Reducing the Interest Rate Charged on Arrears

2022–2024 Child Support Policy Research Agreement: Task 6

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In the United States, over 21 million children in any given year have parents living separately from them; the poverty rate among these children in 2017 was over 30% (Grall, 2020). Child support plays a crucial role in providing income for many of these children; however, a substantial amount of child support is unpaid. According to the Office of Child Support Services (OCSS), the total amount of arrears (unpaid support) was $118 billion nationwide in FY 2019 (OCSE, 2022).

This high level of arrears has raised the concerns of policymakers for several reasons. First, arrears mean that custodial parents and their children have not received the child support payments to which they are legally entitled. Second, some arrears are owed to the government (not the custodial parent), so nonpayment affects government resources as well as custodial parent resources. Third, noncustodial parents (NCPs) with significant arrears face punitive actions, including the possibility of incarceration. Moreover, noncustodial parents, particularly those with lower incomes and excessive arrears, may become discouraged and may even cease making payments altogether, leading to a detrimental cycle of nonpayment, escalating arrears, and reduced support payments. Finally, the accumulation of arrears diverts resources and attention away from enforcing current child support orders, resulting in higher enforcement costs.

The federal government offers incentive payments to states based on several criteria, including the percentage of cases with arrears in which payments are made. In federal fiscal year 2019, less than two-thirds of cases with arrears received any payments towards their outstanding balance (OCSE, 2022). In response to the challenge of high arrears, some states have considered policy changes, with one reform changing or eliminating the rate of interest charged on arrears (National Conference of State Legislatures, 2021). For example, in 2013, Wisconsin Act 20

reduced the interest rate charged on arrears from 1% per month to 0.5% per month, beginning April 1, 2014. One of the hopes for reducing the interest rate was to incentivize timely payments, although its actual impact on payment behavior was unknown.

In 2017, Meyer and Serakos of the Institute for Research on Poverty conducted a study to analyze the impact of a reduced interest rate on arrears (Meyer & Serakos, 2017; see also Meyer & Riser, 2023). The researchers examined the growth in arrears and payments on arrears one year after the policy change and compared it to the growth in arrears and payments one year before the policy change. These initial findings suggested that the policy change was associated with a slowing in the growth of arrears and an increase in payments on arrears. However, at that time, the only available data was for one year after the policy change.

In the present study, we extend the investigation by including additional waves of data to examine if the effects of the policy change persist over time. The central objective of the present study is to analyze the patterns of arrears accumulation and payment before and several years after the policy change to assess its effectiveness. To achieve this, the study utilizes data from child support administrative records and employs descriptive and multiple regression analyses to address three research questions:

1.   How does the growth in arrears in the three years after the policy change compare to the growth in arrears one year before the policy change?

2.   Was the policy change associated with differences in payments on arrears?

3.   Does the policy change differentially affect certain subgroups of NCPs?

We perform our analysis on four subgroups, defined in the month prior to the policy change. First, we examine those with the highest arrears burdens (arrears divided by annual earnings, S1). Second, we divide NCPs into three groups, those who only owe arrears (that is, do

not owe current support, S2), those who owe both current support and arrears (S3), and those who only owe current support (and no arrears, S4).

We anticipate that the change in the interest rate will lower the rate of growth in total arrears (principal plus interest). If payment patterns do not change, lowering the rate of interest will automatically lead to a lowered growth in total arrears. But payment patterns (either payments on current support or payments toward arrears) may change. If high interest rates lead to a level of debt that is quite discouraging for some NCPs, these NCPs may pay more if they felt lower interest made paying off their debt more feasible. This effect could be concentrated among those with the highest arrears, although because they have the highest arrears, paying them off could take a substantial amount of time. Alternately, if high interest rates on arrears act as a deterrent and provide a strong encouragement to pay, then lowering the interest rate might lead to lower payments on current support, so NCP arrears might grow more rapidly after the policy change. Finally, there might be little detectable effect: interest rates might not matter to payments if those not paying are essentially unable to pay.

The analyses cannot establish causality, primarily because other factors that changed at about the same time may lead to changes in payments or arrears trajectories. However, these analyses do provide additional new suggestive evidence regarding the effects of the interest rate changes.

METHODS

Data and Sample

Data were obtained from the Wisconsin Kids Information Data System, the administrative records for the child support program, encompassing all child support cases in the state. The records contained information on current support orders, formal child support

collections, distribution details (e.g., whether applied to current support or arrears), and monthly

arrears balances (including principal and interest subaccounts). Informal or in-kind child support

amounts were not included in these records. To augment the child support data, individuals'

Social Security numbers were merged with administrative records from other state sources in

Wisconsin, such as earnings records from the Unemployment Insurance program and the child

welfare program. These additional records provided demographic and earnings data.

