Reconsidering the Effects of Subsidies on Adoption from Foster Care

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Abstract: In this paper I reconsider many of the effects found in "Examining the Effects of Subsidies on Adoption from Foster Care." Federal and state governments provide monthly subsidies to adopted children that vary wildly by state. Using a least squares regression, the placement rate, defined as the number of children adopted over the number of children waiting for adoption, is regressed on median subsidies, state unemployment rate, and state and child demographics. Data is gathered from each of the 50 states and the District of Columbia for the years 2001 to 2015 then largely edited for inconsistencies. This time period covers the Great Recession, an event that had severe economic implications and is hypothesized to have implications on adoption from foster care as well. The purpose of this study is to add to the literature regarding the correlates to adoption from foster care, specifically as related to a state's economy.

Background

I. Adoption from Foster Care

In 2015, about 112,000 children were waiting to be adopted from foster care. Only 53,000 found permanent homes, roughly 10,000 less than the number of children whose parental rights had been legally removed that year. This deficit in adoptions repeats each year.

Adoption out of foster care has been shown to be beneficial to children, the government, and society. Eschelbach Hansen (2008) notes that the cost to the government of adoption is about half of the cost of foster care. Additionally, relative to foster care, having a stable home from adoption improves the health, behavioral, educational, and employment outcomes of children. Adopted children are 23% more likely to complete high school, 19% less likely to be teen parents, 54% likely to be delinquent or arrested, and 22% more likely to participate in the labor force, among other considerable benefits (Eschelbach Hansen 2007b). These improved conditions produce considerable economic returns; on average, three dollars in benefits come from every dollar spent on foster care (Eschelbach Hansen 2007b). These results indicate that adoption is a desired outcome.

II. Title IV-E and Cost in Adoption

Cost is a significant determinant of adoption outcome in both private and public adoption from foster care. Doyle (2007) estimates reform in Illinois that lowered direct subsidies to related caregiving families by 30%, these families were 15% less likely to take on a child in foster care or adoption. In order to lower the cost of public adoptions, states provide monthly adoption assistance payments, or subsidies, to qualifying the families of qualifying children adopted from foster care.

The Adoption Assistance and Child Welfare Act of 1980 created Title IV-E of the Social Security Act, establishing the first Federal subsidies to adoptive families (Child Welfare Information Gateway 2011). Under this piece of legislation, states determine the amount of the monthly subsidies and the requirements for eligibility. States are then reimbursed for these payments by the federal government at a rate inversely proportionate to state per capita income using the Federal Medical Assistance Percentage which varies from 50 to 83%. State and federal adoption subsidies supported 426,400 children in 2010 with a total cost of $3.6 billion (Zill 2011).

Eligible children are ones who are found to have broadly defined "special needs." "Special needs" are generally any characteristic that could make the adoption of a child difficult including sibling groups, disabilities, older age, or being a minority. In 2015, 92% of adopted children were subsidized by the state at an average of $649 per month. However, monthly subsidies vary wildly across states (Eschelbach Hansen 2007a). In 2015, the average subsidies per state varied from $261 in Utah to $1,389 in Virginia. While both the federal government and the state have roles in providing financial assistance to adopting families, the amount is ultimately determined by the state.

These subsidies substantially promote adoption. Eschelbach Hansen (2007a) found that a $100 increase in average monthly subsidy leads to an increase in the adoption rate of 1 per 1,000 births, equal to an increase of 80 children adopted in the average state, resulting in 4,200 more children adopted per year in the nation. Likewise, Argys and Duncan (2013) found that adoption subsidies promoted the adoption of children by their foster families by both lowering the cost of adoption, and lowering the cost relative to foster care. A $100 per month increase led to a roughly 5% increase in adoptions by foster families.

III. The Great Recession and Possible Adoption Implications

The Great Recession, the United States' largest economic downturn since the Great Depression, severely impacted households. With unemployment rates at roughly 10% and the collapse of the housing market resulting in widespread foreclosures, families experienced significant instability. Kalil (2013) investigated the effects of the Great Recession on families, specifically their "family investments." Recessions lower incomes, meaning families have less money to invest in their child's education or health. In relation to adoption, less money to invest in children means that families may be less likely to adopt.

