How are Child Support Burdens Related to Child Support Payments, Compliance, and Regularity?

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March 2019

This report has been prepared under a contractual agreement between the Wisconsin Department of Child and Families and the Institute for Research on Poverty. Any views expressed in this paper are those of the authors and not necessarily of the sponsoring organization.

Many noncustodial parents struggle to meet their child support obligations and, in a given year, less than half of custodial parents with a child support order receive full payments (Ha, Cancian, Meyer, and Han 2008, Grall 2018).[1] The increasing incidence of children living in single parent families along with the poverty gap between single- and two-parent families, has contributed to calls to increase noncustodial parents' contributions to their children by strengthening child support policy. However, many noncustodial parents have limited resources, and both policymakers and academics have questioned whether expecting high levels of child support from noncustodial parents is counterproductive. In concept, the state guidelines used to set order amounts could be based on principles of justice, the needs of children, the resources of both parents, or other factors. In practice, because most orders are not regularly paid in full, the relationship between order levels and actual payments is also a key concern.

When noncustodial parents make full and consistent payments, custodial parents and children can rely on a regular source of income, noncustodial parents avoid the sanctions and interest associated with child support debt, and child support agencies avoid the need for additional enforcement. Previous research has suggested that when orders are more burdensome (i.e. when they constitute a higher proportion of the noncustodial parent's income), compliance (i.e. the amount of child support paid as a proportion of the amount owed) declines. Lower compliance results in debt for noncustodial parents and typically triggers enforcement actions by child support agencies. However, the implications for the resources for custodial parents and children are unclear. Orders that are "too high" may result in noncustodial parents paying a lower

[1] In 2000 in Wisconsin, less than half (47 percent) of fathers paid the full amount and 13 percent paid nothing in the first year (Ha et al. 2008). In this study, which follows noncustodial father-custodial mother pairs who had their first order in 2010, 2011, or 2012, we find similar rates: 48 percent of fathers paid the full amount owed and 12 percent of fathers paid nothing in the first year. National estimates indicate that 44 percent of custodial mothers received the full amount of child support due to them and 30 percent received no support (Grall 2018).

percentage of what is due (low compliance) or paying less consistently, even when paying higher amounts (Meyer, Ha, and Hu 2008). Alternatively, higher orders could result not only in lower compliance and regularity, but also in lower payments, if, for example, they motivate noncustodial parents to exit the formal labor market to avoid child support enforcement (Cancian, Heinrich, and Chung 2009, Roff and Lugo-Gil 2012), or if noncompliance results in incarceration that then results in lower payments (Meyer and Warren 2011).

Research on how child support order levels are related to child support payments, compliance, and regularity can help inform states' reviews of their guidelines. In light of the Flexibility, Efficiency, and Modernization in Child Support Programs rule, published in December 2016 (Federal Register 81, 244: p. 93494), these issues are of particular relevance for noncustodial parents with limited abilities to pay.

In this report, we use recent child support and earnings records for noncustodial fathers from the state of Wisconsin to examine child support orders, payments, compliance, and regularity with an aim to update previous results and clarify some apparent inconsistencies across prior analyses. We use multivariate regressions, including fixed-effects regressions, that consider how earnings and burden levels (orders as a percentage of earnings) are related to payments, compliance, and regularity, over several years. We consider child support owed between the noncustodial parent and custodial parent in the pair when calculating burden levels.[2] Like the previous work, we examine whether there is a threshold burden level above which payment amounts and compliance with orders tends to decline, and we expand this to examine whether there is a threshold above which regularity of payments tends to decline.[3] We focus on

[2] Noncustodial parents in our sample could have prior orders for children in other families.

[3] Following prior work that has examined regularity of child support payments (receipts) from the perspective of the custodial parent, we conceptualize regularity as the having two components: consistency

pairs of noncustodial fathers and custodial mothers whose orders began in 2010, 2011, or 2012 and were in effect for a total of three years (36 months), on a subsample of cases where the noncustodial parents have limited abilities to pay (earnings below 200 percent of the federal poverty guidelines in all three years of the study), and on subsamples of cases by number of children (one, two, and three or more).

Our results suggest that those with higher burdens generally pay more child support, but pay a lower proportion of the total support owed, and less regularly. We provide more detailed estimates of the relationship between order burden and payments, compliance and regularity, and discuss the implications of the results for child support policy.

PRIOR LITERATURE

A number of prior studies have documented how child support payments and compliance are related to the amount of child support owed relative to noncustodial parent earnings (i.e. child support burden), taking into account father's levels of earnings. Early studies using administrative data from the state of Wisconsin, found that fathers with higher burden levels paid a greater amount of child support (Hu and Meyer 2003) and that fathers with higher burden levels had lower rates of compliance (Bartfeld and Meyer 1994, Meyer and Bartfeld 1996, Meyer 1999, Hu and Meyer 2003).[4] Using publically available data on child support orders, payments, and estimated income from the Child Support Supplement of the Current Population Survey

(payment/receipt of any child support) and stability (payment/receipt of at least 75 percent of child support owed). In our descriptive analyses, we consider full regularity of payments to be payments of at least 75 percent of child support owed in 10 to 12 months of a given year.

[4] For these studies, the levels of burden at which compliance declined differed somewhat, depending on the characteristics of the cases (for example, depending on whether cases were established through divorce (Bartfeld and Meyer 1994), paternity (Meyer and Bartfeld 1996), or both (Meyer 1999, Hu and Meyer 2003).

covering the period from 1994 to 1998, Huang, Mincy, and Garfinkel (2005) also estimated a negative relationship between burden and compliance.

In the study most closely related to the present study, Meyer et al. (2008) follow noncustodial fathers who had their first order with a custodial mother in 2000 for three years to examine how burden levels are related to payments and compliance over time. Simple descriptive comparisons indicate that payments and rates of compliance are higher for noncustodial fathers with more earnings, and that within income categories (e.g. among fathers with incomes of $10,000 to $19,999), higher orders (and higher burdens) result in higher payments and lower compliance. After using individual-level fixed effects models to control for time-invariant factors related to child support payments and compliance, their results indicate that both payments and compliance increase with earnings, and that payments increase but compliance declines with burden level.

Another widely-cited prior analysis, by Takayesu (2011), examines orders and payments for new child support cases in California in 2009 to 2010. While their analysis takes a somewhat different approach (e.g. considering payments per child, rather than total payments), in most respects their results are consistent with Meyer et al. (2008). In particular, Takayesu estimates a multivariate model taking into account noncustodial parent income, and considering outcomes at different burden levels—0 to 10 percent, 10 to 20 percent, 20 to 30 percent, 30 to 40 percent and 40 to 50 percent. Consistent with Meyer et al. (2008), he finds that higher burden orders are associated with higher amounts of child support paid, but lower compliance. Takayesu also aims to identify whether compliance and payments tend to begin to decline at a particular level of burden. While payments rise consistently with burdens categorized as above (i.e. 0 to 10 percent, 10 to 20 percent, etc.), when he examines changes in payments associated with one-percentage-

point changes in burdens, he finds an inconsistent pattern, with declines in payments when burdens go from 19 to 20 percent, and from 21 to 22 percent, but increases in payments when burdens go from 20 to 21 percent and from 22 to 23 percent. In the case of compliance, which declines with burden when the broader categories are used, Takayesu reports that compliance begins to decline significantly when burden reaches 19 percent, and continues to drop with each one-percentage-point increase in burden up to 22 percent (p. 24). Above a burden of 22 percent, Takayesu does not find a consistent pattern of significant drops in compliance. Takayesu also examines the number of months with a payment, and finds that this measure of regularity is higher for orders that are 10 to 20 percent of income compared to those that are 0 to 10 percent, but then declines as burden increases.

In addition to examining the relationship between burden levels and compliance and payment holding constant father's earnings levels, prior studies have examined patterns for lower-earning noncustodial parents in greater detail. Hu and Meyer (2003) and Meyer et al. (2008) find that low-income fathers (fathers with earnings less than $10,000) with higher burdens (orders that exceed 15 percent of income) pay more. However, payment amounts increase less than proportionate to burden levels (i.e., at burden levels above 15 percent, payment amounts are similar). Bartfeld and Meyer (1994), Hu and Meyer (2003), Huang et al. (2005), and Meyer et al. (2008) find that lower-earning fathers with lower burdens have higher rates of compliance than lower-earning fathers with higher burdens.

