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ABSTRACT

Can Reduced Child Support Make Joint Custody Bad for Children? The Role of Economic Incentives in U.S. Divorce Law on Child Outcomes*

This paper examines the effect of economic incentives generated by U.S. divorce and custody law on a range of child health and human capital measures. State laws vary widely in the treatment of child support under joint custody. While some states require no child support in joint custody cases, other states require fathers with joint custody to pay the same child support as those without custody. Merging family and child data from the SIPP with state-level data on economic incentives for joint custody, we find that fathers' joint custody decisions are significantly affected by the incentives generated by reduced child support. These incentives have negative effects on children's human capital development and health, with economic incentives for joint custody leading to significantly lower educational attainment as well as worse attitudes toward school and child health. Parental characteristics and time use data suggest that economic incentives for joint custody may limit children's time spent with relatively high quality mothers, as fathers pursue joint custody in response to the policy.

JEL Classification: J12, J13, J22, I12, I29, K36

Keywords: joint custody, child support, divorce, child outcomes, human capital, health behavior

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1 Introduction

Research has shown that divorce laws ranging from unilateral divorce provisions to child support legislation affect investment in children. Child custody reform represented a marked change in policy, as many states made explicit provisions in their laws to favor joint custody, with most states providing legal provisions for joint custody by the mid-1980s.[1] Proponents of joint custody cite the best interests of the children as justification, arguing that children benefit from ongoing support and resources from both parents.[2] However, since joint custody usually implies a reduction in the child support transfer from the father (Del Boca and Ribero, 2003), there could be unintended effects due to negative selection of fathers into joint custody agreements if fathers assume custody to avoid paying child support.[3] In this paper we examine empirically how the interacting incentives of the U.S. custody and child support system may affect children's outcomes.

Since the Family Support Act of 1988, all U.S. states have used a 'guideline,' or algorithm, to determine a fixed child support amount based on parental income and the number of children. States differ substantially in both their guideline support amounts and also in their treatment of joint custody. In some states, there is no offset to the child support obligation when custody is shared, while in other states fathers may avoid paying most or all child support by

[1] Rasul (2006) develops a theoretical model of marriage and custody and shows that joint custody is optimal among couples with homogenous valuations of child quality. With heterogeneity in spousal valuation of child quality, it is better for the high-valuation spouse to have the majority of custody.

[2] Bauserman (2002) found that frequent contact between children and both parents can buffer some of the detrimental effects caused by the divorce itself. Del Boca and Ribero (1998) find correlational evidence that nonresidential parents with joint custody transfer more resources to children in addition to those ordered by courts. However, some evidence supporting the positive role of contact with fathers following divorce is mixed. Kalil et al. (2011) find no evidence that proximity to divorced fathers benefit children's educational achievement or human capital attainment. They actually find that closer proximity to the father tends to have a modest negative association for these outcomes, and even more so for children of highly educated fathers.

[3] Halla (2015) provides an overview of the literature, though generally the causal relationship between custody arrangements and child outcomes is unclear and the empirical evidence has been mixed.

assuming joint custody of the children. The implications of this system for child outcomes are theoretically ambiguous. On the one hand, decreases in child support create a strong economic incentive for the father to seek custody to mitigate or avoid paying child support (we refer to decreases in child support payments as a result of joint custody as "child support savings" or CSS). Moreover, since child support is usually a transfer from the father to the mother and children, this incentive will be strongest among fathers who place a relatively low weight on their children's consumption relative to their own, leading to possible negative selection among the fathers who seek joint custody.

On the other hand, CSS may also positively affect child outcomes. CSS could have positive effects on children if they lead more families to choose joint custody and joint custody benefits children. They can also afford some fathers the ability to choose joint custody when the option was previously cost prohibitive. Differing amounts of CSS also affect the distribution of resources between each parent and the composition of families that choose joint custody, with potential impacts on the wellbeing of children. In the end, the effect of economic incentives for joint custody can only be answered empirically. To what extent do varying economic incentives affect fathers' decisions to seek joint custody? And do these economic incentives positively or negatively affect children's wellbeing?

To answer these questions, we exploit cross-state variation in child support and joint custody laws to compute paternal child support under both joint custody and if the mother maintains sole custody. Merging this state-level data with individual-level data on custody and children's health and cognitive development from the Survey of Income and Program Participation (SIPP), we find that increased economic incentives for fathers to undertake joint custody lead to a significantly higher incidence of joint custody upon divorce. Moreover, these

economic incentives appear to have important unintended consequences for children; higher levels of CSS with joint custody lead to lower measures of health and of human capital development, especially among children aged 12 or under. Our results indicate that higher paternal economic incentives for joint custody generate worse attitudes toward school among children younger than 12 as well as significantly less educational attainment and degree completion among older children. We find a significant decline in educational attainment of 1.67 months with an increase in CSS from 0% to 40%, which is roughly twice the magnitude Gruber (2004) found in response to youth exposure to unilateral divorce. Parental characteristics and time use data suggest that economic incentives for joint custody may limit children's time spent with relatively high-quality mothers, as fathers pursue joint custody in response to the policy incentive.

Our paper contributes to the literature by, to the best of our knowledge, being the first that analyzes the effect of economic incentives for joint custody on children's outcomes. We interpret our findings as causal evidence, given the exogenous variation of CSS across states and income groups. Our finding of significant effects of joint custody laws on the welfare of children supports the strand of literature of Bargaining in Marriage models (Weiss and Willis, 1985), i.e., models based on incomplete contracting.

The rest of the paper is organized as follows. Section 2 describes the relevant empirical literature and the theoretical implications of economic incentives for joint custody, and Section 3 discusses our empirical strategy. Section 4 describes the datasets used to generate the empirical results and provides some descriptive statistics. In Section 5, we present our results. Section 6 concludes.

2 Literature Review and Theoretical Implications

Several papers have explored the unintended consequences of divorce law on family outcomes, including child outcomes. A wealth of research indicates that more liberal divorce laws lead to decreased investment in children and adverse long-term outcomes (Johnson and Mazingo, 2000; Gruber, 2004; Caceres-Delpiano and Giolito, 2009; Gonzalez and Viitanen, 2009). Recent work has focused on the particular implications of joint custody on family and child outcomes and finds that joint custody laws have generated important side effects, including less domestic violence and lower male suicide rates in joint custody states (see Halla, 2013).

Our research indicates that the interaction of child support and custody law may have important unintended effects as well. Since CSS are one component of the more general laws that govern joint custody, CSS can affect children through the same channels as laws that favor joint custody. These mechanisms may include direct effects on parental time investments, changes in bargaining power between spouses, which affect monetary and time investments, and broader policy effects on the marriage market, fertility and divorce.[4] Additionally, CSS have implications for the allocation of monetary resources (child support payments), i.e., who (the father or the mother) exerts control over these resources. Therefore, CSS can also affect the wellbeing of children in ways identified by the child support literature.

In what follows, we describe, in an informal and intuitive way, the main channels (some of which may overlap) through which CSS can affect children's outcomes. The following section then describes the empirical specifications employed to estimate the relevant effects.

2.1 Joint Custody Direct Effects

To the extent that CSS increase the incidence of joint custody, there is a direct effect of CSS, through joint custody, on the outcomes and wellbeing of children of divorced parents (the

[4] Pollak (2018) points out that anticipated bargaining in marriage may affect the marriage market, which may in turn lead to inefficient marital allocations due to the impossibility of binding commitments within marriage.

JC effect). There are several channels through which joint custody laws can affect the outcomes of children of intact and non-intact families. Sharing residence equally could affect the children's level of emotional stress in a variety of ways, depending on whether the cons associated with a lack of stability are outweighed by the benefits of more frequent contact with both parents (see Turunen (2017) for a recent review of the different links between shared physical custody and the level of emotional stress of children).

A large number of studies have analyzed the correlation between joint custody and a variety of children's emotional and educational outcomes. Although the results vary across studies, the majority find that children in joint custody arrangements have better emotional and educational outcomes than other children of divorced parents (see, Nielsen (2018) for a summary of the results of 60 studies and Turunen (2017) for a recent review of the literature). The majority of this literature is based on very small samples and cross-sectional comparisons of children in different custody regimes, with imperfect or no controls for the characteristics of parents before divorce. Although some studies control for parents' income or the level of conflict between them, there is an obvious endogeneity problem when heterogeneous parents make different custody decisions. For example, a steady everyday-like contact has been found to strengthen the parent–child bond and to facilitate the kind of parenting style that is positive for child development (Amato and Gilbreth, 1999); this parenting style is more frequent among fathers that request and obtain joint custody (Bastaits, Ponnet, and Mortelmans, 2012). Whether this parenting style is the result of joint custody or a trait that preceded divorce is unknown and not controlled for in the vast majority of these studies.

Fewer studies have dealt with the endogeneity problem generated by selection into joint custody by investigating the effects of joint custody laws on child outcomes. In contrast to the

literature cited above, these studies tend to find negative effects of joint custody on children. Nunley and Seals (2011) and Maiti (2015) find that joint custody laws are associated with worse educational and labor market outcomes for children that grew up in US states that had passed joint custody laws, with stronger effects for boys. These two studies do not distinguish between children of intact and non-intact families. Leo (2006) analyzes the educational outcomes of children of intact and non-intact families separately and finds negative effects for the former but positive effects for the latter.

2.2 Bargaining Effects

Joint custody laws and/or CSS upon joint custody may also increase the bargaining power of fathers by increasing fathers' post-divorce utility and the value of an "exit threat" strategy (the *bargaining effect*). To the extent that joint custody laws increase the bargaining power of men, one should expect a more predominant role of male preferences in relation to the allocation of resources, including time investments devoted to children both in intact and non-intact families. Joint custody laws may also increase married fathers' incentives to invest in their children. Whether these factors lead to better or worse outcomes for children is again theoretically ambiguous (Halla, 2013).

There are surprisingly very few studies analyzing the impact of joint custody laws on the bargaining power of spouses and how this might affect children's outcomes. The two papers cited above tend to find negative effects of joint custody laws on children, measured by their educational attainment, but only Nunley and Seals (2011) explore the relationship between spouses' bargaining power and investment in children. The authors find that the probability of children's private school attendance declines by 12% in states that adopt joint-custody laws.[5]

[5] When we analyze the effect of CSS on private school attendance we don't find conclusive evidence. If anything, our results suggest a positive effect of CSS on expenditures on children.

Another group of papers has studied the effects of spouses' bargaining power on the welfare of children in situations unrelated to child custody laws. Most of that literature finds that increased maternal bargaining power leads to increased child expenditure and positive effects on children's outcomes (see, for example, Thomas, 1990; Lundberg et al. 1997; Angelluci and Attanasio, 2013). Finally, the effects of joint custody laws on spouses' bargaining power has consequences for the division of labor within the household, more precisely, on the labor supply of married mothers. These female labor effects can in turn have consequences for the outcomes of children in both intact and non-intact families (Halla, 2013 and Roff, 2017).

2.3 Parental Expenditure Effect

Just as changes in CSS may affect bargaining power, regulations that determine the amount of CSS cause a redistribution of resources (mainly child support) from mothers to fathers. This redistribution of resources, and the resulting change in how much control each parent exerts over them, might change the incentives of fathers and mothers when they decide how much to spend on their children (the *expenditure effect*). Although the *expenditure effect* applies more clearly to children of divorced parents, particularly to children under joint custody, (as opposed to the *bargaining effect*, with more direct implications for children of intact families), this effect can easily extend to parents of children in intact families, who foresee the consequences of a divorce.

Moreover, CSS may affect child outcomes through direct effects on child support amounts. Several studies have found that child support receipts produce gains in children that are several times higher than those of other types of income, such as mother's earnings or family income (see, for example, Knox, 1996, and Argys et al., 1998). Since non-custodians who pay child support and those who do not may differ in unobserved characteristics, the reasons for this

relationship are not clear. In trying to understand the channels behind the positive correlation between child support and children's outcomes, Aughinbaugh (2001) finds that non-custodians are willing to pay more child support when child achievement is better, as this is interpreted as evidence that custodial parents are acting in the child's interest. This result is consistent with Aizer and McLanahan (2006) that find that policies that compel men to pay child support improve the outcomes of children of intact families through two pathways: an increase in financial resources and a birth selection process, by which men under stricter child support regulations have fewer out-of-wedlock births and more births with more educated women and with a higher propensity to invest in children.

Finally, given the well-known efficiency problem of child support (Weiss and Willis, 1985), CSS that lead to joint custody may induce fathers to make higher child expenditures since joint custody affords the opportunity to make direct payments. Del Boca and Ribero (2003) find some evidence in simulations that joint custody laws tend to mitigate the inefficiencies associated with child support orders due to the father's inability to monitor expenditure on the child, leading to increased direct expenditures on children by fathers and more active paternal involvement. Rossin-Slater and Wüst (2016) look at how a larger child support obligation might incentivize father-child co-residence, and they find that an increase in average obligation was actually associated with a decrease in father-child co-residence, perhaps due to crowding-out as fathers substitute money for time spent with his child.

2.4 Crowding Out Effect

Joint custody driven by CSS can shift the distribution of time that the child spends with each of her parents. Not only do parents impart knowledge and skills to their children, but they also pass on attitudes and expectations that help them navigate the world. Fiorini and Keane

(2014) find that children spending time in educational activities with parents positively affect their cognitive development. CSS can have negative (positive) effects on children if the presence of CSS causes children to spend more time with 'bad' ('good') fathers at the expense of time with 'good' ('bad') mothers. Even if CSS cause children to spend more time with 'good' fathers, this may come at the expense of time with 'good' mothers, with unclear effects for the wellbeing of children.

Earlier studies have emphasized the importance of the time children spend with their mothers and show that reduced time with the mother due to maternal employment has negative effects on children's cognitive outcomes (Ruhm, 2008; Baum, 2003). More recently, Hsin and Felfe (2014) find that not all time spent with children is equally valuable, as not all types of parental time benefit child development. They find that working mothers with a high school degree are the ones facing the greatest difficulty balancing work and time caring for their children and that residential fathers compensate only partially by spending more time with their children.

2.5 The Compositional Effect

Theoretically, CSS may affect the type of fathers (mothers) who pursue joint custody and change the composition of children under joint custody without affecting outcomes for individual families. For example, according to most child support guidelines, CSS due to joint custody tend to be larger when the father and the mother have similar, and relatively low, earnings. Hence, one would expect that, as a consequence of CSS, joint custody will increase more among these types of couples. Since child outcomes are affected by the characteristics of their parents, even before divorce, CSS may affect the correlation between joint custody and children's wellbeing due to the *compositional effect*, without any causal effect on the outcomes of children. This

compositional effect will be larger if CSS shift the distribution of children (and parents) that take joint custody towards a certain type with different pre-divorce characteristics.[6] From that point of view, a statistical association between joint custody and children wellbeing, mediated by CSS, could be a spurious relationship.