Another pathway in which recessions can affect families is the Family Stress Model. This theory posits that negative economic conditions adversely affect families by putting strain on relationships and mental health, and thereby affects parenting and child development. William Schneider, et al. (2016) finds that increases in the unemployment rate and decreases in consumer confidence are both associated with rises in both physical and emotional child maltreatment by mothers. Additionally, Daniel Schneider, et al. (2016) investigates unemployment and economic instability at the household level and finds both to correlate positively with intimate partner violence. All of the households in the study contain children who may also suffer violence or trauma from witnessing this violence. In sum, economic shocks, like the Great Recession, have been found to be associated with worse parenting. These deteriorating family dynamics may discourage parents from adoption.

There are also reasons that recessions could increase adoption rates. States with higher subsidies alleviate much of the burden of adopting a child, making families under economic stress perhaps more likely to adopt a child relative to families in states with low subsidies.

Additionally, unemployment or underemployment may give individuals more time to raise a child. Unemployment and underemployment also lower the opportunity cost for raising a child by lowering the marginal cost of an hour with a child versus an hour of work. Third, adoption from foster care becomes relatively more attractive than other adoption alternatives in the event of a decrease in wealth. Public adoption is subsidized, while intercountry adoption and private domestic adoption are extremely costly. In a 2005 survey of 250 adoptive parents and prospective adoptive parents conducted by Children's Rights, the National Foster Parent Association, and the North American Council on Adoptable Children, over 80% stated that adoption subsidies factored into their decision to adopt. 58% reported that "they could not adopt without a subsidy" (Children's Rights 2006). A recession may force more prospective parents into a situation in which subsidies are needed in order to adopt, or more desired, and other more expensive options become infeasible. These factors may result in more families opting for adopting from foster care during recessionary periods.

This study investigates the impacts of median subsidy amounts, unemployment rate, and state and child demographics from 2001 to 2015 to estimate determinants of foster care through the time period including the Great Recession. By including years before and after the recession, this study hopes to examine in greater detail the impact the economy can have on adoption from foster care.

Model and Method

This study uses a least squares regression to estimate determinants of adoption from foster care. Two log-linear models are used. The first model includes both child and state demographics:

(1) $Y = \beta_0 + \beta_1$ Median Subsidy $+ \beta_2$ Unemployment rate $+ \beta_3 * X_1 + \beta_4 * X_2 +$ year dummy variables + state fixed effects $+ \varepsilon$

Y represents the dependent variable, the natural log of the placement rate. The placement rate is calculated by dividing the number of children adopted by the number of children waiting to be adopted in foster care. This measure indicates how successful each state is in placing waiting children in homes. Much of the extent literature uses "adoption rate" as the dependent variable, defined as the number of adoptions per 100,000 births in a state (Hansen 2007b, Brehm 2016). Instead, I use placement rate as the dependent variable because the adoption rate is, by definition, affected by the number of births in a state which is influenced by a variety of factors unrelated to adoption.

Median instead of average subsidy amounts are used because one extremely high subsidy amount, awarded to a child in great need, could distort the average subsidy for an entire state. The median subsidies are adjusted into 2009 dollars. Unemployment is used to measure the effects of recession on adoptions.

Past literature also use varying demographic attributes as explanatory variables in the regressions. X_1 represents state demographic variables. State demographics have also been shown to have a significant impact on adoption. Hansen (2007b) finds that the ages of citizens in a state as well as the percent of the population that is African American affects adoption rates. For this reason, average age of a state and racial demographics are included.

X_2 represents demographic variables of the children waiting to be adopted from foster care in each state. Child characteristics substantially impact the chance of a child being adopted. Bacarra, et al. (2014) investigates a private adoption company's database of applications submitted to birth mothers and finds substantial differences in the costs potential parents were willing to pay for children of different races and genders. Skidmore, et al. (2016) surveys Michigan adoptive families from both public and private adoptions and also finds significant cost

differentials in race and disability status. Race, gender, and disability status are aggregated as percentages of the children waiting to be adopted in each state. Average age is also calculated for these populations.

States may have unique characteristics that impact placement rate. Therefore, state fixed effects are included to account for intangible and unique state characteristics that are constant over time yet may influence adoption. Unobservable characteristics may include attitudes towards adoption or welfare practices.

The second log-linear model used removes the child demographic characteristics.