In sum, the overall findings of the earlier research have some differences in approach. One difference is in the choice of an appropriate comparison group: most of the earlier research compares all different levels of burdens to a fixed, low level (e.g., orders that are 1 to 10 percent of earnings); Takayesu introduces the concept that a burden level should be compared to the

level just below it, rather than to a fixed point (e.g., comparing orders that are 11 to 20 percent of earnings to those that are 1 to 10 percent and comparing those that are 21 to 30 percent of earnings to those that are 11 to 20 percent, etc.). A second difference is in the statistical method used. Most of the previous research uses simple bivariate comparisons, OLS multivariate regressions, or Tobit regressions; Meyer et al. (2008) introduce the idea of using a fixed-effects regression, which compares individuals to themselves at different points in time, an approach that allows for stronger inference because some unmeasured characteristics can be controlled.

Even with these different approaches, the findings are broadly consistent in showing that higher burdens are associated with higher payments and lower compliance. They also suggest that higher burdens reduce the regularity of payments. Both the declines in compliance and regularity are concentrated among lower income payers in the previous work. But this research is now dated, with the fixed-effects research based on a group of noncustodial parents who had their first child support order in 2000. In this paper we contribute to the research by using both comparison-group approaches and fixed-effects models with much more recent data.

DATA AND METHODS

Data and Sample

We use a unique data set drawn from KIDS, the Wisconsin child support data system. These data include a variety of information on each child support case, including the amount of child support owed, the amount of child support amount paid, whether the parent has an order to a single family or orders to multiple families, and the demographic characteristics of the person who owes support, the person due support, and their children. Earnings information from the state's Unemployment Insurance system and public benefits information from the state's Department of Health and Human Services are also incorporated.

Our sample begins with 54,353 pairs of noncustodial fathers and custodial mothers who had their first order in 2010, 2011, or 2012. We focus on pairs where the noncustodial parent is the father, because noncustodial fathers make up the vast majority of noncustodial parents on Wisconsin child support cases (90 percent in our data), and because noncustodial mothers may have different payment patterns. In practice it is complicated to identify the first order for a pair, so, as an additional validity check, we examined arrears balances for noncustodial father-custodial mother pairs in our sample, and excluded 2,186 pairs who had prior arrears balances.[5]

Since payment patterns may change over the life of a case, we follow these pairs over three years (36 months), tracking initial orders and changes over time.[6] Because the purpose of this study is to examine the extent to which child support payments are associated with the amount of orders and earnings over time, we excluded pairs who were identified as having moved to another state during the three year period[7] (N=10,672 pairs) and pairs living in Wisconsin whose orders were not in effect for three years (N=11,412). We exclude an additional 202 pairs whose youngest child turned 18 before the end of the third year. Consistent with prior work (Ha et al. 2008), we also excluded 24 pairs who had a percentage-expressed or mixed order during the three-year period due to technical difficulties in calculating the amount owed for percentage-expressed orders and matching it with the paid amount. Our final sample includes 29,857 pairs.[8]

[5] We used arrears balances for the case near the time of the first order, or support orders for arrears near the time of the first order, to identify pairs with arrearages.

[6] The first year begins with the first calendar month of the pair's order. To construct our measures of total earnings in each year, we convert quarterly wage records into monthly averages and sum across months.

[7] This also excludes cases where the location of the noncustodial fathers is unknown (N=453).

[8] We are less restrictive in our criteria for identifying noncustodial fathers' prior and subsequent orders (with other custodial mothers for children in other families). For example, we do not require identification of a custodial *mother* on prior or subsequent orders (the custodial parent could be another relative), we also do not stipulate a duration for prior or subsequent orders, and we do not restrict prior or subsequent orders by child's age.

One of our key variables is the amount of the order. We consider only current child and family support orders between the noncustodial father and custodial mother.[9] Other owed amounts, including past support, arrears on past support, birthing costs, and other court costs (e.g., blood tests, fees, etc.), are excluded from our measure. Our measure of payments is similar, focusing only on current child and family support paid by the noncustodial father to the custodial mother of the pair, and ignoring other types of payments.[10] Half of fathers in our study owed more than $3,356 in child support in the first year ($280 per month, see Table 1), and median amounts decline slightly through the third year. Half of fathers in our study paid less than $2,421 ($202 per month) in the first year (also shown in Table 1), and median amounts increase in the second year before declining in the third.

From our measures of payments and orders, we construct a measure of compliance with the child support order in a given year (defined as the total amount of current child support paid by the noncustodial parent divided by the amount of all current child support owed by the noncustodial parent) and a measure of regularity of payments toward the order (the number of months in the year that the noncustodial parent paid at least 75 percent of child support owed).[11] Half of noncustodial fathers paid 83 percent or more of current support owed in the first year, but fewer (40 percent) had between 10 and 12 months where they paid more than 75 percent of current support owed (see Table 1). Our descriptive results, which do not take into account the characteristics of the two parents and their case, indicate that child support compliance and the percentage of cases with full regularity of payments increased in the second and third years.

[9] Noncustodial fathers in the sample can have prior orders (N=7,399, 25 percent) and subsequent orders (N=3,740, 13 percent) to other custodial mothers.

[10] Child support payments include payments to the mother, and payments to the state for mothers who are participating in Temporary Assistance for Needy Families (TANF).

[11] Our measure of compliance does not exceed 100 percent. Payment amounts greater than order amounts are coded as 100 percent compliant. In the first year, less than 10 percent of fathers have compliance rates greater than 100 percent, and less than 1 percent of fathers have compliance rates greater than 108 percent.

Table 1. Descriptive Statistics for Key Measures by Year

	Year 1	Year 2	Year 3
Child Support Payment (%)			
$0	10.83	11.24	10.97
$1-$999	20.14	19.64	19.80
$1,000-$2,999	25.97	25.78	26.35
$3,000-$4,999	16.72	16.65	16.75
$5,000-$6,999	9.80	9.96	9.98
$7,000+	16.54	16.72	16.15
Median ($)	2,421	2,465	2,426
Child Support Order (%)			
<$1,000	7.48	7.89	7.85
$1,000-$2,999	37.79	37.49	37.75
$3,000-$4,999	22.40	22.87	23.05
$5,000-$6,999	12.43	12.57	12.74
$7,000+	19.91	19.19	18.61
Median ($)	3,356	3,332	3,311
Compliance (%)			
No payment	10.83	11.24	10.97
Partial Payment (>0-25%)	12.01	11.53	11.40
Partial Payment (25-74%)	20.56	18.38	18.32
Full Payment (75-99%)	45.23	40.43	41.33
Full Payment (100%+)	11.37	18.41	17.98
Median (%)	83	88	89
Regularity (%)			
No payment	10.83	11.24	10.97
Irregularity (0 mos)	6.09	5.83	5.73
Irregularity (1-3 mos)	11.32	10.98	10.68
Partial Regularity (4-6 mos)	10.61	9.23	9.53
Partial Regularity (7-9 mos)	21.52	16.10	15.67
Full Regularity (10-12 mos)	39.63	46.62	47.42
Median (mos)	8	9	9
Earnings (%)			
<500 (imputed $500)	24.28	24.36	23.79
$500 - $2,999	7.26	6.81	6.14
$3,000-$9,999	11.23	10.52	9.98
$10,000-$19,999	12.19	11.81	11.65
$20,000-$29,999	10.99	11.15	10.94
$30,000-$39,999	9.31	9.47	10.21
$40,000+	24.72	25.88	27.29
Median ($)	15,622	16,880	18,596
Burden Level (%)			
<10%	16.34	19.81	22.57
10-19%	28.33	27.24	27.30
20-29%	12.19	10.63	10.11
30-49%	7.45	6.91	6.33
50%+	11.41	11.04	9.89
Order, No/Imputed Earnings	24.28	24.36	23.79
Median (%)	23	22	20

Earnings (income from employment) from unemployment insurance wage records and the extent to which a noncustodial parent's order level is burdensome (defined as the amount of all current support owed by the noncustodial parent divided by the noncustodial parent's earnings), are also important measures in our study. Our earnings records have some important limitations: they exclude individuals who worked outside of Wisconsin, individuals who worked for the federal government, and individuals who were self-employed during the three-year study period. Consequently, for slightly less than a quarter (24 percent) of the noncustodial fathers in our sample, we observe no or very low earnings in the first year (see Table 1). For these noncustodial fathers, we impute earnings of $500 per year.[12] Overall, median earnings are quite low for the sample ($15,622 in the first year), but increase over time to $16,880 in second year and $18,596 in the third year. Median burden levels are 23 percent in the first year ($0.23 dollars of child support owed for every $1 earned) and decrease slightly in the second year and third years. All dollar amounts are adjusted to 2018 dollars, using the Consumer Price Index for All Urban Consumers (CPI-U).