In our empirical analysis, we show that our results are not driven by this *compositional effect*, since our preferred specification, the OLS on CSS is estimated on the sample of *all* children of divorced parents and shows significant negative effects of CSS. We also find evidence that suggests that neither the *expenditure effect* nor *the bargaining effect* are the primary crucial mechanism through which CSS affect child outcomes, since we find little evidence of effects of CSS within intact families and on the expenditure of children of divorced parents. Instead, we find evidence suggestive of a *crowding out effect*. As a consequence of CSS, fathers' time with their children increases but at the expense of time spent with mothers with relatively lower labor market attachment and more time devoted to children, with negative consequences for the wellbeing of those children.[7]

3 Empirical Specifications

To identify the effects of the economic incentives of joint custody on outcomes for children of divorced parents, we use state-wide child support guidelines to develop an estimate of CSS generated by joint custody for each set of divorced parents in our sample (CSS_i). As we discuss in more detail in the next section, the child support algorithms used to generate CSS are quite complex and vary within state over time for roughly half of the states in our sample. Given

[6] Previous studies have shown that highly educated and employed parents are more likely to have joint custody (Cancian and Meyer 1998; Juby et al. 2005; Spruijt and Duindam 2009).

[7] While many studies have examined how parental involvement correlates with children's cognitive and behavioral outcomes in regards to maternal involvement and family income, fewer studies have looked at the effect of father's time with children (Lamb, 2010).

this measure of CSS, we estimate the effects of economic incentives on children's outcomes using a simple OLS regression of children's outcomes on CSS, where "children" refers to all children of divorced parents, regardless of custody status. More precisely, we estimate the following empirical specification:

$$Y_{it} = \propto_0 + \propto_1 CSS_i + \alpha_2 X_{it} + \tau_i + \varphi_i + \rho_i + u_{it} \qquad (1)$$

where Y_{it} is the outcome of interest for individual *i* (child or parent) in year *t*, CSS_i is the theoretical amount of CSS for parents of child *i*, which is calculated as a function of that child's parents' characteristics and the state-specific guidelines, X_{it} is a vector of covariates (including the child's age, race, number of siblings and the custodial parent's age and level of education), τ_i are the custodial parent's income fixed effects, φ_i are state fixed effects and ρ_i are income-pair (father and mother) fixed effects. For our dependent variable Y_{it}, we explore the effect of CSS on four types of outcomes: divorce-related outcomes (the incidence of joint custody, amount of time spent with the father and the amount of child support), child outcomes (attitudes toward school, educational attainment and health levels), child expenditure outcomes (private school attendance and health expenditures) and outcomes that proxy for the quality of the time with children.

In equation 1, the coefficient of interest is α_1, the average effect over the entire population of children of divorced parents of a change in CSS. In the empirical section, we present the estimates of both α_1 and the economic impact, i.e., the implied effect of CSS on the outcome of interest, measured at specific values of CSS (0%, 20%, 40%). Since our identification strategy exploits variation in CSS across states and income groups, it is essential that we control for average income and state effects in equation 1. Hence, the identification of α_1 exploits simultaneously within-state variation in CSS (given by differences across income groups) and within-income variation in CSS (given by differences across states). This double variation of

CSS (across states and income groups) allows us to identify α_1 while controlling for state and income fixed effects at the same time.

Figures 1 and 2 present average CSS by state and income group, respectively. While the variation within state in CSS over time and the lack of a clear pattern in CSS by income groups gives us confidence that our measure of CSS is not picking up spurious variation associated with child outcomes, we cannot separately identify effects that might occur through effects of CSS on marriage and divorce. However, this concern appears to be relatively minor given that Table 12 indicates that CSS has essentially no effect on divorce rates.

Throughout the analysis, we present results from two additional specifications, which provide context for the results from equation 1 and shed some light on the mechanisms behind our findings.

First, we show the association between joint custody and the child outcomes from estimating the following OLS regression:

$$Y_{it} = \beta_0 + \beta_1 JC_i + \beta_2 X_{it} + \tau_i + \varphi_i + \rho_i + u_{it} \qquad (2)$$

where JC_i is a dummy variable taking value 1 if the child is in joint custody. The results from this analysis are subject to an obvious omitted variable bias (i.e., parents that choose joint custody are not a randomly selected group in the population). However, these effects can be seen as a benchmark and a point of departure for the subsequent analysis. In general, we find a positive association between joint custody and most child outcomes, which is consistent with the correlations found in the prior (non-causal) literature. This positive association contrasts with our finding of, overall, a negative effect of CSS on child outcomes (from equation 1). As we will show later, CSS increases the incidence of joint custody, so the contrast between the results from equation 1 and equation 2 suggest either a negative (causal) effect of joint custody on children's

wellbeing or a negative selection of parents that take joint custody when CSS are high (consistent with the *crowding out effect*).

Second, we show the correlation between joint custody and child outcomes, mediated by CSS. That is, we estimate the relationship between joint custody and child outcomes, but only with respect to those cases in which joint custody has been induced by CSS:

$$Y_{it} = \gamma_0 + \gamma_1 \widehat{JC}_i + \gamma_2 X_{it} + \tau_i + \varphi_i + \rho_i + u_{it} \qquad (3)$$

In equation 3, $\widehat{JC}_i$ is joint custody instrumented with CSS. We use IV regression techniques, but the results from these regressions cannot be interpreted as causal effects, because the estimated coefficients may be affected by the *compositional effect*, described above.[8] Still, the results from these regressions are relevant because CSS can affect the outcomes of children under joint custody in a real, causal, way through a variety of channels: the *crowding out effect,* the *parental expenditure effect* and the *bargaining effect*. Furthermore, a comparison of equations 2 and 3 gives us a sense of the magnitude of the *compositional effect* (similar results would indicate a small *compositional effect*) and also whether the effects of CSS on the wellbeing of children are greater for children in joint custody vs. all divorced children (again, similar results across the two specifications would suggest the latter). In general, although not always, we find quite similar negative effects across the two specifications, suggesting causal effects of CSS on child outcomes. In additional time-use analyses, we find evidence that the *crowding out effect* may be an important mechanism in explaining our results.

4 Data

We use child support guidelines from all 50 states, 12 of which do not take into account

[8] In other words, of the two conditions that a valid instrument must satisfy (relevance and the exclusion restriction), our IV would violate the exclusion restriction in the presence of a *compositional effect*. Unfortunately, this violation (or its absence) is impossible to test empirically.

joint custody for the purposes of calculating child support orders. We define CSS as the dollar amount saved in monthly child support due to a father having joint custody, and we express this value as a percentage of the non-custodial parent's monthly income.

To measure each fathers' child support saving from joint custody, we exploit state-level guidelines which legally determine the amount of child support that each father is expected to pay based on parental incomes and the number of children as well as the amount of time that each parent spends with the child. While these guidelines provide a rich source of exogenous variation in child support saving by state, this wide variation in state child support guidelines also makes data collection relatively difficult, since each state has its own algorithm for the computation of child support, which can sometimes be quite complex. As a result, to compute the amount of child support, we accessed current and historical legislative records and/or state-maintained online 'child support calculators' for each of the 50 states. When state sources were not available, we used calculators and legislative records from private law firms and online calculators. Appendix A2 lists the calculators used for each state.

State child support algorithms differ in both their computation of basic child support, as well as their treatment of joint custody for the purposes of computing child support. While some states allow fathers to pay no child support in cases of joint physical custody, others simply allow a deviation from the expected child support order on a case-by-case basis. States also differ in their treatment of the custodial parent's income for the purposes of child support calculations. Although most states use a method called 'income shares' in which a total child support amount is determined from total parental income with the father's share of that child support payment determined from his share of total parental income, seven states follow the 'percentage of obligor' income model in which child support is determined as a percentage of the father's

income, irrespective of the custodial parent's income.[9]

For each state and year from 2000 to 2013, we calculated child support for 1- and 2-child families for three different income groups (low, medium and high) for each parent assuming both sole maternal custody with paternal parenting time of two weekends a month and shared physical custody in which both parents have equal time with the child(ren), leading to a total of 36 separate child support calculations for each state-year and 23,400 calculations overall. To define income for the low-income category, we use the federal minimum wage in 2015 of $7.25 to generate annual income of $13,195 (in 2015 dollars). To compute income for the 'medium' income category, we used median individual income in 2015, for an annual income of $37,000 in 2015 dollars. For the high-income group, we used the 90th percentile of income in 2015 to generate an annual income of $102,000 in 2015 dollars.

Given these nine income combinations and two custody scenarios, we can calculate child support as a function of the number of children and therefore compute the dollar amount of child support that the father saves by taking joint physical custody of the child(ren). Appendix A1 presents this calculation for four sample states. As Figure 1 shows, states vary widely in average CSS as a percentage of the non-custodial parent's income. Massachusetts tops the list with average CSS from joint custody of close to 50% of non-custodial parent's income, while 12 states do not explicitly include joint custody in the child support algorithm at all. Moreover, as Figure 2 shows, there is substantial variation across states even within income groups, with CSS ranging from roughly 25% of non-custodial parent's income to zero across each income group. It's also noteworthy that in Figure 2 there is no clear association between CSS and the level of

[9] Four (AK, MS, NV, and WI) use the flat percentage model and three (AR, ND, and TX) use a varying percentage model. Only three states (DE, HI, and MT) follow a more complex method of child support calculation called the Melson Formula. The remaining states follow the income shares model.

income, with CSS sometimes increasing and sometimes decreasing with the level of income. Figure 2 also shows that whether a state's child support guideline follows a percentage of income, income shares, or Melson Formula model has no bearing on CSS. While most of the variation in CSS is driven by cross-state differences, several states altered their child support guidelines over the period as well. Roughly half of the states made non-minor changes to their child support guidelines and treatment of joint custody for the purposes of child support calculation between 2000 and 2013.

Our second source of data is the Survey of Income and Program Participation (SIPP). We use the 2008 SIPP panel to construct a sample of custodial parents and children of those custodial parents. Although the 2008 SIPP covers the period between 2008 and 2013, our sample comes from individuals interviewed in the topical module 6 of the 2008 SIPP. That topical module ran between May and August of 2010 and asked questions related to child custody and child support arrangements. Individuals in that sample can be matched to the other core waves and other topical modules of the 2008 SIPP in order to extract relevant information for our analysis, such as income, main socio-demographic characteristics, health and educational outcomes and the marriage history of custodial parents.

The income of the non-custodial parent is unobserved, so we need to impute it. We use the 2004 and 2008 panels of the SIPP to construct a sample of couples that we observe initially married but then divorce during the sample period (between 2008 and 2013 in the case of the 2008 SIPP panel and between 2004 and 2008 in the case of the 2004 SIPP panel). This sample has a total of 1,527 couples and 26,547 monthly observations. We use this sample to estimate the income of the father (mother) as a function of the mother's (father's) income and a set of observable characteristics. More specifically, we estimate through ordered logistic regression the

probability that a given parent's income is of each of the three levels (low, medium, high)[10] and as a function of the other parent's income and her set of observable characteristics.[11,12] We match these estimated probabilities to our sample of custodial parents by level of income, education, number of children and work status. After this matching process, each of our custodial parents has a set of three probabilities, the probability that the non-custodial parent is of low, medium or high income. We then calculate a weighted average of CSS due to joint custody for each individual in our sample of custodial parents which is a function of that individual's level of income, the number of children, the probability that the non-custodial parent is of low, medium or high income and the corresponding calculated amounts from the state guidelines.

Descriptive statistics of our samples are shown in Table 1. The sample of custodial parents consists of 5,045 individuals (82% of which are mothers and the rest fathers) of which 2,054 declare having a written child custody agreement. Fathers are more likely to be a custodial parent to only one child. In the sample, most parents have a high school degree or fewer years of education, with only 15% holding a college degree or more. Some 11% of custodial parents declare having no job during the sample period. Of those who work, a majority (49%) have low income (less than $25,000). Custodial fathers are more likely to earn a higher income, with an annual income that ranges in the medium range, from $25,000 to $69,000 or the high range, more than $69,000. Most custodial parents are white, especially fathers, representing 68% of the

[10] For the purposes of sorting NCP income into categories, we use the midpoint of our child support calculation thresholds, and we define "low income" as annual income ranging from $1-$25,097, "medium income" from $25,097-$69,500, and "high income" as income exceeding $69,500. Income values are expressed in 2015 dollars.

[11] The income of one parent is regressed against the income of the other parent, her level of education dummies, race dummies, work status dummies, age dummies, state dummies, year, and month dummies.

[12] As expected, there is a strong and positive correlation between the income levels of the two spouses and between the level of education of one spouse and the income level of the other. In terms of the work status of each spouse, there is a weakly negative correlation between work hours and the level of income of the other spouse. This negative association is stronger in the case of women as compared to men.

total. Although sole physical custody is the predominant type of custody for both male and female custodial parents, joint custody is more frequent among custodial fathers (26%) compared to custodial mothers (12%).[13] Interestingly for our analysis, the likelihood that a given custodial parent is male increases with the amount of CSS, from 16% when CSS is 0 to almost twice as much (28%) when CSS exceeds 30%.

The right panel of Table 1 shows the descriptive characteristics of the sample of children of divorced parents. We divide the sample into two groups according to age: 12 or under and more than 12 years of age. Our sample includes a total of 7,577 children, 3,887 of these children are less than or exactly 12 years old and 3,690 are older. The average age of children in the sample is about 12 years old. Most families have two or more children, and older children are slightly more likely than younger children to have parents with joint custody or sole custody by their father. Older children are also more likely to have parents with a written custody agreement.

There may be differences in the characteristics of custodial parents at different levels of CSS due to the inherent presence of the saving incentive. Table 2 presents the characteristics of fathers and mothers with and without the presence of CSS. Table 2 shows characteristics of custodial parents with no CSS in columns (1) and (5) in contrast to parents with CSS in the other columns. There are some significant differences between custodial parents with CSS, most notably in their racial distribution, with a larger proportion of Latinos when CSS is high. This is consistent with Figure 1, where states with a relatively high presence of Latinos rank high in terms of levels of CSS (e.g., California, Texas, New Mexico). In the case of custodial fathers, low income fathers are relatively overrepresented when CSS is high, which is also consistent with the structure of CSS shown in Figure 2, with CSS decreasing with income. In all our

[13] In addition to joint physical custody and sole physical custody, there is another category called “other type” in the SIPP.

specifications, we control for these differences through a set of race and income variables.