(2) $Y = \beta_0 + \beta_1$ Median Subsidy $+ \beta_2$ Unemployment rate $+ \beta_3 * X_1 +$ year dummy variables $+$ state fixed effects $+ \varepsilon$

These characteristics often directly impact the amount of money given by the state to adoptive families. Older children, minorities, and disabled children frequently receive higher subsidies from the state. Higher proportions of these children will lead to a higher median subsidy in the state and including these impacts will skew the coefficient on median subsidy. When removed, these characteristics as they affect state median subsidy are then captured in the coefficient on median subsidy. This model helps to isolate the effects of subsidies on the placement rate.

Data

The data are from a variety of sources. All data are obtained for the fifty states and the District of Columbia for the years 2001 to 2015 yielding 765 observations. Data from the early years of AFCARS collection (2001-2003) from Nevada, New York, and Iowa were found to be inconsistent and so were dropped, along with any median subsidy observations over double the mean or under $100, leaving 731 observations (see Appendix B). The data on adoptions and

foster care numbers, subsidies, and demographics are from the Adoption and Foster Care

Analysis and Reporting System (AFCARS) datasets run through the National Data Archive on

Child Abuse and Neglect (NDACAN). Each state is required to report annual data on each child

and completed adoption from the foster care system. For this analysis, these data was aggregated

by state. Median subsidy levels, adjusted to 2009 dollar equivalent, range from $19 in Indiana in

2010 to $59,100 in Nevada in 2002. Percentages of gender, disability, and race, as well as

average age are aggregated from the children waiting to be adopted in a given year.

 The unemployment rate was obtained through the Bureau of Labor Statistics. Data on

educational attainment, gender, age, and racial makeup are from the US Census Bureau's Current

Population Survey (CPS) which surveys 60,000 households monthly.

Results

 In the first model, median subsidy and state unemployment rate are no longer significant.

This result may show that demographic characteristics may be more important than initially

theorized in adoption of children from foster care. Percent of the population with a bachelors

degree or higher, percent of state that is white, average age of the state, percent of waiting

children who are white, percent of waiting children who are Hispanic, average age of the child,

percent of waiting children who are disabled, percent of children who are emotionally disturbed,

and year data from 2001 to 2008 are found to be significant. R^2 is 0.354, indicating that this

model has a slightly higher explanatory power than the model that included the outlier data.

 The coefficients on both percent of state that is white and percent of waiting children who

are white were higher and significant at a more rigorous level than in the model with outliers

included. Additionally, a higher proportion of Hispanic children is found to significantly

decrease the placement rate. These findings indicate a bleaker view of American racial bias in adoption. Adoptive families seem to select towards white children and away from Hispanic children.

In contrast to the findings of previous studies, a higher average age of waiting children, and a higher rate of disability in a state increased placement rate, on average. These results suggest that subsidies are functioning as intended, allowing children traditionally seen as "less desirable" to be adopted at a similar or higher rate than those seen as more traditionally "desirable" (i.e. young, healthy children). This result does not hold for children labeled as emotionally disturbed; a 4% increase in waiting children in this category in a state leads to a 2.2% decrease in placement rate, on average. Increasing subsidies for emotionally disturbed children may be able to mitigate some of this effect.

Because 2015 is the omitted year in this model, the year effects are compared to the placement rate in 2015. The coefficients on the year dummy variables in this model indicate that placement rate has generally increased since 2001. These numbers are significant for 2001 through 2008.

After removing child characteristics, median subsidy, state unemployment rate and the years 2001 through 2008 are significant. This result suggests that instead of being more significant in adoption outcomes, child demographic variables may play a larger role in determining the median subsidy per state than initially seen. The R^2 value lowers to 0.293, indicating that removing these demographics does take away from the explanatory power of the regression. This value is also slightly lower than model 2 using data including outliers. The dramatic change in significance and coefficient for median subsidy indicates that the demographic variables and median subsidy share much of the same explanatory power. This

conclusion is supported by a relatively small decrease in R^2 despite the removal of five variables that were statistically significant in model 1.

A $1000 increase in the median subsidy correlates to a 2.05% increase in the placement rate, on average. Extrapolating out to the 111,000 waiting children, this increase could mean an additional 2,275 children placed in homes.