Analytic Approach

The focus of this study is to explore the relationships among the amount of child support owed relative to earnings and payments, compliance, and regularity. Focusing on pairs who had their first child support order in 2010, 2011, or 2012, we construct seven categories of noncustodial father's earnings (less than $500, impute $500, $500 to $2,999, $3,000 to $9,999, $10,000 to $19,999, $20,000 to $29,999, $30,000 to $39,999, and greater than $40,000) and six categories of burden levels (orders for an amount that is less than 10 percent earnings, orders for 10 to 19 percent of earnings, orders for 20 to 29 percent of earnings, orders for 30 to 49 percent

[12] For high-earning noncustodial fathers, quarterly earnings greater than $200,000 are capped at $200,000.

of earnings, orders for more than 50 percent of earnings, and orders where there are no/imputed earnings).[13] Using these categories, we document how different burden levels and earnings levels are related to payments, compliance, and regularity. We show median levels of payments and compliance rates and the percentage of noncustodial fathers at full regularity (the percentage with between 10 and 12 months of at least 75 percent compliance) for the different categories of burden and earnings.

We then conduct more rigorous multivariate regression analysis with pair-level fixed effects to examine how changes in burden levels are related to changes in payments, compliance, and regularity over time and net of unobserved time-invariant characteristics of the parents. In our fixed-effects models, the key outcomes are child support payments (shifting payments up by $1 and taking the natural log to adjust for the skewed distribution), child support compliance (the ratio of current child support payments to current child support orders), and child support regularity (the number of months that a noncustodial parent paid more than 75 percent of current child support owed).

The key independent variable is the burdensomeness of the order (the ratio of child support owed to earnings). We consider two types of comparisons for each discrete category of burden. First, we compare each category to a base of noncustodial fathers owing 0 to 10 percent of their earnings; we then compare each category relative to the prior category of burden (i.e. comparing those owing 20 to 29 percent of their earnings to those owing 10 to 19 percent of their earnings and so forth).

In all of our models, we control for other factors that we expect to be related to patterns in payments, compliance, and regularity, such as whether an order was established by divorce or

[13] For some analyses we group those with burden levels of greater than 50 percent with those with orders and no/imputed earnings (burden levels greater than 100 percent).

by paternity, whether a noncustodial parent had orders for children in other families, and whether the custodial parent participated in Temporary Assistance for Needy Families (TANF).

As a sensitivity check, we model the relationship between burden and payments, compliance, and regularity in the third year using Tobit models. Tobit models allow us to account for left and right censoring in our outcome measures. For example, using left-sided Tobit models, we can account for the large number of $0 payments in our data (12 percent of noncustodial fathers in our sample make no child support payments in the first year). Using double-sided Tobit models, we can also account for the clustering of observations at no compliance and 100 percent compliance, and the clustering of observations at no months of regularity and at 12 months of regularity.

Finally, we look separately at five subgroups: cases where the noncustodial father's earnings were below 200 percent of the federal poverty guidelines in each year of the study period (N=10,088, 34 percent of the full sample); cases where the father had only one order over the study period (N=20,284); and cases with one child, two children, and three or more children (N=18,920, 7,838, and 3,099 respectively). This allows us to examine the relationship between burden levels and payments, compliance, and regularity for noncustodial fathers who have limited abilities to pay child support, an important part of the caseload. Prior literature suggests that there are differences in patterns of child support payments and compliance for fathers with limited abilities to pay compared to fathers with moderate or higher earnings. This also allows us to examine how payments, compliance, and regularity change over time for families with different numbers of children. This is particularly policy relevant, given that under Wisconsin child support guidelines the amount of the order depends on the number of children.

RESULTS

Descriptive Results

We begin by illustrating how earnings levels and burden levels are related to payments, compliance, and regularity. Figure 1 shows a positive relationship between earnings levels and payments, compliance, and regularity. Lower-earning fathers pay less child support, have lower rates of compliance and are less likely to have regular payments. The top panel of Figure 2 illustrates the inverse u-shaped relationship between burden levels and payments: median payments in the first year increase as burdens increase, but only up to a point; when orders are above 29 percent of earnings, payments decline. As shown in the lower two panels of Figure 2, there is an inverse relationship between burden levels and compliance rates and payment regularity (i.e., both compliance and regularity decline as burden levels increase).

High levels of burden may result from low earnings, and Figures 1 and 2 do not account for earnings. Next, we illustrate how burden levels are related to payments, compliance, and regularity at different levels of earnings. Figure 3 shows that across all categories of burden, payment levels are lower for noncustodial fathers with very low earnings (less than $20,000) than noncustodial fathers who earn more. However, payments increase with the burden of the order for all earnings levels, though they begin to decline at 30 percent or more for lower-earning noncustodial fathers (see Figure 4). At all earnings levels, compliance falls as burdens increase, but this is especially marked for those earning less than $20,000. Regularity is higher for higher-earnings groups, but generally decreases as burden increases within earnings groups.

Regression Adjusted Results

Comparing Figures 1 and 2 with Figures 3 and 4 illustrates the importance of considering other factors such as earnings when analyzing the relationship between burden and child support

Figure 1. Outcome Measures by Earnings (Year 1)