5 Results

To examine the role of economic incentives for joint custody on child outcomes, Table 3 through Table 5 first establish that increased CSS upon joint custody show the expected effects on paternal joint custody uptake, time spent with children and child support paid. Table 6 through Table 9 show the effects of CSS on child education and health outcomes. Tables 10 and 11 examine expenditure on children. Since CSS may affect the decision to divorce as well as child outcomes, Table 12 presents results examining potential impacts of CSS on divorce rates. Tables 13 and 14 show the effects of CSS of parents' time spent with the child. Finally, Table 15 through 17 present robustness checks and examines whether there are heterogeneous effects by parental education and gender of the child.

5.1 Interaction of Child Support Savings, Joint Custody, and Time Spent with Non-Custodial Parent

We first estimate linear regression models of the effect of CSS on the probability of joint and physical custody by the father, which we define as joint and father physical custody (JFC).[14] As can be seen from Table 3, we find a strong positive effect of CSS on the incidence of JFC.

In our preferred specification (shown in column (6) of Table 3) we control for state and income fixed effects.[15] In that specification, the effect of CSS is identified through its variation within states and income groups. Hence, any state-level unmeasured component (e.g., the different treatment of joint custody in a given state, or whether the state is an income-share

[14] JFC is defined to also include fathers with no written agreement (where we have no information about type of custody) but where the father is the custodial parent indicated in the questionnaire.

[15] It is important to control for state and income effects, hence we will focus on this specification in the remainder of the paper. However, Table 3 shows that the finding of a positive relationship between CSS and joint custody is robust to the exclusion of state and/or income effects.

versus percentage of income state) is controlled for by the state fixed effects. Also, any differences in joint custody patterns associated with differences in the level of income, which could be correlated with CSS, are controlled for by the income fixed effects. Our models then exploit the economic gain out of joint custody, net of the average state and income-level effects, as the only source of variation.

We find that as CSS increase, fathers are more likely to have JFC. This result is consistent across all specifications. As expected, this effect is stronger for custodial parents with a written agreement, because this arrangement is more binding. In Panel b of Table 3, we see the predicted probability of JFC at different values of CSS. Column (5) shows that the probability of JFC varies significantly with the level of CSS, increasing ten percentage points, from 18.8% to 28.9%, when CSS increase from 0% to 40%. This increase is even stronger for custodial parents with a written agreement (column 6) as the probability of JFC rises from 16.2% to 32.8%.[16] This finding is not surprising, because an increase in CSS provides a potentially lucrative monetary incentive for a father to request joint custody.

Next, we consider how the amount of child support varies with CSS in Table 4. Here, we focus on fathers with a written agreement since these are the only cases with information about the amount of child support. For illustrative purposes, in column (1) we regress the amount of child support against type of custody. As expected, fathers with JFC pay less in child support ($2,279.46 compared to $3,284.00 when the mother has sole custody). In column (2), we regress the amount of CS against CSS and we find the expected result (albeit not statistically significant): a strong reduction in child support as CSS increase. Columns (3) and (4) indicate

[16] To put these magnitudes in context, Halla (JEEA, 2013, Table 2) finds that joint custody laws increased the incidence of joint custody in the US by 7.5 percentage points 4-5 years after implementation and by 15 percentage points 16 years after implementation of the law.

that the effect of CSS is driven by fathers with JFC. In column (3) the effect is negative and statistically significant at the 10% level. This is what we would expect, given that CSS only occur in situations with joint custody. Panel b of column (3) shows the estimated impact of CSS on the amount of child support. When CSS increase from 0% to 40% the amount of child support decreases by 46.8% (from $2,749.05 to $1,460.20). In column (4), we also see a positive correlation between CSS and child support when mothers have custody. This suggests a particular selection of mothers and fathers into joint custody in situations with high CSS. It suggests that fathers who pay relatively little child support are potentially also the ones who apply for joint custody when CSS are high. We examine in greater detail the characteristics of fathers and mothers with joint custody at different amounts of CSS in Table 2.

Table 5 and following tables share a common structure outlined in the prior section (under Empirical Specifications). The preferred specification is equation 1 from the prior section, an OLS regression of CSS on outcomes. The results are shown in columns (7) – (9). Unlike the other specifications, there is no issue of selection into joint custody here, since the effects of CSS are shown on average for the whole population of divorced parents. Columns (1) – (3) show the results from estimating equation 2 from the prior section; an OLS regression of outcomes on JFC. As noted previously, this specification may suffer from an omitted variable bias and is presented as a point of departure and comparison for our preferred specification. The specification shown in columns (4) – (6), equation 3 in the prior section, estimates the effects of joint custody instrumented by CSS. As previously noted, bias due to the *compositional effect* may affect this specification if CSS simply affects the composition of who chooses JC without affecting family outcomes directly. As such, we present these results to examine the relative importance of compositional changes due to CSS versus causal effects.

In Table 5, we find evidence that CSS are associated not only with a higher incidence of JFC but also more time spent with the non-custodial parent. In our preferred specification (columns (7) – (9)), we see that CSS are associated with a child spending more days with the father. This effect is significant and large in magnitude, and driven by children aged 12 and under. For example, from Panel b, we see that when CSS increase from 0% to 40% children spend 15.9% more days with the father (from 108.32 days per year to 125.63), an effect driven by children aged 12 and under, which experience an increase of 31.2% (from 99.76 to 130.93) in the amount of time spent with the father.

The contrast between the results from estimating equation 1 (columns 7 to 9) and equation 2 (columns 1 to 3) is noteworthy. When the time spent with the father is regressed against joint custody we find a positive, large and significant effect for all children, regardless of their age. In contrast, CSS increase the time spent with the father only in the case of children aged 12 and under. This is a pattern that we also find when we estimate equation 3 (columns 4 to 6). Comparing the estimated coefficients from equations 2 and 3, as CSS increase from 0% to 40%, we see similar magnitude differences in Panel b as we compare columns (4) and (7), columns (5) and (8), and columns (6) and (9). This suggests that the increased time spent with the father that we find using our two-stage approach cannot be solely attributed to the *compositional effect*. Rather, it seems that increased CSS are associated with more time spent with the father.

The results from Table 5 help us interpret the increase in the incidence of joint custody due to CSS. If fathers were requesting joint custody only because of CSS, then they could behave strategically and not actually spend more time with their children. In Panel b, greater CSS are associated with considerably more time spent with fathers. This again appears to be more

pronounced with younger children, aged 12 and under. Thus, we do not see evidence of any sort of strategic behavior here with respect to time use, at least with children aged 12 and under.

Our results thus far show that CSS result in a greater likelihood of joint custody and more time spent with the father (especially for children aged 12 and under). However, more time spent with the father may not be necessarily beneficial to children. In the next section, we examine empirically how children's outcomes are affected; we explore more about the time spent with parents and the characteristics of custodial parents.

5.2 Effects on Outcomes

Tables 6 to 11 show the results of our analysis on education and health outcomes. We also investigate the relationship between CSS and two different proxies for investment in children by custodial and non-custodial parents, private school attendance and health expenditures. Throughout the analysis we follow the same structure as in Table 5 and add another specification in which we estimate the relationship between CSS and child outcomes in the sample of children in intact families. The results of this last specification have two interpretations. One is that they act as a placebo test. This rests on the assumption that CSS have a more direct impact on children of divorced parents compared to children in intact families. However, this placebo test interpretation must be taken with caution since CSS have the potential to affect children in intact families through the *bargaining effect*. Hence, a finding that CSS has no relationship with the outcomes of children in intact families could be seen as evidence against the *bargaining effect*. Throughout the text and in the tables, we use the expression placebo test, but we recognize this dual interpretation.

Attitudes toward School

In terms of educational outcomes, we consider children's attitudes toward school and two

alternative measures of educational attainment: number of years of completed education and highest degree attained.

These tables have the same structure as Table 5. In Table 6, we analyze the relationship between CSS and children's attitudes toward school. In the SIPP, custodial parents are asked questions about their children's attitudes in school across various dimensions, which may proxy the mood of the child. Our dependent variable, attitudes toward school, is the combination of three qualitative variables indicating whether the child is interested in school, whether the child likes to go to school and whether the child works hard in school. We transform the sum of these three variables into a binary variable taking a value of 1 when the child scores the highest level in all three variables (56% of the cases) and 0 otherwise (44% of the cases).

In our preferred specification we find a negative effect of CSS on attitudes toward school, but this is only statistically significant for children 12 and under, where an increase of CSS from 0% to 40% is associated with a 21% decrease in the indicator of attitudes toward school. This negative effect contrasts with the association from equation 2, which indicate that children of fathers with joint or full custody have better attitudes toward school, particularly for children older than 12. The estimates for equation 3 are quite similar in magnitude to those for equation 2 (although the former are not statistically significant) with a negative effect on children aged 12 or less and a positive effect for children older than 12. This similarity suggests the *composition effect* is not driving the association between CSS. Rather, economic incentives driving joint custody play a causal role in children's attitudes toward school.[17]

Finally, columns (10), (11), and (12) show the results of our placebo test, in which we estimate our preferred specification on the sample of intact families. As expected, the negative

[17] We show in Table 16 that the negative effect of CSS on attitudes for children 12 and under tends to be driven mainly by girls.

effect of CSS on attitudes for children 12 and under now disappears, suggesting that the result from estimating equation 1 is not spurious and not driven by the *bargaining effect*.

Educational Attainment

We turn now to the results in Table 7, where the dependent variable is the difference between actual years of education and potential years of completed education (potential years are defined as the age of the child minus 5). Equation 1 indicates a negative effect of CSS on educational attainment. This effect is significant for all children, but strongest (and statistically significant) for older children. This is not surprising, considering that any negative effects on educational attainment tend to accumulate over time. Again, the contrast with equation 2 is illustrative. In columns (1) to (3) we find a positive association between joint custody and completed years of education, particularly for older children. As we found for children's attitudes, the contrasting results from equations 1 and 2 suggests a negative causal relationship of CSS on completed schooling that contrasts with the positive association of joint custody with schooling. Estimates of equation 3 with educational attainment as the dependent variable are again quite consistent with the causal estimates of equation 1, suggesting that the compositional bias of equation 3 are limited.

Panel b in columns (7) to (9) gives us an idea of the magnitude of these effects. When CSS increase from 0% to 40%, children's educational attainment decreases by 1.67 months (the difference between years of completed education and potential years goes from -0.705 to -0.844). This effect is larger for children older than 12 (2.35 months) compared to children aged 12 or less (0.56 months).[18] The placebo estimates shown in columns (10) to (12) confirm that our results are not spurious and not driven by the *bargaining effect*, since we find no association

[18] As we show in Table 16, the negative effect of CSS on educational attainment for older children found in Table 7 appears to be driven by girls and not boys.

between CSS and children educational attainment in the sample of intact families.

Table 8 considers an alternative definition of educational attainment: the highest degree completed. As in Table 7, we find a negative association between CSS and the level of education of children, with larger effects for older individuals and higher degrees. Also similar to the results for educational attainment, we find that equations 1 and 3 are generally consistent, indicating that the negative effect of CSS on degree completion in specification 1 is not driven by *compositional bias*. In contrast, equation 2 finds a positive effect in all three categories of educational attainment for children who live with their fathers. As expected, we do not see any significant effects of CSS in the placebo sample.

Health

In Table 9, we examine the effect of CSS on the health of children. In that table, the dependent variable is a categorical measure of parent's-reported health of their children. We find that CSS is associated with worse health outcomes and the effect is strongest for younger children. In column (7) CSS reduces the average health indicator by 3.2% (from 4.33 to 4.19) for the entire sample of children, by 4.5% for the sample of children aged 12 or less and by 1.9% for children older than 12. The first two effects are significant at the 5% level. As with the other outcome variables, the contrast between the results from equations 2 (with a positive relationship between joint custody and health levels) and 1 suggest a negative causal effect of CSS on child health that contrasts with the positive association of joint custody and child health. As with other outcomes, the similarity of results from equations 1 and 3 and the results from the placebo test indicate limited compositional bias in equation 1 and that the *bargaining effect* is likely not a primary driver of the negative effects of CSS on child outcomes.

Expenditure on Children

In section 2 we discussed several channels by which CSS result in a lower expenditure on children by custodial and non-custodial parents (the *expenditure effect*). However, there is some support for the notion that fathers do not see CSS as only a means to save money, when it comes to their children. Increased CSS do not necessarily result in less expenditure on children. For example, Del Boca and Ribero (2003) show that more shared time with the children also increases the father's direct expenditures on the child.

In Table 10, we try to address this question by investigating the relationship between CSS and one important type of investment in children: private school attendance. In general, the results of Table 10 are mixed and inconclusive but suggest a positive effect of CSS on private school attendance for children aged 12 or under (column 8). Although this positive effect is also found in equation 1 (column 2) and in the placebo estimates (column 11), the magnitude of the effect shown in column 8 is larger. The effects for older children are negative, much smaller in magnitude and not statistically significant in any of the specifications. All in all, the results of Table 10 do not provide evidence of a negative effect of CSS on investment in children.

In Table 11, we consider health expenditures by custodial parents. In general, the coefficients are again mixed and inconclusive with only a positive and significant effect in the case of visits to the dentists. As in the case of private school attendance, the results in Table 11 do not provide evidence of a negative effect of CSS on child expenditure.

Divorce Rates

One potential concern with the results presented above is that child outcomes and the incidence of JFC are not driven by CSS but instead the effect of CSS on divorce rates. Previous research has found evidence of such an effect. For example, Halla (2013) finds that joint custody laws increased the divorce rate in the US, an increase that becomes larger with the number of

years since the approval of the new joint custody laws. Although the analysis of the effect of CSS on family outcomes is outside the scope of this paper, evidence that there is no relationship between CSS and divorce rates would be reassuring and increase the confidence that our results are causal and not driven by compositional changes in the group of divorced parents.[19] In order to examine the effect of CSS on divorce, Table 12 uses data from the 2011-2013 panel of the American Community Survey (ACS). We choose to use the ACS for this analysis because we want to see how child support guidelines affect the probability of divorce of married couples. The ACS provides a larger sample than what we had available in the SIPP for this analysis (625,197 couples). We run simple OLS regressions of CSS in which the dependent variable is the probability that a married couple divorces in the next 12 months. The identification strategy is the same as in the rest of the paper since we exploit differences in CSS across states and income groups. The sample consists of women married the previous year, aged 16 to 50 and with children living in the household. Besides income and state fixed effects, all models control for the number of children, age of the individual, the level of education, race, number of previous marriages and a quadratic on the number of years married. We run the analysis by the age of the woman, the number of children and the level of education. The results are presented in Table 12. None of the eight specifications yields a significant effect and overall there is no clear association between CSS and the divorce rate. The analysis for the entire sample (column 1) yields a zero effect, with the divorce rate constant at 2.1% and independent of the level of CSS. The subgroup analyses (columns 2 to 8) reveal an unclear pattern with the rate of divorce increasing or decreasing depending on the group of women. None of the effects are statistically

[19] This type of compositional bias is partially dealt by the fact that we analyze the effect of CSS on all children, regardless of the marital status of their parents. But even in this case, a change in the composition of divorced families could affect our results if children's outcomes are affected by the type of parents that decide to remain married as opposed to divorce.

different from zero.