In this second model, the coefficient on the unemployment rate also increases. A 1% increase in the unemployment rate correlates to a 2.5% increase in the placement rate, on average.

Discussion

Overall, the economy of the state and the median subsidy given to adoptive families in a state are once more shown to impact placement rates.

Demographic characteristics of both the children and the state initially appear to have more weight than initially found based on the increased coefficients and significance for racial, age, and disability factors. These results suggest that educational or support services for transracial adoptions and potential families of emotionally disturbed children may have a larger impact on adoption from foster care than any subsidy increase or the economy of the state.

However, after closer look, increases in the average age of children in the state as well as the proportion of those diagnosed as disabled corresponds to increases in the placement rate. These demographic characteristics are also factors that play into the calculation of the subsidy received by adoptive families. Once child characteristics are removed in the second model, median subsidy and state unemployment rate are both economically and statistically significant. Median subsidy in this paper's model 2 has a coefficient roughly twice as large as the coefficient

in model 2 using outlier data. For every $1,000 increase in median subsidy, placement rate

increases 2.05%, on average. An increase this large could result in an additional 2,275 children

adopted in the United States.

In the second model, unemployment rate again has a significant positive impact on

placement rate. This result once more suggests that the pathways increasing adoption during

recession may outweigh pathways decreasing adoption.

The results of the model 1 suggest that some changes could be made to the subsidy

program. The proportion of white children in a foster care system significantly increases the

placement rate of a state. Greater subsidies given to families who adopt minority children,

particularly Hispanic children, may help mitigate this effect. Additionally, a higher proportion of

children who are emotionally disturbed also significantly decrease the placement rate. Making

additional funds available for the monthly subsidies of emotionally disturbed children may

positively impact this situation.

The positive correlation between proportion disabled and average age of the waiting

children suggest that, in these cases, subsidies are functioning as intended.

Further research could look at the substitution effect between private domestic or

intercountry adoptions and adoptions from foster care. Subsidies may create a larger pivot

towards adoption from foster care during national economic hardship.

Appendix A. Table I. Summary Statistics

Variable	Meaning	Mean	Std. Dev.	Min	Max
Placement Rate	no. adopted/ no. waiting to be adopted	32.11	8.28	7.71	55.64
MedianSubs~y	Median subsidy in 2009 dollars	527.42	167.19	144.00	967.78
StateUnemp~e	% unemployed	6.01	2.00	2.60	13.70
	State demographic variables				
gradhighsc~l	% highest degree attained is high school	24.03	3.60	11.17	35.99
bachelorsd~r	% with bachelors degree or higher	19.91	5.26	10.26	65.42
stateFemale	% of population female	50.90	1.13	44.90	59.70
stateWhite	% white	80.60	13.98	17.77	98.33
stateblack	% black	11.47	11.45	0.00	63.27
stateAsian	% asian	3.97	8.96	0.00	70.78
Stateavera~e	average age	36.34	2.61	24.10	42.00
	Children waiting to be adopted demographic variables				
childrenFe~e	% female	47.69	1.75	40.00	54.59
childrenWh~e	% white	63.57	19.84	0.50	98.76
childrenBl~k	% black	30.96	20.85	0.74	97.74
childrenHi~c	% hispanic	12.85	12.93	0.14	62.65
childrenas~n	% asian	1.72	7.09	0.00	57.40
childavgage	average age	6.48	0.79	4.19	8.75
disabled	% diagnosed with a disability	33.06	19.13	0.00	100.00
physically~d	% indicating physical disability	2.28	2.56	0.00	23.61
emotionall~d	% indicating emotional disability	19.23	12.57	0.08	64.43
mentallyre~d	% indicating "mental retardation"	4.14	5.53	0.00	54.88