The base sample was defined as noncustodial parents (NCPs) who currently owed or

previously owed child support and had an open case during the month before or after the policy

change. An "open case" was defined as having a positive arrears balance or a child support order

in a given month, resulting in an analysis sample of 300,962 NCPs.[1] The subgroup with the

highest arrears burdens, S1, contained the 163,972 NCPs with an arrears-to-earnings ratio of at

least 2.66. They owed an average of $19,792. The other three subgroups contained 85,752 NCPs

with arrears only (S2); 119,656 NCPs with an order for current support and who owed arrears

(S3); and 95,554 NCPs who owed current support only (S4).

Measures

Child Support Arrears, Payments, and Orders. The data files contain case-level

information for every month, which we have aggregated to the NCP level if they have multiple

cases. We consider "total arrears" the sum of the amount of arrears principal owed and the

interest assessed on this principal.[2] We focus on the distribution of collections rather than the

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[1]In these data, NCP age ranged from 3 to 108 and age at birth ranged from less than 1 year to 81. We considered some of the extreme values to be possible erroneous entries, so we excluded 3,387 NCPs with values on either of these variables that were three standard deviations outside of the mean.

[2]Information on medical debt, lying-in debt, and alimony arrears are also available but are not considered here.

collections themselves because distribution data are more detailed.[3] In this paper, we call these "payments" to various accounts. "Total payments on arrears" refers to the sum of payments on interest and payments on principal.

Policy Change. The policy change occurred on April 1, 2014. In the analyses of arrears trajectories, each NCP contributes two observations, one before the policy change and one after; standard errors are clustered on the NCP. For point-in-time variables, like the balance in an arrears account, March 2014 is used for our pre-policy reference point, and March 2015 (or March 2016 or March 2017) is used for our post-change reference point after one, two, and three years, respectively. For variables that cover multiple months before and after the policy change, including the rate of growth in arrears and the amount of payments towards arrears, we use the period between April 2013 and March 2014 for our analysis of the pre-change period and the period between April 2014 and March 2015 for the first year post-change, with corresponding periods for the second and third year.

Control Variables. In all multivariate analyses, we include a variety of control variables, reflecting demographic and socioeconomic characteristics, as detailed in the Appendix.

Treatment of Missing Data. Missing data was imputed utilizing the missing-indicator method (Miettinen, 1985). This approach is advantageous as it allows all participants to be included in the analyses, lessening the loss of statistical power to detect statistically significant relationships.

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[3]Collections come into the child support system and are distributed according to a variety of rules governing distribution. A general rule is that collections first go to current support, and only go to arrears when the current obligation is met; however, payments received through tax intercepts go to arrears first. We assume that the rules are followed, and thus consider a distribution to the arrears principal account as a "payment" on arrears. A focus on distributions rather than collections may insert some error if there is a lag between the date of collection and the date of distribution. However, for the vast majority of NCP-months in our sample, collections and distributions are identical.

Empirical Approach

We conduct bivariate and ordinary least squares (OLS) regression analyses to examine

the growth in arrears, before and after the policy change, for our base sample as described above.

First, bivariate analyses show the total arrears owed in each quarter, beginning 4 quarters prior

and continuing through 12 quarters after the policy change. Next, we employ latent growth curve

analysis (LGCA; Willett & Bub, 2005) to assess the trajectories of change in NCPs' arrears prior

to and after the policy reform. LGCA serves as a valuable empirical method for examining

longitudinal data, as it accommodates both within-person and between-person variations. Within

the framework of LGCA models, our primary interest is in the estimated slope (indicating an

individual's rate of change over a specific time span). We use standard methods for assessing

model fit.[4] The slopes derived from the LGCA are treated as outcomes in subsequent OLS

models. Specifically, OLS regressions in which each NCP contributes two observations are used

to examine differences in the arrears growth between 12 months prior to the policy change and

up to 36 months after the policy change, looking separately at arrears growth after one, two, and

three years relative to the baseline year. These regressions control for a variety of NCP

characteristics. The key independent variable is an indicator denoting the observation is after the

baseline; the coefficient denotes the difference in the rate of arrears growth in the post-policy as

compared to pre-policy year.