Time Spent with Children

Our analysis so far has found negative effects of CSS on various educational, health and attitude outcomes of children. These effects do not seem to be driven by a *compositional effect*. They are neither easily explained by an *expenditure effect*, since we don't find evidence of a negative effect of CSS on two proxies for investment in children: private school attendance and health expenditures. We also find no association between CSS and the outcomes of children in intact families which indicates that the *bargaining effect* has a limited role. In this section we explore evidence consistent with the *crowding out effect*: that children of parents who undertake joint custody when CSS are high face worse outcomes due to differences in parental time spent with the child. This could happen if fathers in those situations spend less time or lower-quality time with their children compared to that of mothers, or if well-intentioned fathers who undertake joint custody when the economic incentives are high spend more time with children, but at the expense of relatively valuable time spent with the mother. We examine the first possibility in Table 13 and the second one in Table 14. In both tables we focus on the parents of children aged 12 or under because these are the children that showed the strongest effects of CSS.

Table 13 looks at information in topical modules 5 and 8 (child care) of the SIPP to see whether dads in joint physical custody when CSS are high rely more on others to take care of their children.[20] Those topical modules ask whether the other parent is frequently used to take care of the child, as well as grandparents, brothers, or the child simply cares for herself. It also has information as to whether the child is enrolled in extracurricular activities such as sports,

[20] Note that in Table 5 we showed that fathers with JFC when CSS are high spend more days with their children. In Table 13 we look at the quality of that time.

clubs or music lessons. We also looked at topical modules 4 and 10 of the SIPP with information about times per week the parent eats or plays with the child and whether there are clear rules about TV use. We finally look at whether the father works, as this could be a good proxy of the father's availability to spend time with his children. From Table 13, we see that fathers in high CSS situations work relatively less, enforce more TV rules, read more to the child and are less likely to rely on other arrangements to care for children. Their children are also less likely to be involved in extra-curricular activities such as sports, clubs and music lessons. Although many of the effects are not statistically significant they tend to be larger in magnitude and more significant for fathers with more than a high school degree. For example, fathers with more than a high school degree in high CSS situations are 24% less likely to work, 77% (significant at 10%) more likely to read to the child and 42% (significant at 10%) less likely to rely on others to take care of their children, compared to similar custodian fathers in low CSS situations. Whether fathers in high CSS situations work less in response to the incentives created by the lower child support or take over more child responsibilities because they faced an already worse labor market situation is an open question. In any case, the results from Table 13 suggest that CSS incentivize fathers to trade work time for time with their children and they strongly contradict the hypothesis that the negative association between CSS and the education, health and attitude outcomes of children are due to less quality time of custodian fathers with them.

Table 14 examines mother's time with children. We look at sole custody mothers as a way to proxy for the effects of mothers under joint custody, for which we have too few observations. Assuming no direct effects of CSS on work among mothers with sole custody, if we observe that mothers with sole custody work more when CSS are high, this suggests that non-working mothers are pulled into the joint custody group (from sole custody) when CSS is high.

Table 14 has the same structure as Table 13. It shows that sole custody mothers in high CSS environments work more and rely more frequently on others to take care of their children, particularly mothers that have a high school degree or less education. For comparison purposes, we show the results of a probit analysis of the probability of working of mothers with joint custody at different values of CSS. Mothers with joint custody when CSS are high work less (34.4%) compared to mothers with joint custody when CSS are low (52.0%).

Put together, Tables 13 and 14 suggest that fathers with joint custody when CSS are high take children's time away from mothers that otherwise would have spent high quality time with their children (*crowding out effect*). Whether fathers' behavior responds to good intentions and arises because they are not aware of the negative effects on their children is unanswered by our research. It seems, however, that this unintended effect of CSS is partly due to the structure of CSS, which tend to be larger when the father but also the mother have relatively low labor market attachment and more time to spend with their children.

5.3 Heterogeneous Effects and Robustness Checks

Table 15 runs some robustness tests, and Tables 16 and 17 look at how the effects of CSS vary by gender of the child and the level of education of the custodial parent. To examine the role of our covariates on our outcomes, Table 15 removes each covariate separately and confirms little effect on the results. It also shows that controlling for work status does not affect the main results, which is not surprising, considering we have already accounted for income groups and different combinations of income levels for parents as well. The results are robust to the quadratic specification, except for the analysis of health levels (column 5), which now shows a positive effect of CSS, albeit not statistically significant. Finally, allowing the effect of the covariates to vary by the gender of the custodial parent or controlling for the amount of child

support does not affect our results.

In Table 16, we investigate whether the negative educational, attitude and health effects of CSS are different for boys and girls. In general, CSS have a negative impact on both boys and girls, although some of the effects are larger for girls. For example, CSS decrease educational attainment (measured by the difference between actual and potential years of education) by 22.4% for girls and 14.4% for boys. Also, CSS reduce the probability of completing secondary education by 19.3% for girls and 14.1% for boys. Health outcomes are quite similar for boys and girls, with the exception of medical expenses, which decrease 27.5% for girls but increase 28.9% for boys. However, the coefficients are not statistically significant.

Table 17 looks at how the effect of CSS varies by the level of education of the custodial parent. There is no clear pattern. For example, the effect of CSS on children's attitudes towards school is the same (-22%) regardless of the level of education of the custodial parent. Regarding the educational attainment of children, the result depends on the measure we use. CSS has a stronger negative impact when the CP has more than high school education if we measure child's educational attainment by the difference between actual and potential years of education. However, the opposite is true when we look at the probability that the child completes secondary education. In the case of health outcomes, CSS has a stronger negative impact when the CP has secondary education. Also, when the CP has secondary education, CSS has a weaker positive association (or even a negative one) with doctor visits, visits to the dentist and medical expenses. However, many of these coefficients are not statistically significant.

6 Conclusions

We find that as CSS increase, fathers are more likely to have joint and full custody and pay less in child support. Increases in CSS are also associated with a child spending more days

with the father; this effect is significant and large in magnitude, and it's driven by children aged 12 and under.

We also find negative effects of CSS on various educational, health and attitude outcomes of children. While the negative effect of CSS on attitudes toward school is only statistically significant for children 12 and under, the harmful effects of CSS on educational attainment and degree attainment is significant for all children, though it is strongest for older children. Finally, CSS also leads to significantly worse health outcomes, with the strongest effects among younger children.

While the mechanism for these negative effects of economic incentives for child support is not definite, our analyses using time use data contradict the hypothesis that fathers that take joint physical custody when CSS are high spend less time or less quality time with their children, leading to negative outcomes for children. However, they do suggest that high levels of CSS leads to a substitution in children's time away from mothers to fathers, particularly among mothers with lower labor force participation. This result appears to occur because fathers who benefit from high CSS have more incentives than other fathers to take children away from mothers who have been able to spend more time taking care of their children (mothers who work less).

These findings suggest that the economic incentives of divorce law may play an important role in children's development following divorce. Given the well-known negative outcomes for children following divorce, policy makers should be cognizant of the role that these incentives may play in worsening or ameliorating these effects.

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Figures and Tables

Figure 1 - Ranking of States According to the Average CSS from Joint Custody

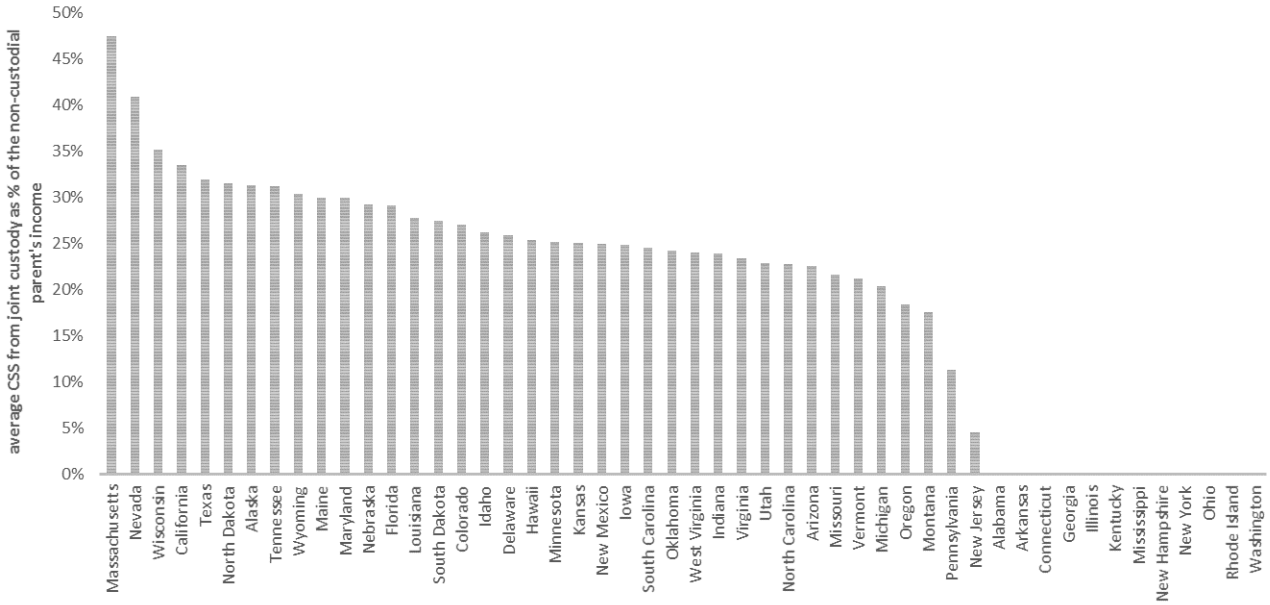

Figure 2 - CSS Savings Across States and Income Groups

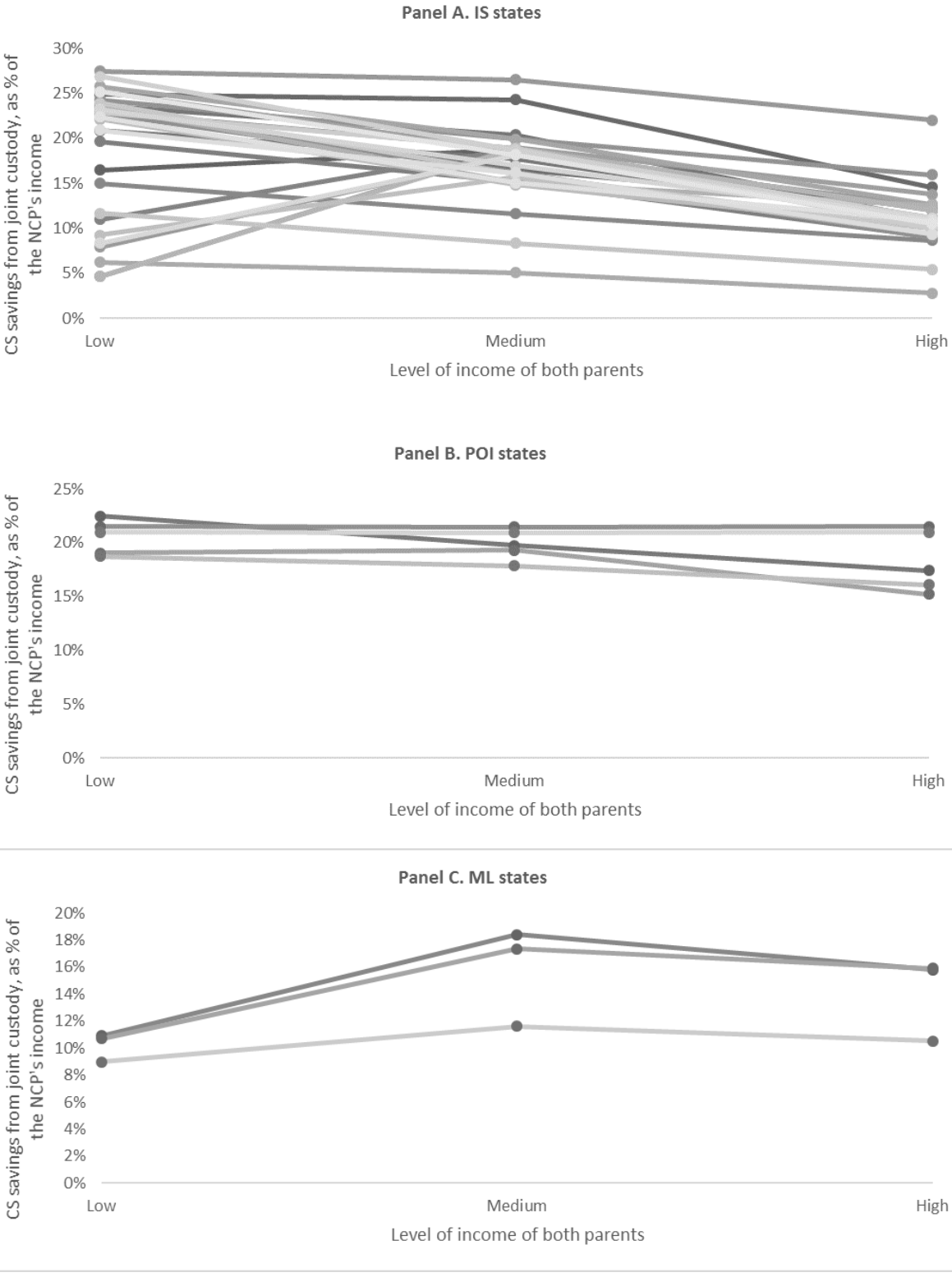

Table 1 - Descriptive Statistics

Sample of custodial parents (CP)				Sample of children of divorced parents			
	(1)	(2)	(3)		(4)	(5)	(6)
	All CPs	Female CPs	Male CPs		All children	≤ 12 years old	> 12 years old
Num. individuals	5,045	4,142	903	**Num. individuals**	7,577	3,887	3,690
Age	37.4	36.6	40.8	**Age**	11.9	7.1	16.9
1 child	57.6	55.3	68.0	**In family with 1 child**	35.4	32.4	38.6
2 or more children	42.4	44.7	32.0	**In family with ≥ 2 children**	64.6	67.6	61.4
HS or less	59.7	60.2	57.3	**Years of completed education**	6.6	2.6	10.8
Voc. + Assoc. degrees	25.0	25.3	23.8				
College degree or more	15.3	14.5	18.9				
Non-work	11.0	11.4	9.0				
Inc. level 1	49.3	52.8	33.3				
Inc. level 2	32.8	30.9	42.0				
Inc. level 3	6.8	4.9	15.7				
White	55.1	52.3	68.0	**White**	51.8	47.8	56.1
Black	22.3	24.4	12.9	**Black**	24.8	27.2	22.3
Latino	17.1	17.9	13.2	**Latino**	18.1	20.0	16.2
Other	5.5	5.4	6.0	**Other**	5.2	5.0	5.4
Joint physical custody	14.0	12.5	25.8	**Parents with joint physical custody**	14.0	13.3	14.7
Sole physical custody	82.8	83.4	65.7	**Parents w/ sole mother physical custody**	75.0	76.0	74.0
With a written custody agreement	40.7	43.9	26.1	**Parents w/ sole father physical custody**	7.4	6.4	8.4
				Parents w/ a written custody agreement	43.7	42.5	45.0
When CSS=0	100.0	84.3	15.7	**When CSS=0**	100.0	86.9	13.1
When CSS>10%	100.0	82.9	17.1	**When CSS>10%**	100.0	85.1	14.9
When CSS>20%	100.0	78.8	21.2	**When CSS>20%**	100.0	83.2	16.8
When CSS>30%	100.0	72.1	27.9	**When CSS>30%**	100.0	76.7	23.3