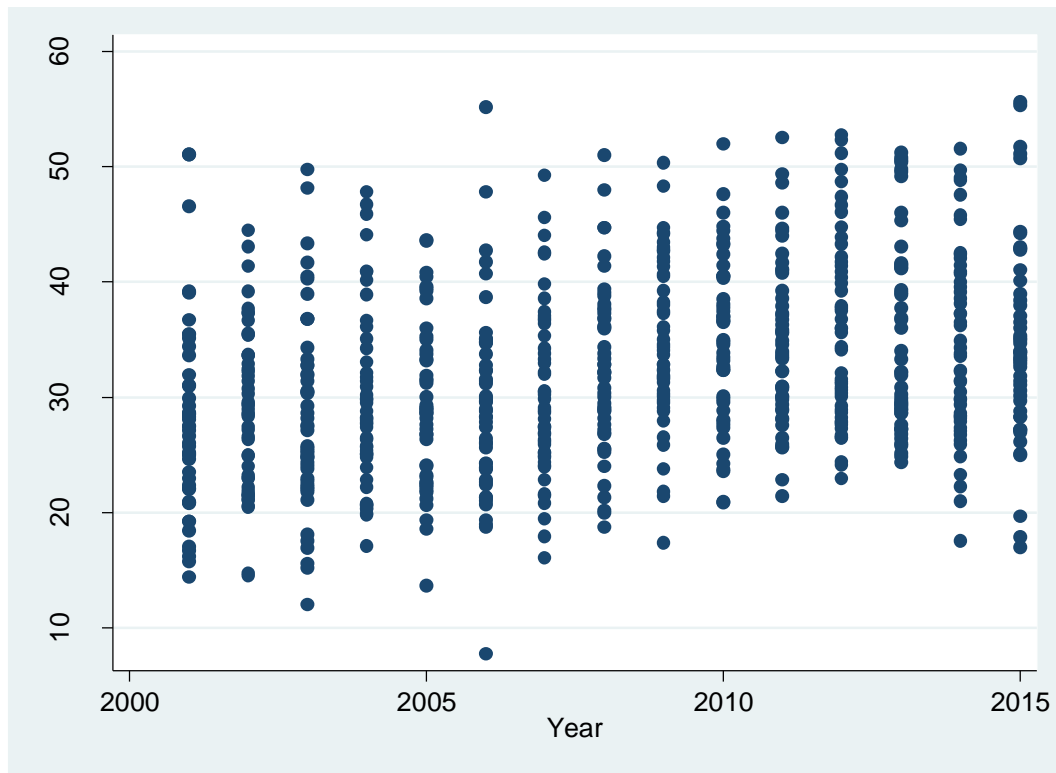**Appendix B. Scatter Plots**

After data editing:
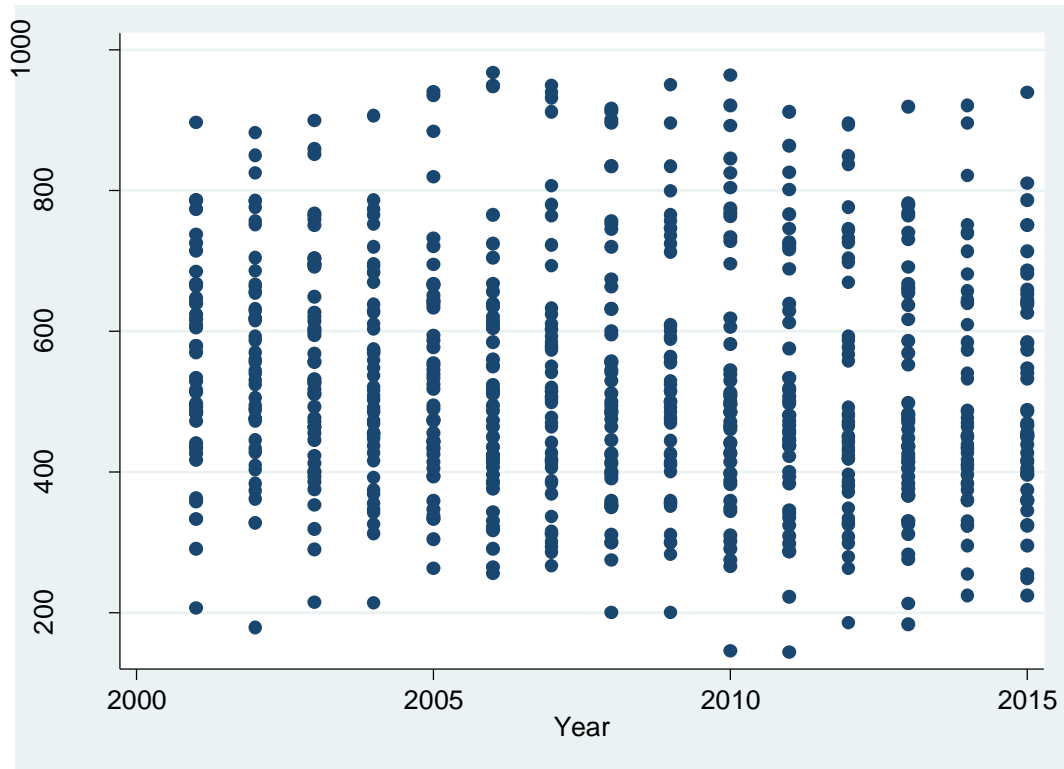
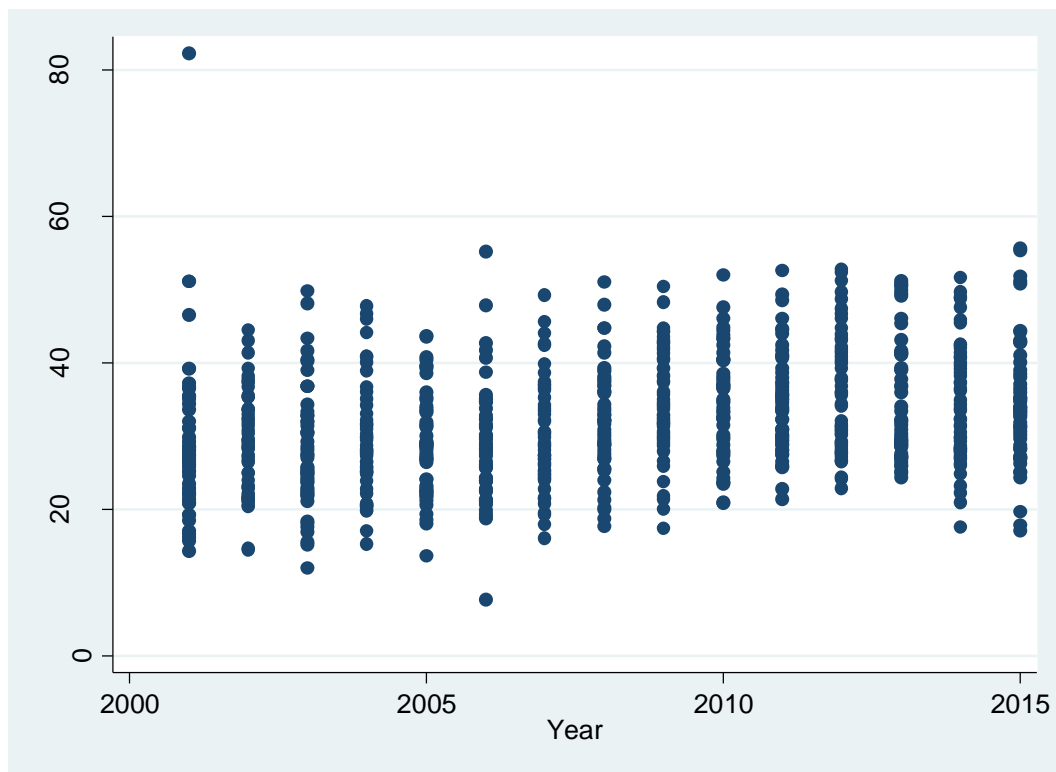

