,522	1,596	1,596	1,596
First-stage F-statistic	376.15	289.78	142.09	754.48	572.15	256.32	109.15	96.58	34.68	69.36	70.28	34.03
Outcome mean, full sample	0.52	0.52	0.52	0.55	0.55	0.55	0.66	0.66	0.66	0.73	0.73	0.73
Outcome mean, no cost-recovery order comparison group	0.55	0.55	0.55	0.60	0.60	0.60	0.70	0.70	0.70	0.75	0.75	0.75
Panel C. Any children with TPR												
Mother-to-gov't cost-recovery order	0.02		0.03	0.04+		0.04	0.03		0.02	0.02		0.03
	(0.03)		(0.04)	(0.02)		(0.03)	(0.03)		(0.04)	(0.03)		(0.03)
Father-to-gov't cost-recovery order		-0.01	-0.02		0.02	0.00		0.03	0.02		0.00	-0.01
		(0.03)	(0.03)		(0.02)	(0.03)		(0.04)	(0.05)		(0.04)	(0.04)
Observations	5,044	5,044	5,044	9,219	9,219	9,219	1,522	1,522	1,522	1,596	1,596	1,596
First-stage F-statistic	376.15	289.78	142.09	754.48	572.15	256.32	109.15	96.58	34.68	69.36	70.28	34.03
Outcome mean, full sample	0.08	0.08	0.08	0.08	0.08	0.08	0.03	0.03	0.03	0.02	0.02	0.02
Outcome mean, no cost-recovery order comparison group	0.08	0.08	0.08	0.06	0.06	0.06	0.02	0.02	0.02	0.01	0.01	0.01

Note. Coefficients (and White robust standard errors) from instrumetnal variables (IV; two-stage least-squares). All models control for mother's race and ethnicity, mother's age, oldest father's age, oldest sibling's age, number of children in the household, father's earnings, and county CPS report substantiation rate in the year of removal, county unemployment rate in the year prior to the removal, and county and year of removal fixed effects. Income-to-poverty ratio have been created with mother's wage and her cash income received from SSI, SSDI, W2/TANF and child support at the year before the removal. *** $p<.001$; ** $p<.01$; * $p<.05$; + $p<.1$.