Table 2 - Characteristics of Custodial Fathers and Custodial Mothers at Different Values of Child Support Savings (CSS)

	Custodial Fathers				Custodial Mothers			
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
	When CSS=0	When CSS>0	When CSS>0.1	When CSS>0.2	When CSS=0	When CSS>0	When CSS>0.1	When CSS>0.2
Age	41.44	40.58	39.32	38.83	36.76	36.53	36.84	38.19
HS or less	59.40	56.60	60.38	65.20	60.95	59.85	59.53	54.31
Voc. + associate degrees	22.64	24.21	24.53	22.80	24.54	25.59	25.55	26.40
College degree or more	17.94	19.28	15.09	12.00	14.50	14.54	14.92	19.29
Non work	6.83	9.71	12.79	21.20	11.79	11.29	10.51	4.74
Inc. level 1	30.34	34.37	44.03	69.60	53.70	52.44	48.16	18.00
Inc. level 2	48.71	39.61***	41.30	9.20	29.88	31.27	35.54	64.22
Inc. level 3	14.10	16.29	1.89	0.00	4.62	4.98	5.79	13.04
1 child	69.65	67.41	65.20	59.20	53.38	56.14*	51.92	36.75
2 or more children	30.34	32.58	34.80	40.80	46.61	43.85*	48.08	63.25
White	73.50	66.06**	60.38	52.80	56.89	50.36***	49.98	50.22
Black	15.38	11.95	13.42	14.00	28.28	22.68***	21.70	20.91
Latino	6.41	15.54***	18.87	24.40	11.15	20.85***	22.35	23.49
Other	4.70	6.42	7.34	8.80	3.66	6.09***	5.97	5.39
Number of CPs	234	669	477	250	1,255	2,887	2,313	928

Table 3 - The effect of CSS from Joint Custody (JC) on the incidence of JFC.

Custodial Parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel.

	(1)	(2)	(3)	(4)	(5)	(6)
	All CPs	CPs with a written agreement	All CPs	CPs with a written agreement	All CPs	CPs with a written agreement
Coefficient on CSS	0.221***	0.204***	0.364***	0.177	0.253***	0.415***
(robust S.E.)	*(0.054)*	*(0.079)*	*(0.092)*	*(0.129)*	*(0.079)*	*(0.129)*
Panel b. Predicted probability of JFC at different values of CSS						
CSS=0%	0.192	0.188	0.174	0.192	0.188	0.162
CSS=12% ***(sample average)***	0.218	0.213	0.218	0.213	0.218	0.212
CSS=20%	0.236	0.229	0.247	0.227	0.238	0.245
CSS=30%	0.258	0.250	0.283	0.245	0.264	0.286
CSS=40%	0.280	0.270	0.320	0.263	0.289	0.328
State fixed effects	No	No	Yes	Yes	Yes	Yes
Income fixed effects	No	No	No	No	Yes	Yes
Number of CPs	5,045	2,054	5,045	2,054	5,045	2,054
$\mathbf{R^2}$	0.034	0.025	0.045	0.057	0.645	0.404

Notes: JFC is defined to include also father sole physical custody and those cases when there is no written agreement (hence, no information about the type of custody) but the custodial parent in the CS questionnaire is the father. CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). 41% of CPs declare having a written CS and custody agreement. Besides income and state fixed effects all models control for the number of children, the age of the CP, the level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 4 - The effect of CSS from JC on the Amount of Child Support.
Dependent variable: $ amount of annual child support according to the written agreement.

	(1)	(2)	(3)	(4)
	OLS on JFC	OLS on CSS	OLS on CSS when JFC=1	OLS on CSS when JFC=0
Coefficient on JC	-1,004.538***			
(robust S.E.)	*(289.772)*			
Coefficient on CSS		-723.533	-3,322.109*	607.679
(robust S.E.)		*(1,496.501)*	*(1,762.322)*	*(1,606.952)*
Panel b. Predicted amounts of child support at different values of the variable of interest (JC, CSS)				
JFC=0	3,284.003			
JFC=1	2,279.464			
CSS=0%		3,159.840	2,749.050	3,105.495
CSS=12% ***(sample average)***		3.073.016	2,362.397	3,178.416
CSS=20%		3,015.134	2,104.629	3,227.031
CSS=30%		2,942.780	1,782.418	3,287.798
CSS=40%		2,870.427	1,460.207	3,348.566
State fixed effects	Yes	Yes	Yes	
Income fixed effects	Yes	Yes	Yes	
Number of CPs	2,054	2,054	2,054	
R^2	0.238	0.232	0.239	

Notes: Sample of custodial parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel and with a CS written agreement. CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). 41% of CPs declare having a written CS and custody agreement. Besides income and state fixed effects all models control for the number of children, the age of the CP, the level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The specification shown in columns (3) and (4) is estimated jointly with an interaction between JC and CSS to capture the effects of CSS under the two types of custody. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 5 - The effect of CSS from JC on the Actual Number of Days per Year the Child is with the Father

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	OLS on JFC			IV (JFC instrumented with CSS)			OLS on CSS		
	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12
Coefficient on JC	87.182***	89.099***	83.314***	120.250**	225.142**	29.954			
(robust S.E.)	*(4.680)*	*(6.401)*	*(6.784)*	*(49.229)*	*(85.382)*	*(65.473)*			
Coefficient on CSS							43.273***	77.925***	6.981
(robust S.E.)							*(18.041)*	*(28.178)*	*(22.704)*
Panel b. Predicted number of days per year with the father at different values of the variable of interest (JFC, CSS)									
JFC=0	82.201	79.977	85.219						
JFC=1	169.384	169.077	168.533						
CSS=0%				92.933	76.208	113.503	108.322	99.767	116.768
CSS=40%				104.958	98.722	115.599	125.631	130.937	119.56
Number of children	4,165	2,043	2,122	4,165	2,043	2,122	4,165	2,043	2,122
R^2	0.774	0.769	0.793	0.769	0.674	0.775	0.737	0.729	0.761

Notes: Sample of children of custodial parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel and who have a written agreement. The actual number of days spent with the father is information provided by the CP and can be different from the number of days specified in the written agreement. CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). Besides income and state fixed effects all models control for the number of children, the age of the child, the age of the CP, the CP's level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. The coefficient of CSS in all the first stage regressions has the expected sign and is significant at the 1% level. The predicted number of days with the father in columns (4) to (6) is obtained by multiplying the coefficient of the effect of CSS on JC times the coefficient on JC in the second stage regression. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 6 - The Effect of CSS from JC on Attitudes toward School by Children of Divorced Parents.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS on JFC			IV (JFC instrumented with CSS)			OLS on CSS			OLS on CSS (Placebo)		
	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12
Coefficient on JC	0.053**	0.036	0.096**	-0.400	-2.277	0.621						
(robust S.E.)	*(0.028)*	*(0.037)*	*(0.042)*	*(0.512)*	*(1.991)*	*(0.671)*						
Coefficient on CSS							-0.105	-0.361**	0.187	0.172**	0.116	0.238*
(robust S.E.)							*(0.133)*	*(0.187)*	*(0.194)*	*(0.091)*	*(0.122)*	*(0.139)*
	Panel b. Predicted											
JFC=0	0.552	0.604	0.482									
JFC=1	0.606	0.641	0.578									
CSS=0%				0.569	0.631	0.488	0.578	0.661	0.476	0.615	0.664	0.557
CSS=40%				0.529	0.403	0.550	0.535	0.516	0.551	0.684	0.710	0.652
Number of children	4,568	2,539	2,029	4,568	2,539	2,029	4,568	2,539	2,029	10,222	5,578	4,644
R^2	0.074	0.077	0.093	0.021	0.020	0.025	0.073	0.078	0.092	0.044	0.042	0.052

Notes: Sample of children aged 5 to 17 of custodial parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel. Children currently attending school. Attitudes towards school is the combination of three qualitative variables: eintschl (whether child is interested in school); elikesch (whether child likes to go to school); ewkshard (whether child works hard in school). The sum of the three variables is transformed into a binary variable taking value 1 when the child scores the highest level in all three variables (56% of the cases) and 0 otherwise (44% of the cases). CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). Besides income and state fixed effects all models control for the number of children, the age of the child, the age of the CP, the sex of the child and the CP's level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. The coefficient of CSS in all the first stage regressions has the expected sign and is significant at the 1% level. The value of the variable attitudes in columns 4 to 6 is obtained by multiplying the coefficient of the effect of CSS on JC times the coefficient on JC in the second stage regression. PLACEBO estimates are obtained from running the same specification as in columns (7) to (9) but on the sample of children of intact families. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 7 - The Effect of CSS from JC on the Level of Education of Children of Divorced Parents.

Dependent variable: the difference between the actual and potential years of completed education.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS on JFC			IV (JFC instrumented with CSS)			OLS on CSS			OLS on CSS (Placebo)		
	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12
Coefficient on JC	0.108***	0.044	0.160***	-1.181*	-0.657	-1.621						
(robust S.E.)	*(0.037)*	*(0.039)*	*(0.058)*	*(0.704)*	*(1.295)*	*(1.063)*						
Coefficient on CSS							-0.347**	-0.117	-0.488*	-0.006	-0.050	0.108
(robust S.E.)							*(0.185)*	*(0.223)*	*(0.270)*	*(0.160)*	*(0.131)*	*(0.280)*
Panel b. Predicted												
JFC=0	-0.774	-0.250	-1.186									
JFC=1	-0.666	-0.205	-1.025									
CSS=0%				-0.726	-0.237	-1.096	-0.705	-0.225	-1.085	-1.093	-0.204	-1.944
CSS=40%				-0.844	-0.303	-1.258	-0.844	-0.272	-1.281	-1.096	-0.224	-1.902
Number of children	6,445	2,828	3,617	6,445	2,828	3,617	6,445	2,828	3,617	13,020	6,328	6,692
R^2	0.517	0.084	0.500	0.440	n/a	0.392	0.516	0.084	0.499	0.561	0.082	0.322

Notes: Sample of children aged 5 to 22 of custodial parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel. Potential years of completed education are defined by the age of the child and are equal to the age minus five. CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). Besides income and state fixed effects all models control for the number of children, the age of the child, the age of the CP, the sex of the child and the CP's level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. 1 The coefficient of CSS in all the first stage regressions has the expected sign and is significant at the 1% level. The predicted value in columns 4 to 6 is obtained by multiplying the coefficient of the effect of CSS on JC times the coefficient on JC in the second stage regression. Placebo estimates are obtained from running the same specification as in columns (7) to (9) but on the sample of children of intact families. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 8 - The Effect of CSS from JC on Highest Degree of Children of Divorced Parents.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS on JFC			IV (JFC instrumented with CSS)			OLS on CSS			OLS on CSS (Placebo)		
	Primary (children ≥12)	High School (children ≥18)	Attending College (children ≥19)	Primary (children ≥12)	High School (children ≥18)	Attending College (children ≥19)	Primary (children ≥12)	High School (children ≥18)	Attending College (children ≥19)	Primary (children ≥12)	High School (children ≥18)	Attending College (children ≥19)
Coefficient on JC	0.005*	0.057*	0.133***	0.059	-1.141	-0.532						
(robust S.E.)	*(0.003)*	*(0.034)*	*(0.057)*	*(0.075)*	*(0.841)*	*(1.033)*						
Coefficient on CSS							0.017	-0.334**	-0.159	-0.029	-0.041	0.068
(robust S.E.)							*(0.021)*	*(0.169)*	*(0.274)*	*(0.027)*	*(0.076)*	*(0.152)*
Panel b. Predicted												
JFC=0	0.990	0.776	0.369									
JFC=1	0.995	0.833	0.503									
CSS=0%				0.989	0.842	0.428	0.989	0.831	0.421	0.994	0.899	0.585
CSS=40%				0.995	0.728	0.374	0.996	0.697	0.357	0.983	0.883	0.613
Number of children	4,101	1,560	1,088	4,101	1,560	1,088	4,101	1,560	1,088	7,433	4,183	3,265
R^2	0.033	0.191	0.213	0.010	n/a	0.098	0.033	0.192	0.208	0.036	0.172	0.139

Notes: Sample of children aged 5 to 22 of custodial parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel. The highest degree is defined according to the number of years of completed education (PRIMARY: 6 or more yrs.; HIGH SCHOOL DEGREE: 12 or more yrs.; attending COLLEGE: 13 or more yrs.). CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). Besides income and state fixed effects all models control for the number of children, the age of the child, the age of the CP, the sex of the child and the CP's level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. 1 The coefficient of CSS in all the first stage regressions has the expected sign and is significant at the 1% level. The predicted value in columns 4 to 6 is obtained by multiplying the coefficient of the effect of CSS on JC times the coefficient on JC in the second stage regression. Placebo estimates are obtained from running the same specification as in columns (7) to (9) but on the sample of children of intact families. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 9 - The Effect of CSS from JC on the Health of Children of Divorced Parents.