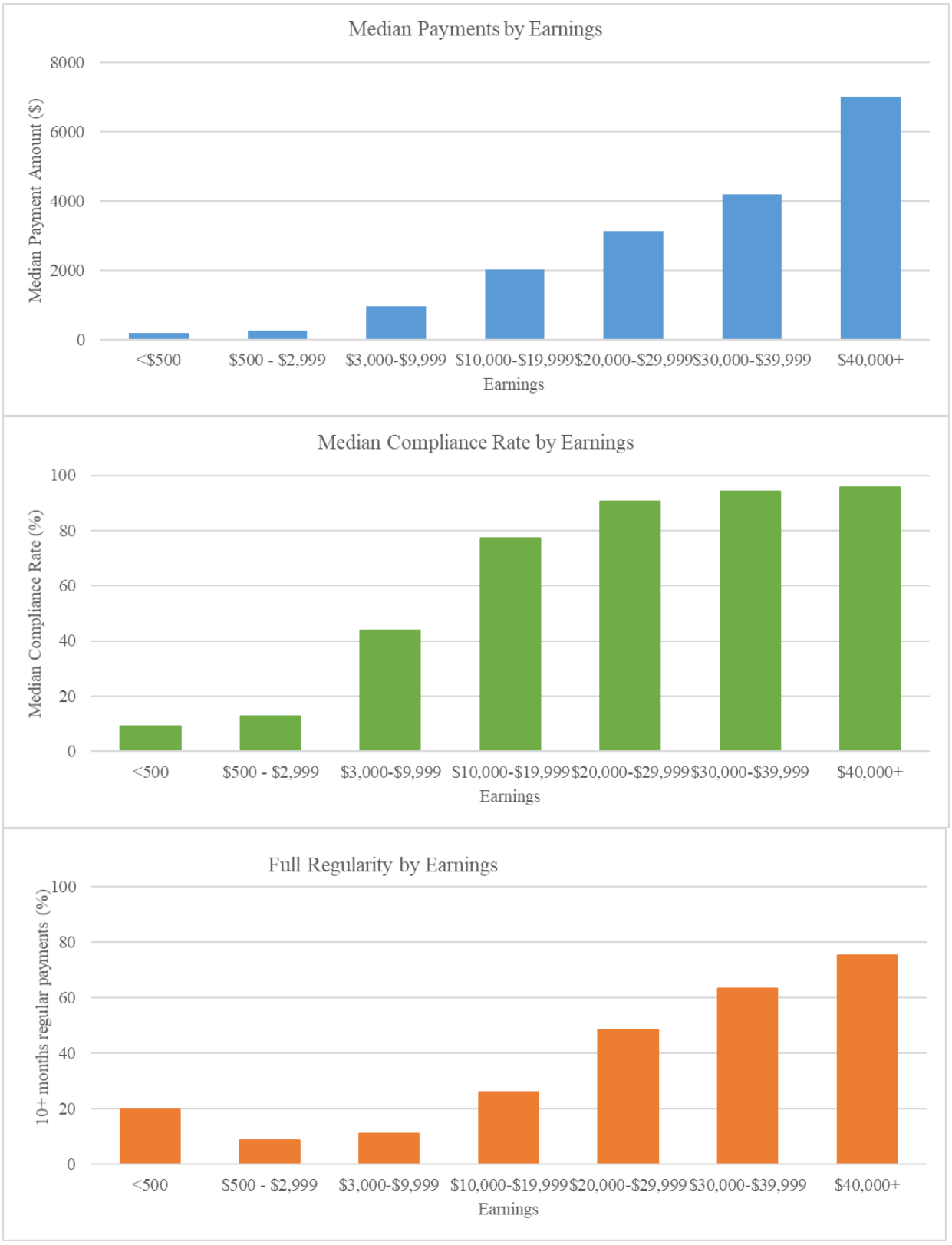
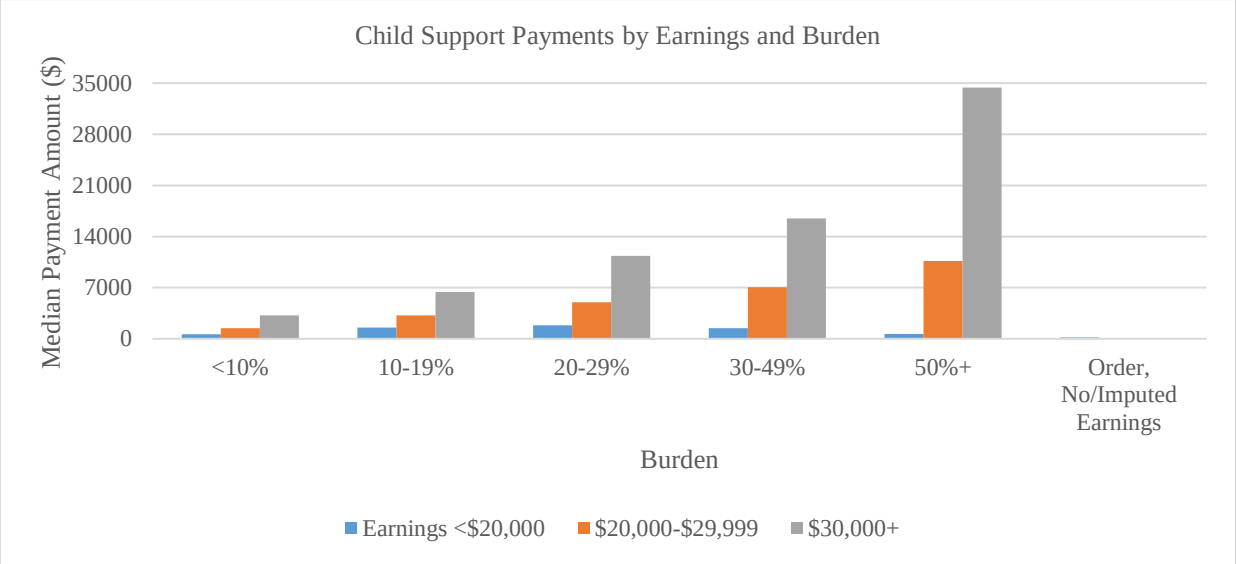
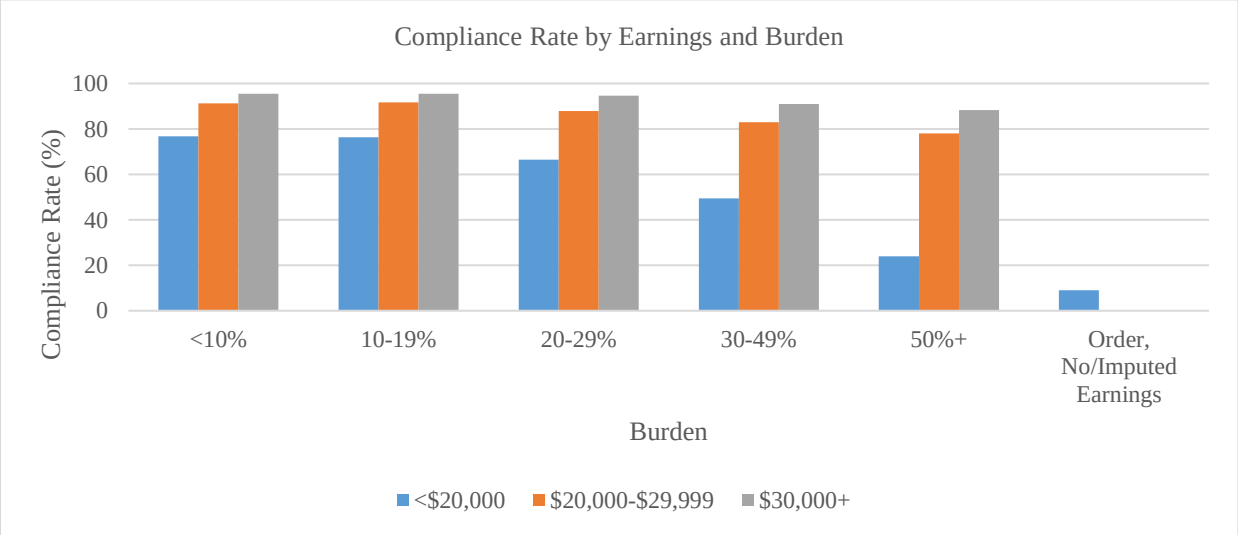


Figure 2. Outcomes Measures by Burden (Year 1)

Figure 3. Outcome Measures by Earnings and Burden (Year 1)