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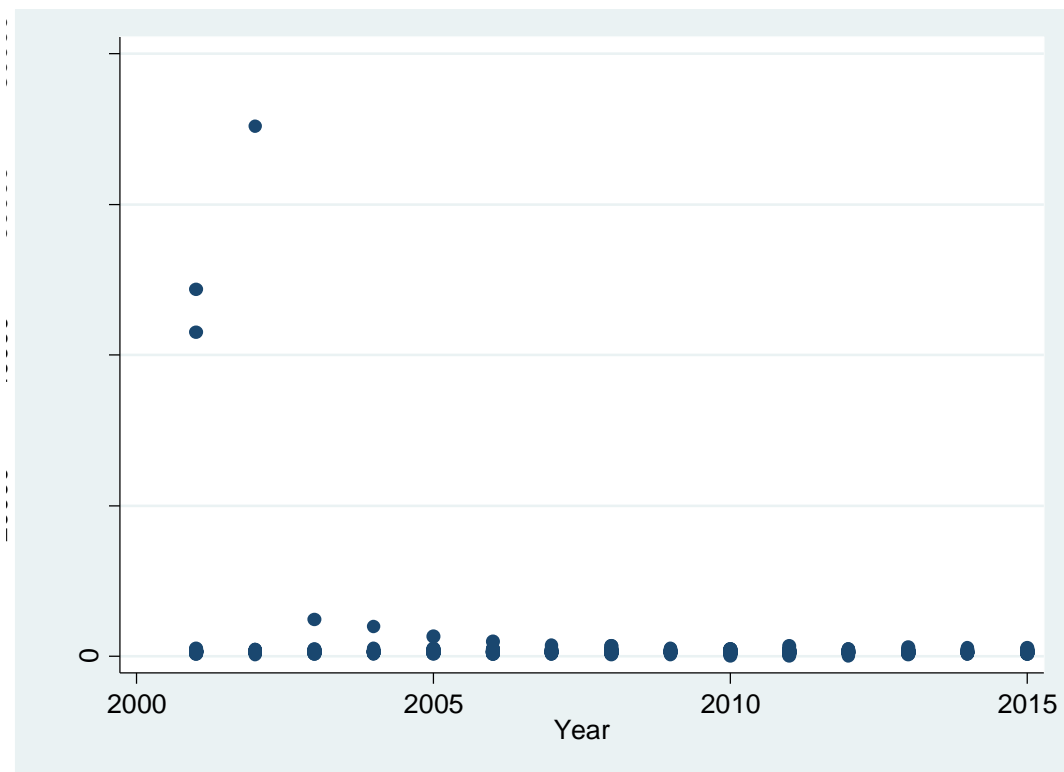
After Data Editing:

Before Data Editing:

Appendix C. Table II. Regression Results
Standard Errors in Parentheses
*p<0.1, **p<0.05, ***p<0.01

Variables	(1) ln(Placement Rate)	(2) ln(Placement Rate)
MedianSubsidy	0.0000989 (0.0000858)	0.0000205** (0.0000083)
StateUnemploymen~e	0.0107 (0.0042)	0.0205** (0.0089)
bachelorsdegreeo~r	0.00742* (0.00424)	0.00417 (0.00430)
stateFemale	0.00528 (0.00735)	0.00748 (0.00753)
stateWhite	0.0117** (0.0047)	0.00599 (0.00439)
stateblack	0.00217 (0.00570)	-0.00303 (0.00560)
stateAsian	0.00105 (0.00467)	-0.00565 (0.00362)
Stateaverageage	-0.0141* (0.00804)	-0.00862 (0.00812)
childrenFemale	0.00650 (0.00572)	
childrenWhite	0.00400*** (0.00143)	
childrenBlack	-0.00193 (0.00168)	
childrenHispanic	-0.00589* (0.00321)	
childrenasian	0.00606 (0.00833)	
childavgage	0.0923*** (0.0178)	
disabled	0.00226*** (0.00087)	
physicallydisabled	0.00250 (0.00371)	
emotionallydistu~d	-0.00543*** (0.00134)	
mentallyretarded	-0.00283 (0.00183)	
y2001	-0.283*** (0.054)	-0.235*** (0.048)
y2002	-0.270***	-0.224***

	(0.051)	(0.045)
y2003	-0.294*** (0.048)	-0.257*** (0.044)
y2004	-0.240*** (0.045)	-0.205*** (0.042)
y2005	-0.222*** (0.043)	-0.196*** (0.041)
y2006	-0.226*** (0.042)	-0.195*** (0.041)
y2007	-0.171*** (0.0397)	-0.149*** (0.039)
y2008	-0.0867** (0.0386)	-0.0879** (0.0382)
y2009	-0.0443 (0.0497)	-0.0753 (0.0483)
y2010	-0.0422 (0.0503)	-0.0776 (0.0491)
y2011	-0.0270 (0.0457)	-0.0592 (0.0452)
y2012	0.00143 (0.04008)	-0.0116 (0.0402)
y2013	0.000865 (0.0368)	-0.0150 (0.0374)
y2014	-0.0854 (0.0796)	-0.0490 (0.0809)
Constant	1.575** (0.715)	2.749*** (0.661)
State Effects	Yes	Yes
Observations	753	759
R squared	0.354	0.293

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