Dependent variable: the health level, from 0 to 5, 5 indicating very good health.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS on JFC			IV (JFC instrumented with CSS)			OLS on CSS			OLS on CSS (Placebo)		
	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12
Coefficient on JC	0.022	0.072	-0.029	-1.166*	-2.093	-0.709						
(robust S.E.)	*(0.038)*	*(0.054)*	*(0.054)*	*(0.664)*	*(1.406)*	*(0.886)*						
Coefficient on CSS							-0.341**	-0.485**	-0.210	-0.131	-0.007	-0.217
(robust S.E.)							*(0.181)*	*(0.259)*	*(0.259)*	*(0.116)*	*(0.160)*	*(0.172)*
Panel b. Predicted												
JFC=0	4.28	4.34	4.21									
JFC=1	4.30	4.41	4.18									
CSS=0%				4.29	4.33	4.23	4.33	4.42	4.23	4.47	4.49	4.45
CSS=40%				4.18	4.12	4.16	4.19	4.22	4.15	4.42	4.480	4.38
Number of children	7,577	3,887	3,690	7,577	3,887	3,690	7,577	3,887	3,690	12,346	6,328	6,018
R^2	0.053	0.046	0.069	n/a	n/a	0.030	0.054	0.046	0.069	0.049	0.054	0.055

Notes: Sample of children aged 0 to 22 of custodial parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel. CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). Besides income and state fixed effects all models control for the number of children, the age of the child, the age of the CP, the sex of the child and the CP's level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. The coefficient of CSS in all the first stage regressions has the expected sign and is significant at the 1% level. The predicted value in columns (4) to (6) is obtained by multiplying the coefficient of the effect of CSS on JC times the coefficient on JC in the second stage regression. Placebo estimates are obtained from running the same specification as in columns (7) to (9) but on the sample of children of intact families. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 10 - The Effect of CSS from JC on Private School Attendance by Children of Divorced Parents.

Dependent variable: the probability that the child attends a private as opposed to a public school.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS on JFC			IV (JFC instrumented with CSS)			OLS on CSS			OLS on CSS (Placebo)		
	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12	All Children	Children ≤12	Children >12
Coefficient on JC	0.006	0.022	-0.010	0.295	1.214	-0.123						
(robust S.E.)	*(0.013)*	*(0.018)*	*(0.020)*	*(0.235)*	*(0.858)*	*(0.301)*						
Coefficient on CSS							0.079	0.221***	-0.037	0.069	0.162**	-0.043
(robust S.E.)							*(0.059)*	*(0.082)*	*(0.092)*	*(0.058)*	*(0.080)*	*(0.088)*
Panel b. Predicted												
JFC=0	0.046	0.043	0.049									
JFC=1	0.052	0.066	0.039									
CSS=0%				0.043	0.039	0.050	0.037	0.018	0.053	0.097	0.089	0.105
CSS=40%				0.073	0.161	0.038	0.068	0.106	0.038	0.124	0.154	0.088
Number of children	4,834	2,805	2,029	4,834	2,805	2,029	4,834	2,805	2,029	10,940	6,295	4,645
R^2	0.050	0.065	0.072	n/a	n/a	0.054	0.051	0.066	0.072	0.051	0.056	0.058

Notes: Sample of children aged 5 to 17 of custodial parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel. Children currently attending school. CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). Besides income and state fixed effects all models control for the number of children, the age of the child, the age of the CP, the sex of the child and the CP's level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. The coefficient of CSS in all the first stage regressions has the expected sign and is significant at the 1% level. The predicted value in columns (4) to (6) is obtained by multiplying the coefficient of the effect of CSS on JC times the coefficient on JC in the second stage regression. Placebo estimates are obtained from running the same specification as in columns (7) to (9) but on the sample of children of intact families. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 11 - The Effect of CSS from JC on Health Expenditures on Children ≤12 of Divorced Parents.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS on JFC			IV (JFC instrumented with CSS)			OLS on CSS			OLS on CSS (Placebo)		
	Visits to the dentist	Visits to the doctor	Medical Expenses	Visits to the dentist	Visits to the doctor	Medical Expenses	Visits to the dentist	Visits to the doctor	Medical Expenses	Visits to the dentist	Visits to the doctor	Medical Expenses
Coefficient on JC	0.032	0.015	14.340	4.538*	3.161	-8.238						
(robust S.E.)	*(0.099)*	*(0.255)*	*(27.195)*	*(2.616)*	*(4.625)*	*(545.038)*						
Coefficient on CSS							1.051**	0.732	-1.908	-0.009	1.101	29.969
(robust S.E.)							*(0.495)*	*(1.044)*	*(127.557)*	*(0.405)*	*(0.993)*	*(133.963)*
Panel b. Predicted												
JFC=0	1.136	2.170	80.537									
JFC=1	1.169	2.185	94.878									
CSS=0%				1.188	2.205	83.033	1.004	2.077	83.367	1.501	1.714	166.684
CSS=40%				1.642	2.521	82.209	1.424	2.37	82.603	1.497	2.154	178.671
Number of children	3,887	3,887	3,887	3,887	3,887	3,887	3,887	3,887	3,887	6,328	6,328	6,328
R^2	0.144	0.145	0.086	n/a	0.123	0.085	0.145	0.145	0.086	0.049	0.065	0.043

Notes: Sample of children aged 0 to 22 of custodial parents eligible for the CS questionnaire in topical module 6 of the SIPP-2008 panel. CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. CPs: custodial parents are parents with children less than 21 and eligible for the CS questionnaire in the SIPP (topical module 6 of the 2008 panel). Besides income and state fixed effects all models control for the number of children, the age of the child, the age of the CP, the sex of the child and the CP's level of education and race. Income fixed effects include the level of income of the CP and a set of dummy variables to denote the income group of both parents. Regressions also control for the health status of the child (health categorical variable from 1 to 5). There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. 1 The coefficient of CSS in all the first stage regressions has the expected sign and is significant at the 1% level. The predicted value in columns 4 to 6 is obtained by multiplying the coefficient of the effect of CSS on JC times the coefficient on JC in the second stage regression. Placebo estimates are obtained from running the same specification as in columns (7) to (9) but on the sample of children of intact families. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 12 - The Effect of CSS from JC on the Divorce Rate.
ACS 2011-2013 dataset

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All Married Women	Women <35	Women ≥35	Women w/ 1 child	Women ≥2 children	HS Degree or less	Voc. Training Ass. Degree	College Degree
Coefficient on CSS	0.000	0.010	-0.002	-0.016	0.000	0.000	0.016	-0.002
(robust S.E.)	*(0.002)*	*(0.007)*	*(0.004)*	*(0.010)*	*(0.003)*	*(0.006)*	*(0.016)*	*(0.003)*
Panel b. Predicted probability of divorce at different values of CSS								
CSS=0%	0.021	0.023	0.020	0.027	0.018	0.026	0.023	0.015
CSS=40%	0.021	0.026	0.019	0.021	0.019	0.026	0.029	0.014
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Income Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Couples	625,197	210,919	414,278	221,328	403,869	305,683	68,412	251,102
R^2	0.011	0.016	0.010	0.011	0.011	0.013	0.011	0.008

Notes: Sample of females married the previous year and aged 16 to 50. Children are identified as long as they still live in the household the year of the survey. The divorce rate is calculated as the per cent of women previously married that divorced in the past 12 month. CSS is the child support savings from joint custody implied by the state CS guidelines and is expressed as the reduction in the amount of CS compared to mother's physical custody and relative to the NCP's income. Besides income and state fixed effects all models control for the number of children, age of the individual, the level of education, race, number of previous marriages and a quadratic on the number of years married. Income fixed effects include the level of income of the woman and a set of dummy variables to denote the imputed income group of both parents. There are a total of nine income groups from Low-Low to High-High income levels of both parents. The predicted probabilities in panel b are estimated at the mean values of the controls. Robust standard errors. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 13 - The Effect of CSS from JC on Time Use with the Child.
Heterogeneous Effects by the Level of Education of the Custodial Parent.
(OLS on CSS Specification. Children aged 12 or less with custodial fathers)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	(OLS)		*(Probit)*		*(OLS)*		*(OLS)*		*(Probit)*		*(Probit)*		*(Probit)*		*(Probit)*	
	TV rules[1]		**Whether child is in extra-curricular activities (sports, clubs, lessons)[2]**		**Hrs/week the father spends time eating, playing, having fun with the child**		**Hrs/week family member read to the child**		**Does father work?**		**Father relies on other arrangements to care for children[3]**		**Father relies on other arrangements (child 0-5)**		**Father relies on other arrangements (child 6-14)**	
	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less
Coefficient on CSS	0.745	0.833	-0.394	0.058	-0.652	2.157	6.413*	5.222	-1.507	-0.506	-1.924*	0.143	-1.271	-0.211	-0.658	0.333
(robust S.E.)	*(1.018)*	*(1.153)*	*(0.261)*	*(0.289)*	*(3.441)*	*(4.251)*	*(3.855)*	*(4.675)*	*(1.110)*	*(1.274)*	*(1.023)*	*(1.214)*	*(0.867)*	*(1.043)*	*(0.467)*	*(0.527)*
CSS=0%	2.268	2.195	0.148	0.057	14.144	13.979	3.330	2.928	0.726	0.646	0.601	0.478	0.644	0.434	0.581	0.444
CSS=40%	2.566	2.528	-0.009	0.080	13.883	14.842	5.895	5.017	0.551	0.584	0.348	0.498	0.135	0.349	0.317	0.577
%Δ (40% - 0%)	*13.1%*	*15.2%*	*-106.1%*	*40.4%*	*-1.8%*	*6.2%*	*77.0%*	*71.3%*	*-24.1%*	*-9.6%*	*-42.1%*	*4.2%*	*-79.0%*	*-19.6%*	*-45.4%*	*30.0%*

Notes: [1]TV rules: a combination of three variables indicating whether there are rules about which programs can be watched on TV, the number of hours per day and how late can the child watch TV. The variable takes values between 0 (no rules in any of these three aspects) and 3 (there are rules about each of these three aspects). [2]Extra-curricular activities: takes value 0 if the child is not in extra-curricular activities; takes 1 if the child is in any extra-curricular activity. [3]Combines information on different arrangements for child care, such as grandparent, siblings, day care, after school care and the child cares for herself. Takes value 1 if the parent uses any of these alternative child care arrangements, 0 otherwise. Robust standard errors. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 14- The Effect of CSS from JC on Time Use with the Child.
Heterogeneous Effects by the Level of Education of the Custodial Parent.
(OLS on CSS Specification. Children aged 12 or less with mothers in sole custody)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(OLS)		*(Probit)*		*(OLS)*		*(OLS)*	
	TV rules[1]		**Whether child is in extra-curricular activities (sports, clubs, lessons)[2]**		**Hrs/week the mother spends time eating, playing, having fun with the child**		**Hrs/week family member read to the child**	
	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less
Coefficient on CSS	0.200	0.522	0.282**	0.136	0.320	1.841	3.632*	2.621
(robust S.E.)	*(0.382)*	*(0.414)*	*(0.140)*	*(0.134)*	*(1.468)*	*(1.574)*	*(2.133)*	*(1.731)*
CSS=0%	2.347	2.207	0.079	0.050	14.336	14.240	3.946	3.880
CSS=40%	2.427	2.416	0.192	0.105	14.464	14.977	5.399	4.929
%Δ (40% - 0%)	*3.4%*	*9.5%*	*143.0%*	*110.0%*	*0.9%*	*5.2%*	*36.8%*	*27.0%*

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	(Probit)		*(Probit)*		*(Probit)*		*(Probit)*	
	Does mother work?		**Mother relies on other arrangements to care for children[3]**		**Mother relies on other arrangements (child 0-5)**		**Mother relies on other arrangements (child 6-14)**	
	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less
Coefficient on CSS	0.444	1.412**	0.101	0.822*	-0.109	0.495*	0.096	0.193
(robust S.E.)	*(0.708)*	*(0.670)*	*(0.441)*	*(0.480)*	*(0.306)*	*(0.308)*	*(0.185)*	*(0.209)*
[mothers in JC]	*[-0.515][4]*	*[-0.820][4]*						
CSS=0%	0.577	0.449	0.515	0.432	0.541	0.432	0.501	0.431
[mothers in JC]	*[0.658]*	*[0.520]*						
CSS=40%	0.607	0.559	0.529	0.551	0.498	0.630	0.539	0.508
[mothers in JC]	*[0.443]*	*[0.344]*						
%Δ (40% - 0%)	*5.20%*	*24.50%*	*2.70%*	*27.50%*	*-7.90%*	*45.80%*	*7.60%*	*17.90%*
[mothers in JC]	*[-32.6%]*	*[-33.8%]*						