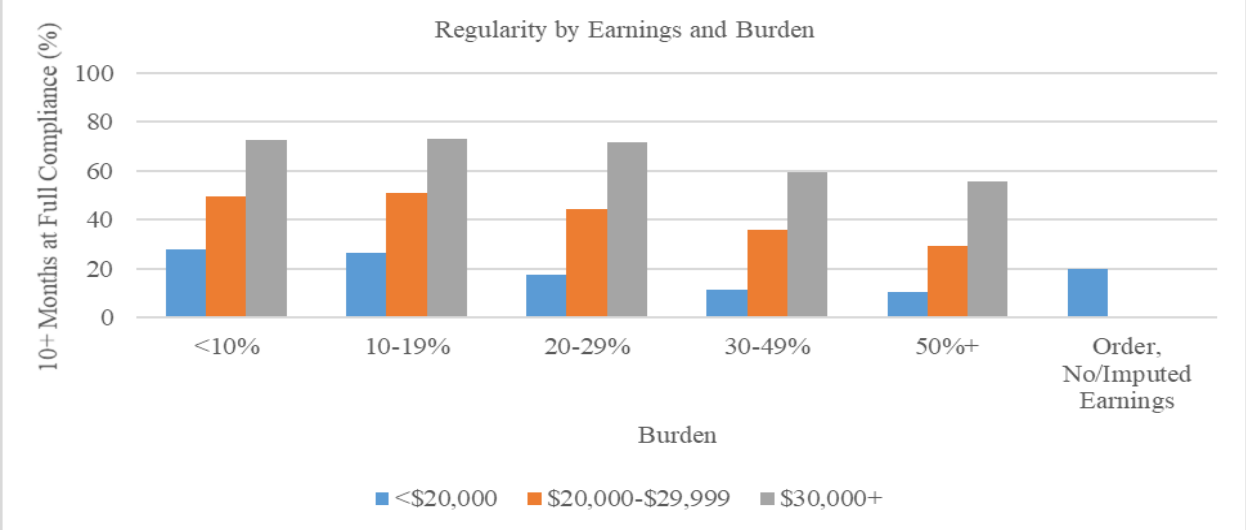
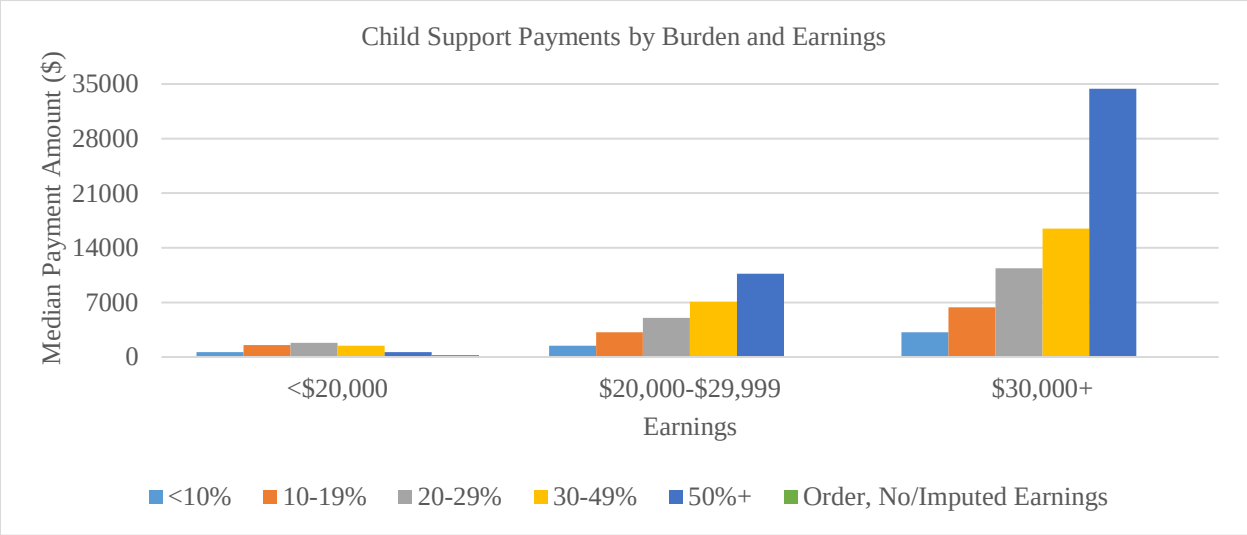
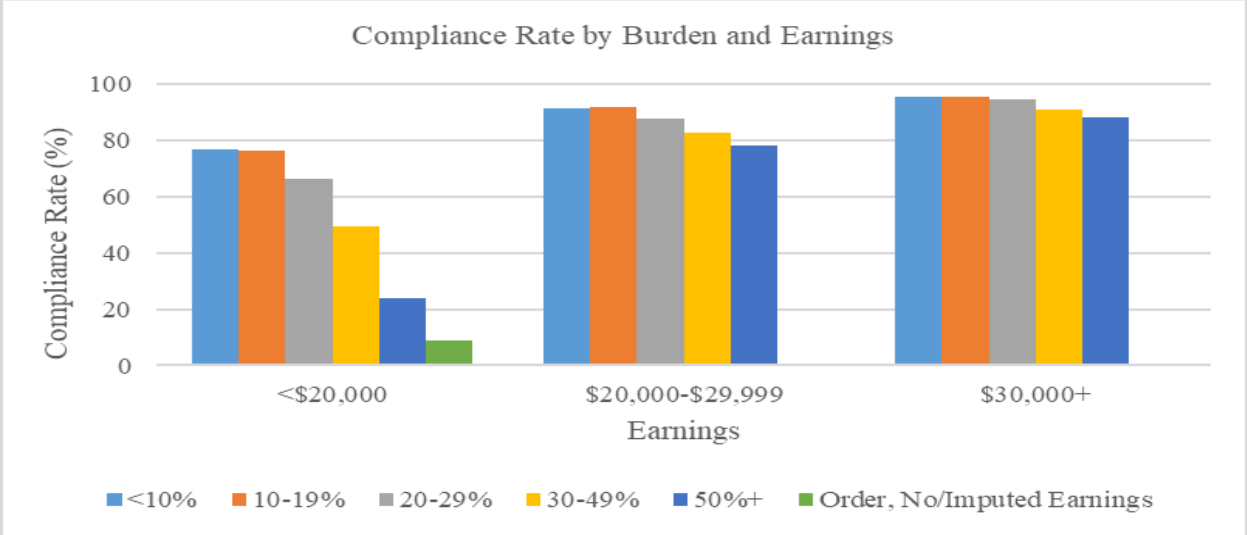
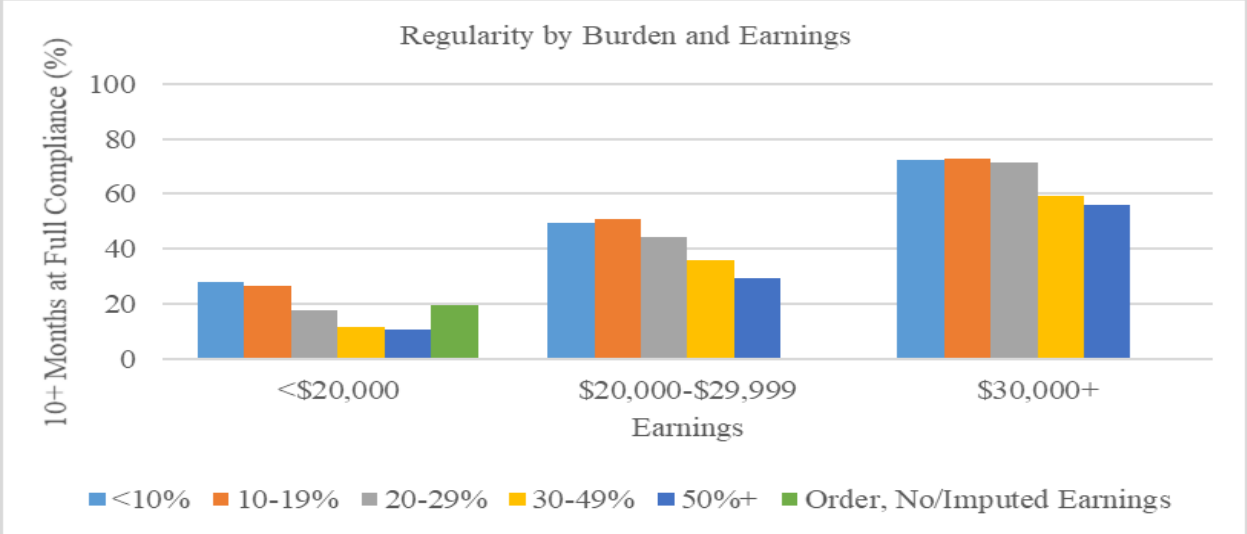


Figure 4. Outcome Measures by Burden and Earnings (Year 1)







outcomes. A multivariate model allows us to account for multiple factors simultaneously. But, because there are many unobserved factors (e.g. motivation), even a multivariate regression model is limited. In Table 2 we use multivariate regression analysis with pair-level fixed effects to examine how changes in burden levels for a given noncustodial father and custodial mother are related to changes in (log) payments, compliance, and regularity, taking into account factors that may influence these outcomes, such as whether the father has other orders, whether the order is for a paternity case or a divorce case, and whether the case is a IV-D case or non-IV-D case. Because we use a fixed effects model, we are also accounting for any unobserved pair-specific factors that do not change over time.

Like our descriptive results, our fixed-effects results indicate an inverse u-shaped pattern in the relationship between burden levels and payments. Compared to payments when the burden is 0 to 10 percent, payments are higher until the burden of the child support order goes above 50 percent of earnings, at which point payments are less than those with burdens of 0 to 10 percent of earnings. In contrast, our models predicting compliance and regularity indicate that the highest compliance and regularity rates are associated with the lowest burdens (0 to 10 percent of earnings), and both compliance and regularity fall consistently with higher burden levels.

Although it is not our focus, Table 2 also shows the relationship between our control variables and payments, compliance, and regularity. As expected, earnings are associated with higher payments, compliance, and regularity. Fathers who begin to owe child support to another partner during our observation period pay more in total, but do so less regularly; there is no discernible relationship with compliance. We include several variables that do not change over time interacted with time, in order to explore whether the rate of change differs. Compared to paternity cases, divorce cases show more increases over time in payments, compliance, and

Table 2. Modeling the relationship between burden levels and child support payments, compliance, and regularity using discrete categories of burden

	Multivariate OLS Regression Models with Couple-Level Fixed Effects		
	Log Child Support Payments	Compliance Rate (%)	Regularity (Mos)
Burden level (compared to <10%)			
10-19%	0.13***	-4.60***	-0.59***
	(0.020)	(0.354)	(0.045)
20-29%	0.18***	-10.23***	-1.29***
	(0.031)	(0.489)	(0.061)
30-49%	0.08*	-17.45***	-2.13***
	(0.042)	(0.606)	(0.074)
50%+	-0.14**	-20.43***	-2.31***
	(0.061)	(0.804)	(0.097)
Order, No/Imputed Earnings	-1.01***	-12.51***	-1.17***
	(0.093)	(1.126)	(0.135)
Log earnings	0.37***	6.82***	0.75***
	(0.023)	(0.285)	(0.034)
Age of father	-0.55	-4.74	-0.42
	(0.580)	(5.895)	(0.606)
Age of father square	-0.00***	-0.00	0.00
	(0.000)	(0.005)	(0.001)
Having subsequent order after year 1 order	0.07**	-0.35	-0.09**
	(0.030)	(0.348)	(0.044)
County unemployment rate	0.01	-0.35*	-0.05*
	(0.016)	(0.206)	(0.026)
TANF participation of mother	-0.02	-0.48	-0.05
	(0.028)	(0.322)	(0.040)
Year			
Year 2	0.51	5.15	0.50
	(0.580)	(5.893)	(0.606)
Year 3	1.12	8.87	0.76
	(1.160)	(11.773)	(1.210)
Type of serial orders			
Having preceding order before year 1 order x year 2	0.04	0.37	0.04
	(0.025)	(0.315)	(0.040)
Having preceding order before year 1 order x year 3	0.03	0.27	0.06
	(0.029)	(0.372)	(0.047)
Marital status (compared to paternity)			
Divorced x year 2	0.06**	1.24***	0.19***
	(0.024)	(0.342)	(0.044)
Other x year 2	0.07**	2.20***	0.29***
	(0.033)	(0.440)	(0.057)
Divorced x year 3	0.09***	2.22***	0.31***
	(0.029)	(0.414)	(0.053)
Other x year 3	0.12***	2.81***	0.38***
	(0.040)	(0.537)	(0.069)