Notes: [1]TV rules: a combination of three variables indicating whether there are rules about which programs can be watched on TV, the number of hours per day and how late can the child watch TV. The variable takes values between 0 (no rules in any of these three aspects) and 3 (there are rules about each of these three aspects). [2]Extra-curricular activities: takes value 0 if the child is not in extra-curricular activities; takes 1 if the child is in any extra-curricular activity. [3]Combines information on different arrangements for child care, such as grandparent, siblings, day care, after school care and the child cares for herself. Takes value 1 if the parent uses any of these alternative child care arrangements, 0 otherwise. [4]The model could not compute standard errors due to insufficient observations.Robust standard errors. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 15 - The Effect of CSS on Health and Education Outcomes of Children.
Robustness Tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Attitudes towards school (age ≤12)	Difference yrs of education (age >12)	Secondary education completed	Private school (age ≤12)	Health level (age ≤12)	Visits to the dentist (age ≤12)	Doctor visits (age ≤12)	Total medical expenses (age ≤12)
Preferred specification								
Coefficient on CSS	-0.362**	-0.488*	-0.334**	0.221***	-0.485**	1.051**	0.732	-1.908
(robust S.E.)	*(0.187)*	*(0.270)*	*(0.169)*	*(0.082)*	*(0.259)*	*(0.495)*	*(1.044)*	*(127.557)*
CSS=0%	0.661	-1.085	0.831	0.018	4.420	1.004	2.077	83.367
CSS=40%	0.516	-1.281	0.697	0.106	4.220	1.424	2.370	82.603
Not controlling for education								
Coefficient on CSS	-0.348*	-0.389	-0.304*	0.220***	-0.481*	1.056**	1.028	2.443
(robust S.E.)	*(0.188)*	*(0.271)*	*(0.170)*	*(0.082)*	*(0.260)*	*(0.494)*	*(1.133)*	*(127.339)*
CSS=0%	0.659	-1.099	0.827	0.018	4.420	1.003	2.038	82.796
CSS=40%	0.519	-1.254	0.705	0.106	4.220	1.425	2.449	83.773
Not controlling for age of the parent								
Coefficient on CSS	-0.356**	-0.489*	-0.334**	0.213***	-0.461*	0.997**	1.068	-1.547
(robust S.E.)	*(0.187)*	*(0.269)*	*(0.169)*	*(0.082)*	*(0.259)*	*(0.493)*	*(1.247)*	*(128.187)*
CSS=0%	0.660	-1.085	0.831	0.019	4.419	1.011	2.033	83.319
CSS=40%	0.517	-1.281	0.697	0.104	4.235	1.410	2.460	82.700
Quadratic specification								
Coefficient on CSS	-0.362	-1.380**	-0.642	0.363**	0.132	1.349	5.348**	-357.322
(robust S.E.)	*(0.443)*	*(0.700)*	*(0.405)*	*(0.181)*	*(0.615)*	*(1.257)*	*(2.605)*	*(280.585)*
Coefficient on CSS^2	0.001	1.611	0.559	-0.263	-1.161	-0.559	-8.672	667.746
(robust S.E.)	*(0.748)*	*(1.082)*	*(0.594)*	*(0.312)*	*(1.014)*	*(2.158)*		*(615.965)*
CSS=0%	0.661	-1.022	0.852	0.007	4.370	0.982	1.745	108.898
CSS=40%	0.516	-1.316	0.684	0.110	4.240	1.432	2.497	72.809
Controlling for work-status								
Coefficient on CSS	-0.363**	-0.478*	-0.330**	0.222***	-0.468*	1.050**	0.745	4.050
(robust S.E.)	*(0.187)*	*(0.272)*	*(0.170)*	*(0.083)*	*(0.259)*	*(0.496)*	*(1.040)*	*(127.774)*
CSS=0%	0.661	-1.087	0.830	0.018	4.42	1.004	2.074	82.585
CSS=40%	0.516	-1.278	0.698	0.107	4.23	1.424	2.376	84.205
Allowing the effect of covariates to vary by the gender of the custodial parent [1]								
Coefficient on CSS	-0.342*	-0.524**	-0.341**	0.215***	-0.482*	1.042**	0.746	2.472
(robust S.E.)	*(0.187)*	*(0.270)*	*(0.173)*	*(0.083)*	*(0.260)*	*(0.501)*	*(1.045)*	*(127.779)*
CSS=0%	0.658	-1.081	0.831	0.019	4.420	1.005	2.075	82.79
CSS=40%	0.521	-1.291	0.695	0.105	4.230	1.422	2.373	83.78
Controlling for the amount of child support according to the written agreement [2]								
Coefficient on CSS	-0.367**	-0.497*	-0.341**	0.222***	-0.510**	0.999**	0.794	14.251
(robust S.E.)	*(0.188)*	*(0.271)*	*(0.169)*	*(0.083)*	*(0.260)*	*(0.492)*	*(1.033)*	*(126.922)*
CSS=0%	0.661	-1.087	0.831	0.018	4.426	1.010	2.069	84.98
CSS=40%	0.515	-1.279	0.695	0.106	4.221	1.410	2.386	79.28

Notes: [1] All covariates, except CSS and state fixed effects, are interacted with the gender of the custodial parent. [2] A dummy variable indicates whether there is no written agreement and takes value 1 in that situation. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 16 - The Effect of CSS on Health and Education Outcomes of Children.
Results by the Gender of the Child.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Attitudes towards school (age ≤12)		Difference in years of education relative to potential (age >12)		Secondary education completed		Private school (age ≤12)	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Coefficient on CSS	-0.416**	-0.306	-0.553*	-0.427	-0.413**	-0.280	0.196***	0.249***
(robust S.E.)	*(0.198)*	*(0.206)*	*(0.297)*	*(0.295)*	*(0.198)*	*(0.177)*	*(0.081)*	*(0.098)*
CSS=0%	0.742	0.583	-0.986	-1.184	0.862	0.802	0.026	0.009
CSS=40%	0.575	0.460	-1.207	-1.355	0.696	0.689	0.104	0.109
%Δ (40% - 0%)	*-22.5%*	*-21.1%*	*22.4%*	*14.4%*	*-19.3%*	*-14.1%*	*300%*	*1111%*

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Health level (age ≤12)		Visits to the dentist (age ≤12)		Visits to the doctor (age ≤12)		Total Medical Expenses (age ≤12)	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Coefficient on CSS	-0.469*	-0.502*	1.328***	0.754	1.255	0.171	-58.499	58.790
(robust S.E.)	*(0.276)*	*(0.285)*	*(0.548)*	*(0.520)*	*(1.232)*	*(1.228)*	*(112.063)*	*(156.609)*
CSS=0%	4.421	4.424	0.952	1.055	1.825	2.325	84.961	81.481
CSS=40%	4.233	4.223	1.484	1.357	2.327	2.394	61.562	104.998
%Δ (40% - 0%)	*-4.3%*	*-4.5%*	*55.9%*	*28.6%*	*27.5%*	*3.0%*	*-27.5%*	*28.9%*

Notes: *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level. The difference of the coefficient between boys and girls is never significant at the 10% or lower level.

Table 17 - The Effect of CSS on Health and Education Outcomes of Children.
Results by the level of education of the CP.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Attitudes towards school (age ≤12)		Difference in years of education relative to potential (age >12)		Secondary education completed		Private school (age ≤12)	
	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less
Coefficient on	-0.379**	-0.335*	-0.556**	-0.381	-0.283	-0.403**	0.193**	0.260***
(robust S.E.)	*(0.199)*	*(0.208)*	*(0.279)*	*(0.238)*	*(0.178)*	*(0.198)*	*(0.092)*	*(0.086)*
CSS=0%	0.679	0.596	-0.916	-1.834	0.861	0.679	0.039	-0.057
CSS=40%	0.527	0.462	-1.139	-1.986	0.747	0.518	0.116	0.047
%Δ (40% - 0%)	*-22.4%*	*-22.5%*	*24.3%*	*8.3%*	*-13.2%*	*-23.7%*	*197.4%*	*182.5%*

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Health level (age ≤12)		Visits to the dentist (age ≤12)		Visits to the doctor (age ≤12)		Total Medical Expenses (age ≤12)	
	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less	Assoc. degrees, college or more	HS degree or less
Coefficient on CSS	-0.394	-0.619**	1.016**	1.103**	1.038	0.282	86.399	-131.934
(robust S.E.)	*(0.275)*	*(0.292)*	*(0.535)*	*(0.553)*	*(1.252)*	*(1.160)*	*(142.020)*	*(119.964)*
CSS=0%	4.518	4.118	0.930	1.207	1.930	2.408	119.830	-33.951
CSS=40%	4.360	3.870	1.337	1.648	2.346	2.521	154.390	-86.724
%Δ (40% - 0%)	*-3.5%*	*-6.0%*	*43.8%*	*36.5%*	*21.6%*	*4.7%*	*28.8%*	*155.4%*

Notes: *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level. The difference of the coefficient between boys and girls is never significant at the 10% or lower level.

Appendix A1: Sample Calculation of Child Support amounts, 2013

This appendix illustrates the child support calculations we undertook for four sample states in 2013. Since each state employs a different calculation and these calculations may vary over time, the selected four states simply provide an example of the type of calculations that we used to calculate child support savings from joint custody.

Example 1: Income Shares, Joint Custody in Child Support Algorithm, Kansas

Kansas uses an 'income shares' guideline with shared physical custody incorporated into the calculation. To calculate child support, we first calculate total parental gross monthly income. Given summed parental income, the state publishes a set of tables that specify a total child support obligation (see http://www.kscourts.org/rules-procedures-forms/child-support-guidelines/2012_new/CSG%20AO%20261%20Clean%20Version%20032612.pdf). For sole custody, this amount is prorated between the parents according to their percentage of total income. In cases of shared parenting, the state follows a slightly more complicated algorithm as discussed below.

The necessary computations for the calculation of child support in Kansas each of our income categories are as follows:

I. Both parents are 'low' income.

If both parents are low income, then total gross monthly income is $2166 in 2013 dollars. Using the Kansas schedule of child support obligations and assuming the youngest age category, this leads to a total child support obligation of $349/month for one child and $528/month for two children. In the sole custody case, the father will owe half of the total child support since his income is half of total parental income, for a child support payment of $165 and $264 per month for one and two children, respectively.

In the case of shared parenting, the equal parenting time formula is as follows: compute each parent's child support assuming sole custody. Subtract the lesser amount from the greater amount and multiply by .5. Add to this one of the following:

a) 0.13*total child support obligation if total gross income is equal or less than $4,690,

b) 0.15*total child support obligation if total gross income is greater than $4,690 but less than $8,125,

c) 0.18*total child support obligation if that income is equal to or greater than $8,125.

Therefore, if both parents are low income, then child support is 0.13*$349/month and 0.13*$528/month for one and two child families, for a payment of $45 and $69 per month, respectively.

II. The mother is ‘low’ income and father is ‘medium’ income.

Using the Kansas schedule of child support obligations along with our low- and medium-income categories in 2013 dollars and assuming the youngest age category, this leads to a total child support obligation of $582/month for one child and $872/month for two children. In the sole custody case, the father will owe the total obligation times his percentage of total parental income for a child support order of $429 and $643 for one and two child families, respectively.

In the case of shared parenting, using the equal parenting time formula, father’s child support is equal to 0.5*($429-$153)+0.13*582 for a child support payment of $214 for one child families and 0.5*($643-$229)+0.13*872 for a child support payment of $320 for two child families.

III. The mother is ‘medium’ income and father is ‘low’ income.

Using the Kansas schedule of child support obligations along with our low- and medium-income categories in 2013 dollars and assuming the youngest age category, this leads to a total child support obligation of $582/month for one child and $872/month for two children. In the sole custody case, the father will owe the total obligation times his percentage of total parental income for a child support order of $153 and $229 for one and two child families, respectively.

In the case of shared parenting, using the equal parenting time formula, *the mother’s* child support is equal to 0.5*($429-$153)+0.13*582 for a child support payment of $214 for one child families and 0.5*($643-$229)+0.13*872 for a child support payment of $320 for two child families. In this case, the father receives child support from the mother.

IV. Both parents are ‘medium’ income.

Using the Kansas schedule of child support obligations along with our low- and medium-income categories in 2013 dollars and assuming the youngest age category, this leads to a total child support obligation of $807/month for one child and $1202/month for two children. In the sole custody case, the father will owe the total obligation times his percentage of total parental income for a child support order of $404 and $601 for one and two child families, respectively.

In the case of shared parenting, using the equal parenting time formula, the father’s child support is equal to 0.15*807 for a child support payment of $121 for one child families and 0.15*1202 for a child support payment of $180 for two child families.

V. The mother is ‘low’ income and father is ‘high’ income.

Using the Kansas schedule of child support obligations along with our low- and medium-income categories in 2013 dollars and assuming the youngest age category, this leads to a total child support obligation of $1152/month for one child and $1704/month for two children. In the sole custody case, the father will owe the total

obligation times his percentage of total parental income for a child support order of $1020 and $1508 for one and two child families, respectively.

In the case of shared parenting, using the equal parenting time formula, the father's child support is equal to 0.5*($1020-$132)+0.18*1152 for a child support payment of $651 for one child families and 0.5*($1508-$196)+0.18*1704 for a child support payment of $963 for two child families.

VI. The father is 'low' income and mother is 'high' income.

Using the Kansas schedule of child support obligations along with our low- and medium-income categories in 2013 dollars and assuming the youngest age category, this leads to a total child support obligation of $1152/month for one child and $1704/month for two children. In the sole custody case, the father will owe the total obligation times his percentage of total parental income for a child support order of $132 and $196 for one and two child families, respectively.

In the case of shared parenting, using the equal parenting time formula, *mother's* child support is equal to 0.5*($1020-$132)+0.18*1152 for a child support payment of $651 for one child families and 0.5*($1508-$196)+0.18*1704 for a child support payment of $963 for two child families. In this case, the father receives child support from the mother.

VII. Both parents are 'high' income.

For total monthly incomes above $15,500, Kansas employs the following calculation for total child support in the one child case:

First, raise income to the power .689838232 and multiply the result by 2.795. The algorithm also specifies that total monthly child support be multiplied by 0.8 to adjust for the younger age category. Therefore, given our high-income categories in 2013 dollars and assuming the youngest age, this implies that total monthly child support in the sole custody case is calculated as $0.8*2.795*16708^{0.6898382}$ or $1831. Since the father's share of total child support is one-half, his monthly child support payment is $915.

For total monthly incomes above $15,500, Kansas employs the following calculation for total child support (per child) in the two-child case:

Raise income to the power .689838232 and multiply the result by 2.0497. The algorithm also specifies that total monthly child support be multiplied by 0.8 to adjust for the younger age category. Therefore, given our high-income categories in 2013 dollars and assuming the youngest age, this implies that total monthly child support in the sole custody case is calculated as $0.8*2*2.0497*16708^{0.6898382}$ or $2686. Since the father's share of total child support is one-half, his monthly child support payment of $1343.

In the case of shared parenting, using the equal parenting time formula, the father's child support is equal to 0.18*1831 for a child support payment of $330 for one child

families and 0.18*2686 for a child support payment of $483 for two child families.

VIII. The mother is ‘medium’ income and father is ‘high’ income.

Using the Kansas schedule of child support obligations along with our medium- and high-income categories in 2013 dollars and assuming the youngest age category, this leads to a total child support obligation of $1350/month for one child and $1990/month for two children. In the sole custody case, the father will owe the total obligation times his percentage of total parental income for a child support order of $991 and $1460 for one and two child families, respectively.

In the case of shared parenting, using the equal parenting time formula, the father’s child support is equal to 0.5*($991-$359)+0.18*1350 for a child support payment of $559 for one child families and 0.5*($1460-$530)+0.18*1990 for a child support payment of $824 for two child families.

IX. The father is ‘medium’ income and mother is ‘high’ income.

Using the Kansas schedule of child support obligations along with our medium- and high-income categories in 2013 dollars and assuming the youngest age category, this leads to a total child support obligation of $1350/month for one child and $1990/month for two children. In the sole custody case, the father will owe the total obligation times his percentage of total parental income for a child support order of $359 and $530 for one and two child families, respectively.

In the case of shared parenting, using the equal parenting time formula, the *mother’s* child support is equal to 0.5*($991-$359)+0.18*1350 for a child support payment of $559 for one child families and 0.5*($1460-$530)+0.18*1990 for a child support payment of $824 for two child families. In this case, the father receives child support from the mother.

Example 2: Percentage of Obligor Income, joint custody a deviation from child support guidelines, Mississippi

Mississippi uses a simple percentage of obligor gross income to compute child support, with child support computed at 14% of gross paternal income for one child and 20% of gross paternal income for two-child families. Mississippi uses a possible deviation from the guidelines in the case of shared physical custody as opposed to the use of shared physical custody in the child support algorithm, so that shared physical custody is not explicitly included in the child support calculation for the guidelines.