(table continues)

Table 2, continued

	Multivariate OLS Regression Models with Couple-Level Fixed Effects		
	Log Child Support Payments	Compliance Rate (%)	Regularity (Mos)
Race/ethnicity (compared to white non-Hispanic)			
Black Non-Hispanic x year 2	0.13***	-0.39	-0.14***
	(0.034)	(0.401)	(0.050)
Other race/ethnicity x year 2	-0.02	-0.28	-0.02
	(0.021)	(0.289)	(0.038)
Black Non-Hispanic x year 3	0.22***	0.34	-0.08
	(0.040)	(0.482)	(0.060)
Other race/ethnicity x year 3	0.01	0.24	0.04
	(0.025)	(0.342)	(0.044)
Child support enforcement case			
Non IV-D case x year 2	-0.05*	0.49	0.03
	(0.026)	(0.353)	(0.046)
Non IV-D case x year 3	-0.07**	0.21	-0.03
	(0.032)	(0.418)	(0.054)
Locality (compared to Milwaukee County)			
Other locality x year 2	0.13***	0.76**	0.12***
	(0.030)	(0.355)	(0.044)
Other locality x year 3	0.14***	0.88**	0.14***
	(0.035)	(0.428)	(0.053)
Number of Children (compared to one child)			
Two x year 2	0.02	0.06	0.00
	(0.024)	(0.298)	(0.038)
Three or more x year 2	0.07**	0.84**	0.06
	(0.033)	(0.414)	(0.054)
Two x year 3	0.00	-0.20	-0.04
	(0.027)	(0.353)	(0.044)
Three or more x year 3	0.04	0.36	-0.00
	(0.039)	(0.496)	(0.063)
Constant	23.14	169.53	14.19
	(18.380)	(186.567)	(19.176)
Observations	89,571	89,571	89,571
Couples	29,857	29,857	29,857
R-squared overall	0.040	0.000	0.010
R-squared between	0.052	0.001	0.005
R-squared within	0.160	0.214	0.170

Notes: Payment amounts shifted up by $1 before log transformation. Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

regularity. Non-Hispanic black fathers show more increases over time in payments but not regularity, compared to non-Hispanic white fathers. Non IV-D cases show more decreases over time in payments, but not compliance or regularity, compared to IV-D cases. Cases outside Milwaukee show more increase over time in payments, compliance, and regularity, compared to Milwaukee County cases. Cases with three or more children show more increases over time in payments and in compliance but not regularity compared to cases with only one child.

The results in Table 2 provide estimates of the statistical significance of differences in each category of burden compared to those owing 10 percent or less of their earnings. However, we are also interested in testing how our child support outcomes differ between each successive category of burden. Therefore, in Table 3, we estimate predicted means of child support payments, compliance, and regularity at each discrete category of burden, and we compare the predicted means at each category of burden relative to the prior category. Table 3 indicates that payments increase moving from 0 to 10 percent of earnings to 10 to 19 percent and from 10 to 19 percent to 20 to 29 percent. They then begin to decline, so that each burden level is associated with less payment compared to the just-lower burden level. For each level of burden, compliance rates are lower than the prior level of burden (except where the order amount becomes greater than the noncustodial father's earnings). Regularity follows the same general pattern, where months of regular payments decrease as burden levels increase, with the greatest difference in regularity between those owing 30 to 49 percent and those owing 20 to 29 percent of their earnings.

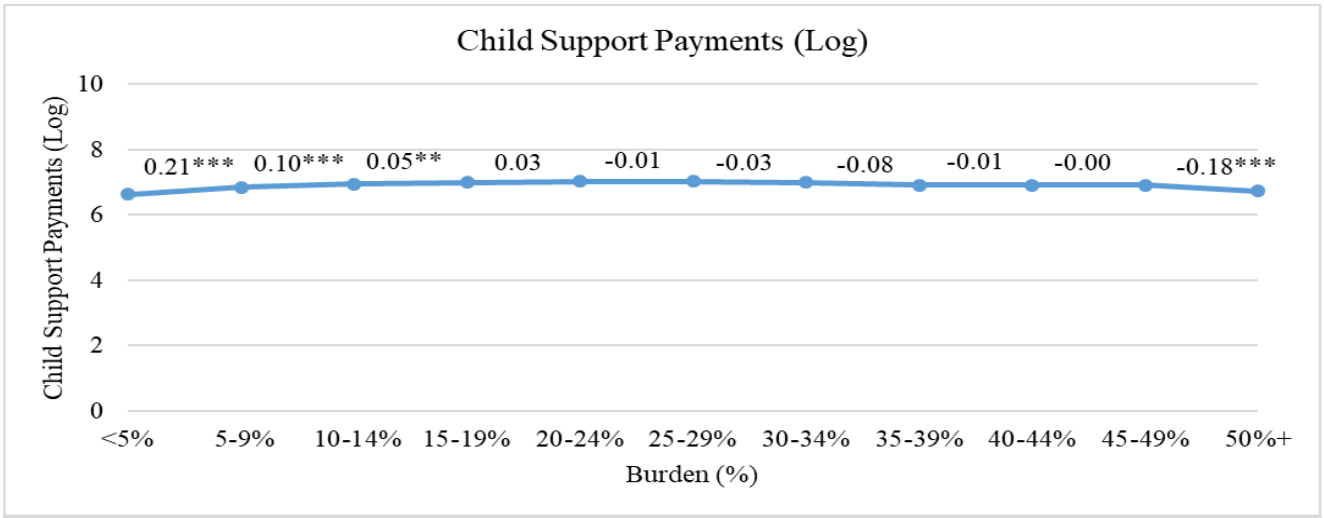
Our main measure of burden levels uses 10-percentage-point increments up to burden levels of 50 percent. In Figure 5, we show the results (from multivariate fixed-effects models) using 5-percentage-point increments up to burden levels of 49 percent, and an additional

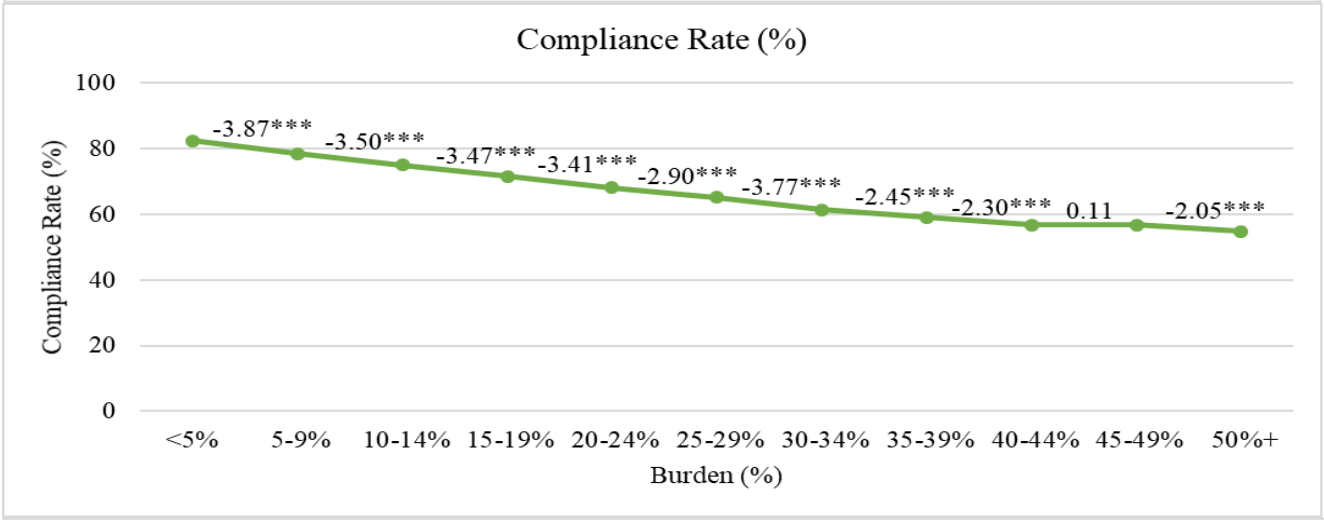
Table 3. Predicted means of child support payments, compliance, and regularity at each burden level and differences in means at each burden level relative to prior level

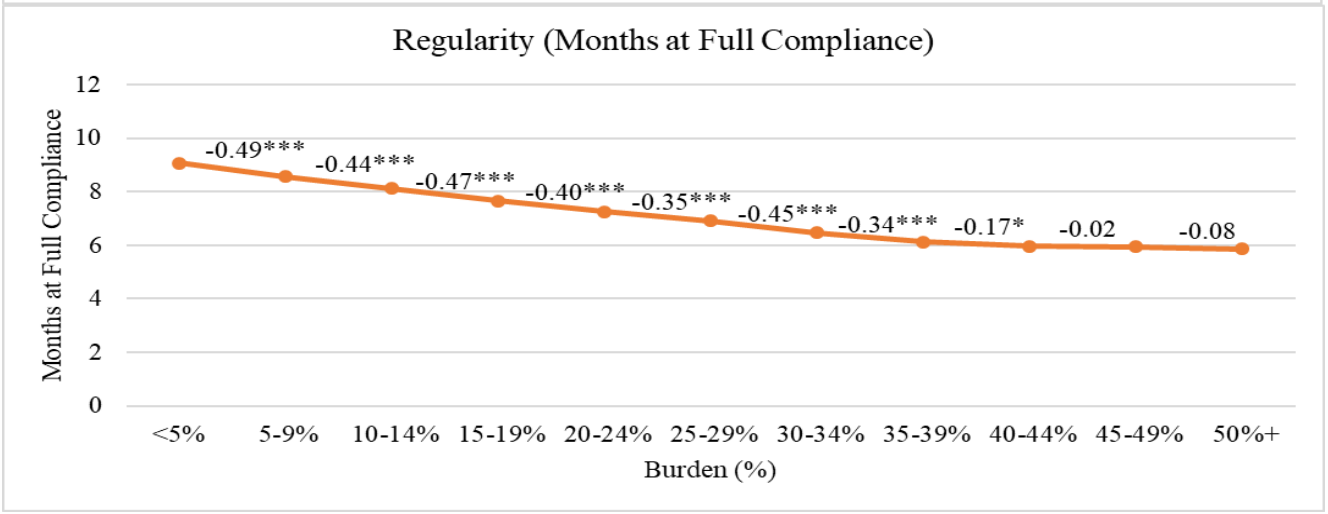
	Multivariate OLS Regression Models with Couple-level Fixed Effects					
	Log Child Support Payments		Compliance Rate (%)		Regularity (Mos)	
Burden Level	Predicted Mean	Difference in Means	Predicted Mean	Difference in Means	Predicted Mean	Difference in Means
<10%	7.06***		75.10***		8.11***	
	(0.029)		(0.380)		(0.048)	
10-19%	7.19***		70.51***		7.51***	
	(0.020)		(0.267)		(0.034)	
10-19% vs. <10%		0.13***		-4.60***		-0.59***
		(0.023)		(0.302)		(0.038)
20 - 29%	7.24***		64.88***		6.82***	
	(0.020)		(0.263)		(0.033)	
20-29% vs. 10-19%		0.05**		-5.63***		-0.69***
		(0.022)		(0.289)		(0.037)
30 - 49%	7.14***		57.66***		5.97***	
	(0.021)		(0.271)		(0.034)	
30-49% vs. 20-29%		-0.10***		-7.22***		-0.85***
		(0.027)		(0.347)		(0.044)
50%+	6.92***		54.68***		5.80***	
	(0.022)		(0.291)		(0.037)	
50%+ vs. 30-49%		-0.22***		-2.98***		-0.17***
		(0.031)		(0.398)		(0.051)
Order, no earnings	6.05***		62.59***		6.93***	
	(0.040)		(0.516)		(0.066)	
Order, no earnings vs. 50%+		-0.87***		7.91***		1.13***
		(0.031)		(0.406)		(0.052)

Notes: Payment amounts shifted up by $1 before log transformation. Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Figure 5. Predicted Means and Differences in Means of Outcome Measures at 5% Burden Levels







category for those owing 50 percent or more of their earnings. For each figure the difference in means relative to the prior categories are shown. With narrower categories, we predict that payments increase until the burden is 20 percent of earnings, and then are stable until the burden is 50 percent of earnings. We observe the same linear decreases in compliance and regularity using 5-percentage-point categories of burden as we do in our models using 10-percentage-point categories of burden.

We have largely focused on the results of fixed-effects models that capture how changes in burden levels lead to changes in payments, compliance and regularity over time within the same noncustodial father. One limitation in these models is that they do not tell us about this relationship for pairs of parents for whom the burden of the order does not change over time (N=13,541 pairs in our sample). Therefore, as a sensitivity test, we focus on how payments, compliance, and regularity are related to levels of burden in the third year of a pair's child support order. We use Tobit models to estimate our year-three models because they allow us to account for the clustering of observations at certain levels in our outcome measures, such as the clustering of payments at $0 (12 percent of noncustodial fathers in our sample make no child support payments in the first year).

In Table 4, we observe that in the third year, log payments are higher for every category of burden compared to a burden of 0 to 10 percent. Moving from one burden level to the next, log payments are higher until burdens are around 30 percent. Each burden category beyond 0 to 10 percent of earnings is associated with lower compliance and less regularity. These year-three results are broadly similar to what we estimate with our fixed-effects models.

Table 4. Modeling the relationship between burden levels and child support payments, compliance, and regularity in the third year

	Multivariate Tobit Regression Models		
	Log Child Support Payments	Compliance Rate	Regularity (Mos)
Burden level (compared to <10%)			
10-19%	0.61***	-4.03***	-0.57***
	(0.031)	(0.498)	(0.080)
20-29%	0.80***	-13.09***	-1.82***
	(0.044)	(0.685)	(0.110)
30-49%	0.81***	-23.70***	-3.21***
	(0.055)	(0.853)	(0.137)
50%+	0.69***	-28.86***	-3.74***
	(0.066)	(1.018)	(0.164)
Order, No/Imputed Earnings	0.23***	-9.43***	-0.79***
	(0.090)	(1.391)	(0.230)
Log earnings	0.72***	10.45***	1.65***
	(0.019)	(0.303)	(0.050)
Age of father	0.09***	0.89***	0.17***
	(0.009)	(0.147)	(0.024)
Age of father square	-0.00***	-0.00**	-0.00***
	(0.000)	(0.002)	(0.000)
Having subsequent order after year 1 order	-0.06	-5.08***	-0.91***
	(0.055)	(0.822)	(0.138)
County unemployment rate	0.00	0.17	0.01
	(0.009)	(0.139)	(0.023)
TANF participation of mother	-0.49***	-5.96***	-0.98***
	(0.036)	(0.542)	(0.091)
Having preceding order before year 1 order	-0.42***	-8.86***	-1.59***
	(0.028)	(0.428)	(0.071)
Marital status (compared to paternity)			
Divorce	0.31***	5.38***	0.88***
	(0.033)	(0.518)	(0.084)
Unknown	0.30***	3.24***	0.56***
	(0.042)	(0.665)	(0.108)
Race/ethnicity (compared to white non-Hispanic)			
African American non-Hispanic	-0.87***	-12.63***	-2.03***
	(0.035)	(0.528)	(0.087)
Other race, including Hispanic, unknown, and missing	-0.07***	-1.41***	-0.08
	(0.027)	(0.416)	(0.067)
Child support enforcement case			
Non-IVD	-0.27***	-5.34***	-0.67***
	(0.035)	(0.546)	(0.089)
Locality			
Milwaukee County	-0.72***	-8.05***	-1.17***
	(0.033)	(0.508)	(0.084)
Number of Children (compared to one child)			
Two	0.10***	0.83*	0.10
	(0.027)	(0.426)	(0.070)
Three or More	0.18***	0.83	0.06
	(0.039)	(0.613)	(0.101)
Constant	-1.69***	-32.66***	-9.66***
	(0.259)	(4.015)	(0.655)
Observations	29,857	29,857	29,857
LR Chi2	22271	23202	21415
Prob < Chi2	0.000	0.000	0.000

Notes: Log of child support payments left censored at $0. Compliance rate left censored at 0% (no compliance) and right censored at 100% (full compliance). Regularity left censored at 0 months of full compliance and right censored at 12 months of full compliance. Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Subgroup Analyses

We are interested in how the relationships between order burden and payments, compliance, and regularity differ for the subgroup of fathers with limited abilities to pay (fathers with earnings below 200 percent of the federal poverty guidelines in all three years). Unlike the main results, for fathers with limited abilities to pay, our fixed-effects models indicate a fairly flat relationship between burden levels and payments (see Table 5). There is no statistically significant difference between payment amounts for those with burdens below 10 percent and those with any other burden level. For compliance and regularity, we observe patterns similar to our main results.