As a result, child support is equal to $151, $424, and $1170 (14% of paternal income) in one-child families and $216, $606 and $1671 (20% of paternal income) in two- child families.

Example 3: Percentage of Obligor Income, Joint Custody incorporated in child support

calculation, Texas

Texas uses a simple percentage of obligor net income to compute child support, with child support computed at 20% of net paternal income for one child and 25% of net paternal income for two-child families. To calculate net income, we use a web-based state payroll calculator (http://www.paycheckcity.com) which calculated income net of FICA and income taxes. As a result, child support is equal to $180, $482, and $1197 (20% of net paternal income) in one-child families and $225, $602 and $1497 (25% of net paternal income) in two- child families, given our definitions of 'low', 'medium' and 'high' income in 2013 dollars.

In the case of joint physical custody, Texas takes the difference between the obligation for the high earning and low-earning parent assuming sole custody, so that if both parents have the same income, no child support is owed.

Example 4: Income Shares, joint custody a deviation from child support guidelines, Connecticut

Connecticut uses an 'income shares' guideline with shared physical custody treated as a possible deviation from child support guidelines. To calculate child support, we first calculate total parental gross monthly income. Given summed parental income, the state publishes a set of tables that specify a total child support obligation (see http://child-support.com/ct/connecticut-child-support-calculator-guidelines/). For sole custody, this amount is prorated between the parents according to their percentage of total income. In cases of shared parenting, the state may allow a deviation from the child support guidelines.

The necessary computations for the calculation of child support in Connecticut each of our income categories are as follows:

I. Both parents are 'low' income.

   If both parents are low-income, then total gross monthly income is $2166 in 2013 dollars. Using the Connecticut schedule of child support obligations and assuming the youngest age category, this leads to a total child support obligation of $104/week for one child and $150/week for two children. The father will owe half of the total child support since his income is half of total parental income, for a child support payment of $225 and $325 per month for one and two children, respectively.

II. The mother is 'low' income and father is 'medium' income.

   Using the Connecticut schedule of child support obligations along with our low- and medium-income categories in 2013 dollars, this leads to a total child support obligation of $178/week for one child and $247/week for two children. The father will owe the total obligation times his percentage of total parental income for a child

support order of $553 and $767 per month, for one and two child families, respectively.

III. The mother is ‘medium’ income and father is ‘low’ income.

Using the Connecticut schedule of child support obligations along with our low- and medium-income categories in 2013 dollars, this leads to a total child support obligation of $178/week for one child and $247/week for two children. The father will owe the total obligation times his percentage of total parental income for a monthly child support order of $218 and $302 for one and two child families, respectively.

IV. Both parents are ‘medium’ income.

Using the Connecticut schedule of child support obligations along with our low- and medium-income categories in 2013 dollars, this leads to a total child support obligation of $237/week for one child and $324/week for two children. The father will owe the total obligation times his percentage of total parental income for a monthly child support order of $513 and $702 for one and two child families, respectively.

V. The mother is ‘low’ income and father is ‘high’ income.

Using the Connecticut schedule of child support obligations along with our low- and medium-income categories in 2013 dollars, this leads to a total child support obligation of $274/week for one child and $367/week for two children. The father will owe the total obligation times his percentage of total parental income for a monthly child support order of $1021 and $1367 for one and two child families, respectively.

VI. The father is ‘low’ income and mother is ‘high’ income.

Using the Connecticut schedule of child support obligations along with our low- and medium-income categories in 2013 dollars, this leads to a total child support obligation of $274/week for one child and $367/week for two children. The father will owe the total obligation times his percentage of total parental income for a monthly child support order of $166 and $222 for one and two child families, respectively.

VII. Both parents are ‘high’ income.

Using the Connecticut schedule of child support obligations along with our low- and medium-income categories in 2013 dollars, this leads to a total child support obligation of $377/week for one child and $496/week for two children. The father will owe the total obligation times his percentage of total parental income for a

monthly child support order of $816 and $1074 for one and two child families, respectively.

VIII. The mother is 'medium' income and father is 'high' income.

Using the Connecticut schedule of child support obligations along with our low- and medium-income categories in 2013 dollars, this leads to a total child support obligation of $303/week for one child and $400/week for two children. The father will owe the total obligation times his percentage of total parental income for a monthly child support order of $929 and $1226 for one and two child families, respectively.

IX. The father is 'medium' income and mother is 'high' income.

Using the Connecticut schedule of child support obligations along with our low- and medium-income categories in 2013 dollars, this leads to a total child support obligation of $303/week for one child and $400/week for two children. The father will owe the total obligation times his percentage of total parental income for a monthly child support order of $381 and $506 for one and two child families, respectively.

Appendix A2: Source list for child support calculations by state

State	*Source*
Alabama	www.divorcehq.com/cgi-support/suppcalc.pl http://judicial.alabama.gov/library/rules/ja32.pdf http://judicial.alabama.gov/library/rules/ja32_appx.pdf
Alaska	https://webapp.state.ak.us/cssd/guidelinecalc/form
Arizona	http://www.azcourts.gov/familylaw/2011-Child-support-calculator http://www.pycourts.org/sites/default/files/filings/Arizona-Child-Support-Guidelines_0.pdf
Arkansas	https://courts.arkansas.gov/forms-and-publications/arkansas-child-support-guidelines https://courts.arkansas.gov/forms-and-publications/arkansas-child-support-guidelines http://www.paycheckcity.com/calculator/salary/result
California	http://www.childsup.ca.gov/resources/calculatechildsupport.aspx http://www.leginfo.ca.gov/cgi-bin/displaycode?section=fam&group=04001-05000&file=4050-4
Colorado	https://www.courts.state.co.us/Forms/PDF/JDF%201822%20-%20Child%20Support%20Guideline%20(CIVIL%20UNION%20CHANGE%20ONLY)%20-%20R9%2013.pdf https://www.dshs.wa.gov/sites/default/files/ESA/dcs/documents/coloradotable.pdf

Connecticut	http://child-support.com/ct/connecticut-child-support-calculator-guidelines/
Delaware	http://courts.delaware.gov/forms/download.aspx?id=39228
Florida	https://www.myfloridalaw.com/child-support-law/florida-child-support-calculator/
Georgia	http://www.supportstudies.com/GeorgiaChildSupportCalculator.aspx http://www.divorcehq.com/calculators/georgia-child-support-calculator.shtml http://guidelineeconomics.com/files/GAminority.pdf
Hawaii	http://www.courts.state.hi.us/self-help/courts/forms/oahu/child_support http://lrbhawaii.org/reports/legrpts/lrb/rpts02/famlaw.pdf
Idaho	http://www.idahochildsupportcalculation.com/
Illinois	http://www.paycheckcity.com/calculator/salary/result http://www.divorcenet.com/resources/child-support/child-support-basics/child-support-illinois.htm
Indiana	http://mycourts.in.gov/csc/parents/default.aspx http://www.in.gov/legislative/interim/committee/2000/committees/reports/CCSA3B1.pdf http://grundenlaw.com/did-you-know-indiana-changed-the-child-support-guidelines/ http://lrbhawaii.org/reports/legrpts/lrb/rpts02/famlaw.pdf
Iowa	https://secureapp.dhs.state.ia.us/estimator/#/ http://www.iowacourts.gov/wfdata/frame9507-1382/File43.pdf
Kansas	http://www.kscourts.org/rules-procedures-forms/child-support-guidelines/2012_new/CSG%20AO%20261%20Clean%20Version%20032612.pdf http://www.kscourts.org/rules-procedures-forms/child-support-guidelines/2010-guidelines-final.pdf http://www.kscourts.org/rules-procedures-forms/child-support-guidelines/Archive-Guidelines/KCSG-2
Kentucky	https://csws.chfs.ky.gov/csws/General/EstimateChild.aspx
Lousisiana	http://www.dcfs.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=146 http://www.supportguidelines.com/glines/la_cs.HTML
Maine	http://www.divorcesource.com/ds/maine/maine-child-support-4599.shtml
Maryland	http://www.dhr.state.md.us/CSOCGuide/App/worksheetA.do http://lrbhawaii.org/reports/legrpts/lrb/rpts02/famlaw.pdf http://www.familywelfare.umaryland.edu/reports/csguidelines.pdf
Massachussetts	http://www.ma-divorce-center.com/Child_Support_Calculator.html

	http://www.mass.gov/courts/docs/child-support/task-force-report.pdf http://www.massbar.org/publications/section-review/2009/v11-n2/a-guide-to-some-of-the-more-substantive-changes-in-the-new-massachusetts-child-support-guidelines http://www.mass.gov/courts/docs/child-support/task-force-report.pdf
Michigan	http://cdm16110.contentdm.oclc.org/cdm/fullbrowser/collection/p16110coll8/id/108627/rv/compoundobject/cpd/108629/rec/16 http://cdm16110.contentdm.oclc.org/cdm/compoundobject/collection/p16110coll8/id/108626/rec/15 http://cdm16110.contentdm.oclc.org/cdm/pageflip/collection/p16110coll8/id/108623/type/compoundobject/show/108622/cpdtype/document/pftype/pdf http://cdm16110.contentdm.oclc.org/cdm/pageflip/collection/p16110coll8/id/108636/type/singleitem/pftype/pdf
Minnesota	http://childsupportcalculator.dhs.state.mn.us/CalculatorResults.aspx https://www.leg.state.mn.us/docs/2005/mandated/050236.pdf https://www.hg.org/article.asp?id=24772
Mississippi	http://www.mdhs.state.ms.us/child-support/determine-child-support-obligations/
Missouri	www.teamlex.com/areas/form14.htm http://familylaw.mwortmanlaw.com/2009/01/articles/child-support/new-2009-missouri-child-support-guidelines-and-basic-support-schedule-now-in-effect/ http://www.sos.mo.gov/cmsimages/adrules/csr/current/13csr/13c30-5.pdf
Montana	http://www.divorcehq.com/calculators/montana-child-support-calculator.shtml https://dphhs.mt.gov/Portals/85/csed/documents/guidelinesandindex.pdf
Nebraska	https://supremecourt.nebraska.gov/files/rules/forms/childsup-table.pdf https://supremecourt.nebraska.gov/files/rules/forms/worksheet3.pdf https://supremecourt.nebraska.gov/supreme-court-rules/ch4/art2
Nevada	https://lvfamilylaw.com/child-support-in-nevada/
New Hampshire	https://www.nhbar.org/uploads/pdf/CSG-2012.pdf
New Jersey	http://www.garneslaw.com/NewJerseyChildSupportGuidelines.pdf https://njfamilylaw.foxrothschild.com/2009/04/articles/child-support/finally-a-child-support-formula-for-joint-physical-custody-cases/

	http://www.judiciary.state.nj.us/rules/appndx_ix_d.pdf http://www.weinbergerlawgroup.com/children-parenting/child-support/calculations-guidelines.aspx https://www.judiciary.state.nj.us/notices/reports/CS_Case_File_Review.pdf http://riker.com/publications/adjustment-to-child-support-guidelines-calculations-when-parents-have-equal
New Mexico	www2.nmcourts.gov/cgi/prose_lib/csw_out2008.cgi http://www.hsd.state.nm.us/uploads/PressRelease/2f473c14ee654f868b5a25b3cfd15a6d/2008%20(2-4)%20House_Passes_HB_412_NR_2008.pdf
New York	http://www1.nyc.gov/site/hra/help/child-support-calculator.page
North Carolina	https://nddhacts01.dhhs.state.nc.us/home.jsp?TargetScreen=WorkSheet.jsp http://sogpubs.unc.edu/electronicversions/pdfs/flb13.pdf
North Dakota	https://www.nd.gov/dhs/services/childsupport/docs/previous-guidelines-august-2015.pdf https://www.nd.gov/dhs/services/childsupport/progserv/guidelines/guidelines.html
Ohio	https://ohiochildsupportcalculator.ohio.gov/home.html
Oklahoma	http://www.okdhs.org/onlineservices/cscalc/Pages/cscalc.aspx
Oregon	https://justice.oregon.gov/guidelines/summary.aspx http://www.oregonchildsupport.gov/laws/rules/docs/guidelines_commentary.pdf
Pennsylvania	http://www.pennglazier.com/support2010/support.html
Rhode Island	http://www.alllaw.com/calculators/childsupport/rhode_island
South Carolina	https://www.state.sc.us/dss/csed/forms/2006guidelines.pdf http://www.scalc.net/decisions.aspx?q=4&id=1896
South Dakota	http://apps.sd.gov/ss17pc02cal/calculator1.aspx https://dss.sd.gov/docs/childsupport/sharedparentingobliwkst.pdf
Tennessee	http://www.tennessee.gov/humanservices/article/child-support-guidelines-downloads http://www.kennedylawfirmpllc.com/Divorce/Child-Support.shtml
Texas	http://www.jackrobinson.com/how-to-calculate-child-support-in-texas/ http://www.paycheckcity.com/calculator/salary/result https://www.avvo.com/legal-guides/ugc/how-does-the-court-handle-child-support-when-the-parents-are-splitting-custody-of-the-kids
Utah	https://orscsc.dhs.utah.gov/orscscapp-hs/orscscweb/action/public/custodyWorksheet/show
Vermont	http://dcf.vermont.gov/ocs/parents/calculator

Virginia	http://www.courts.state.va.us/forms/district/dc640.pdf http://www.beankinney.com/assets/htmldocuments/Va%20Support%20Statute%20with%20Chart%2000450624xAC2B5.pdf
Washington	https://fortress.wa.gov/dshs/dcs/SSGen/Home
West Virginia	http://www.legis.state.wv.us/WVCODE/ChapterEntire.cfm?chap=48&art=13&section=502#13 http://child-support.com/wp-content/uploads/guidelines.pd
Wisconsin	http://dcf.wisconsin.gov/bcs/pdf/worksheets_shared_placement.pdf http://dcf.wisconsin.gov/publications/pdf/dcf_p_dwsc824.pdf http://docs.legis.wisconsin.gov/code/admin_code/dcf/101_199/150_b.pdf http://docs.legis.wisconsin.gov/code/admin_code/dcf/101_199/150_c.pdf
Wyoming	http://law.justia.com/codes/wyoming/2011/title20/chapter2/section20-2-304
District of Columbia	http://csgc.oag.dc.gov/application/main/intro.aspx

Notes: Sources accessed from 11/15/2016 to 4/2/2017. To cross-check state policies over time, we employed two sources which cover polices across multiple states: (i) https://static1.squarespace.com/static/5154a075e4b08f050dc20996/t/54e34dd2e4b04c0eab578456/1424182738603/3fall13_venohr.pdf, (ii) http://lrbhawaii.org/reports/legrpts/lrb/rpts02/famlaw.pdf.