We also examine the results for the subgroup of fathers who had only one child support order over the three-year period (i.e., fathers who do not have multiple obligations). Similar to our main results, the fixed-effects models indicate that payments are higher for burdens up to 50 percent of earnings, compared to burden levels of 0 to 10 percent. When compared to the burden level just prior, we see a decline in payments at burden levels greater than 30 percent. Similar to our base results, we see decreases in compliance and regularity with increases in burden levels.

Finally, we examine the results by the number of children between the two parents (i.e., one child, two children, and three or more children). For pairs with only one child, the fixed-effects models indicate that payments are higher for burdens up to 30 percent of earnings, compared to burden levels of 0 to 10 percent (see Table 6). For those with two or more children, the models indicate that payments are higher for burdens up to 50 percent of earnings, compared to burden levels of 0 to 10 percent. For each subgroup (one, two, and three or more children), when compared to the burden level just prior, we see a decline in payments at burden levels greater than 30 percent when compared to the burden level just prior. For those with one or two

Table 5. Modeling the relationship between burden levels and child support payments, compliance, and regularity for NCPs with limited abilities to pay and NCPs with only one order

	Multivariate OLS Regression Models with Couple-level Fixed Effects		
	Log Child Support Payments	Compliance Rate (%)	Regularity (Mos)
Full Sample			
Burden level (compared to <10%)			
10-19%	0.13***	-4.60***	-0.59***
	(0.020)	(0.354)	(0.045)
20-29%	0.18***	-10.23***	-1.29***
	(0.031)	(0.489)	(0.061)
30-49%	0.08*	-17.45***	-2.13***
	(0.042)	(0.606)	(0.074)
50%+	-0.14**	-20.43***	-2.31***
	(0.061)	(0.804)	(0.097)
Order, No/Imputed Earnings	-1.01***	-12.51***	-1.17***
	(0.093)	(1.126)	(0.135)
Observations	89,571	89,571	89,571
Couples	29,857	29,857	29,857
NCPs with Limited Abilities to Pay			
Burden level (compared to <10%)			
10-19%	0.15	-4.22**	-0.54**
	(0.126)	(1.924)	(0.225)
20-29%	0.05	-8.38***	-0.93***
	(0.133)	(1.950)	(0.228)
30-49%	-0.06	-14.12***	-1.61***
	(0.137)	(1.941)	(0.226)
50%+	-0.25	-18.72***	-2.10***
	(0.155)	(2.016)	(0.236)
Order, No/Imputed Earnings	-0.99***	-13.91***	-1.51***
	(0.187)	(2.234)	(0.260)
Observations	30,264	30,264	30,264
Couples	10,088	10,088	10,088
One Order			
Burden level (compared to <10%)			
10-19%	0.20***	-3.02***	-0.41***
	(0.023)	(0.412)	(0.052)
20-29%	0.26***	-8.45***	-1.10***
	(0.036)	(0.566)	(0.071)
30-49%	0.17***	-15.75***	-1.99***
	(0.049)	(0.721)	(0.089)
50%+	-0.06	-21.32***	-2.44***
	(0.074)	(0.977)	(0.119)
Order, No/Imputed Earnings	-0.87***	-14.30***	-1.41***
	(0.120)	(1.430)	(0.172)
Observations	60,852	60,852	60,852
Couples	20,284	20,284	20,284

Notes: Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Table 6. Modeling the relationship between burden levels and child support payments, compliance, and regularity by number of children

	Multivariate OLS Regression Models with Couple-level Fixed Effects		
	Log Child Support Payments	Compliance Rate (%)	Regularity (Mos)
One Child			
Burden level (compared to <10%)			
10-19%	0.11***	-4.58***	-0.59***
	(0.024)	(0.433)	(0.055)
20-29%	0.15***	-11.25***	-1.43***
	(0.042)	(0.646)	(0.080)
30-49%	0.07	-17.73***	-2.14***
	(0.055)	(0.801)	(0.097)
50%+	-0.15*	-18.78***	-2.07***
	(0.079)	(1.061)	(0.129)
Order, No/Imputed Earnings	-1.04***	-11.11***	-0.98***
	(0.116)	(1.461)	(0.175)
Observations	56,760	56,760	56,760
Couples	18,920	18,920	18,920
Two Children			
Burden level (compared to <10%)			
10-19%	0.22***	-3.48***	-0.45***
	(0.041)	(0.715)	(0.090)
20-29%	0.31***	-7.55***	-0.97***
	(0.055)	(0.876)	(0.111)
30-49%	0.23***	-15.92***	-2.02***
	(0.075)	(1.099)	(0.135)
50%+	0.02	-21.18***	-2.49***
	(0.116)	(1.498)	(0.182)
Order, No/Imputed Earnings	-0.83***	-12.74***	-1.25***
	(0.190)	(2.192)	(0.261)
Observations	23,514	23,514	23,514
Couples	7,838	7,838	7,838
Three or More Children			
Burden level (compared to <10%)			
10-19%	0.27***	-3.06***	-0.47***
	(0.068)	(1.161)	(0.146)
20-29%	0.42***	-4.99***	-0.70***
	(0.095)	(1.542)	(0.190)
30-49%	0.33***	-11.08***	-1.51***
	(0.119)	(1.787)	(0.224)
50%+	0.32*	-18.08***	-2.32***
	(0.167)	(2.298)	(0.281)
Order, No/Imputed Earnings	-0.18	-7.46**	-0.89**
	(0.295)	(3.420)	(0.422)
Observations	9,297	9,297	9,297
Couples	3,099	3,099	3,099

Notes: Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

children, we see that payments decline even further as orders exceed 50 percent of earnings. Similar to our base results, we see decreases in compliance and regularity with increases in burden levels.

SUMMARY

This study has focused on how noncustodial parents' burdens (measured as the amount of child support owed relative to earnings) are related to their abilities to make full and consistent payments. A common concern is that orders that are too high (relative to noncustodial parents' earnings) will discourage child support payments, and lead to increased debts among noncustodial parents and to more economic insecurity among custodial parents.

Our results are largely consistent with prior studies, such as Meyer et al. (2008). Child support payments increase with noncustodial parent earnings and generally increase with burdens up to levels of 30 percent, and in some specifications, up to 50 percent, of earnings. On the other hand, we find that rates of compliance and regularity decline fairly steadily with the burden of the order. For fathers with earnings less than 200 percent of the federal poverty guidelines, we find that the burden of the order is not strongly related to payment amounts (using discrete categories), but much like for the full sample, compliance and regularity decline as levels of burden increase. Following Takayesu (2011), we also attempted to identify whether there was a burden level at which payments decline by comparing each burden category with the preceding level. Generally, our results suggest that this point is between 30 and 50 percent of earnings, though this is sensitive to the characteristics of noncustodial parents included in the sample.

The implications of these findings for policy are less clear. A number of high profile media reports, as well as ethnographic case studies, have emphasized the potential negative

consequences of high orders and related enforcement for individual families. Even if higher burden orders result in higher payments—more resources for custodial parents and children—lower compliance could mean higher debts for noncustodial parents, lower child support performance for child support agencies, and an increase in the costs (for both noncustodial parents and agencies) associated with enforcement actions.

The appropriate level of child support orders can depend on many factors, not merely whether they are associated with payments, compliance, or regularity. But this research shows that the "best" level of orders depends on what one is trying to accomplish. If a state is trying to maximize payments, orders of almost any level are associated with higher payments compared to very low orders (orders up to 10 percent of earnings). Following the comparisons proposed by Takayesu, orders of 20 to 29 percent of earnings are associated with higher payments than orders of 10 to 19 percent of earnings, which are associated with higher payments than orders of 1 to 9 percent of earnings. In contrast, if a state is trying to maximize compliance or regularity, lower orders are always better.

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