To examine payment patterns over the four pre-policy and 12 post-policy quarters, we

show the percent of those who owe arrears in any given quarter who make at last some payment

towards those arrears. Next, we conduct multivariate analyses of the amount of payment towards

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[4]LGCA model fit was assessed using Chi-square, root mean squared error of approximation (RMSEA), standardized root mean square residual (SRMR; Browne & Cudeck, 1989), and comparative fit index (CFI), and non-normed fit index (NNFI; Browne & Cudeck, 1989; Hu & Bentler, 1999; Vandenberg & Lance, 2000).

arrears. As in the arrears growth models, OLS regressions in which each NCP contributes two observations are used to examine differences in the amount paid towards arrears between the 12 months prior to the policy change and up to 36 months after the policy change, looking separately at payments after one, two, and three years relative to the baseline year, and limiting the sample for all years to NCPs with at least some arrears in that year. In this analysis, our interest is whether these NCPs made more payments on arrears in the year after the policy change compared to the year before. As a robustness check, we also present supplemental analyses in which we compare those with an open case one month before or after April 2014 (the date of the policy change) to those with an open case one month before or after April 2011.

RESULTS

Sample Characteristics

Characteristics of our base analysis sample are provided in the first column of Table 1. Our sample was 91.0% male with an average age of 44 years-old at the time of the policy change. While we did not have information on race and ethnicity for 19% of our sample, non-Hispanic Whites comprised nearly half the overall sample (48.0%), with 22.4% non-Hispanic Black and 3.1% Hispanic. Place of birth was missing for 28.6% of the sample and 44.5% of NCPs overall were born in Wisconsin. Marital status at the youngest child's birth was missing for about one-quarter of NCPs; when it was known, the youngest child of most NCPs was nonmarital. About one-fourth of NCPs had a child younger than age 6. Most NCPs (61%) had owed child support for at least ten years. Not all NCPs owed current child support, but for 30%, the amount owed was more than half their earnings (i.e., a burdensome order). Over half the NCPs did not show an earnings record; overall, NCPs in our sample earned about $1,400 monthly. The relatively low earnings suggest a substantial number of NCPs have limited ability

Table 1. Characteristics of Noncustodial Parents

	All Mean or %	S1: Highest Arrears Burden Mean or %	S2: Owe Arrears Only Mean or %	S3: Owe Current Support and Arrears Mean or %	S4: Owe Current Support Only Mean or %
Male	91.0%	91.1%	89.6%	92.1%	90.8%
Age	44.17	45.65	51.71	39.04	43.83
	(13.24)	(13.90)	(11.51)	(11.97)	(13.03)
Race/Ethnicity					
Non-Hispanic White	48.0%	41.4%	42.1%	47.7%	53.7%
Non-Hispanic Black	22.4%	31.3%	33.7%	23.7%	10.8%
Hispanic	3.1%	3.5%	2.5%	3.9%	2.7%
Other	7.4%	8.2%	6.5%	9.1%	6.1%
Missing Race	19.0%	15.6%	15.2%	15.7%	26.7%
Place of Birth					
Wisconsin	43.3%	41.9%	40.7%	46.9%	41.2%
United States, Not Wisconsin	23.2%	28.2%	15.4%	25.3%	16.0%
Foreign Born	4.9%	5.2%	3.0%	6.5%	4.6%
Place of Birth Missing	28.6%	24.0%	28.1%	21.3%	38.2%
Youngest Child's Birth Marital/Nonmarital					
Marital	28.4%	23.2%	28.8%	23.0%	34.8%
Nonmarital	48.0%	54.5%	50.0%	54.8%	37.7%
Missing	23.6%	22.3%	21.3%	22.2%	27.5%
Age of Youngest Child					
0 to 5	24.0%	21.6%	7.8%	35.4%	24.3%
6 to 12	21.4%	18.5%	9.0%	29.4%	22.5%
12 to 18	15.4%	13.1%	8.2%	19.0%	17.4%
Older than 18	23.7%	31.3%	60.1%	2.4%	17.5%
Missing Age of Youngest	15.5%	15.4%	15.0%	13.8%	18.2%
Date of First Order					
Before 3/31/03	61.2%	69.2%	88.5%	49.2%	51.8%
4/1/03 to 3/31/11	28.7%	25.3%	10.3%	39.6%	31.5%
After 3/31/11	10.1%	5.5%	1.2%	11.2%	16.8%

	All Mean or %	S1: Highest Arrears Burden Mean or %	S2: Owe Arrears Only Mean or %	S3: Owe Current Support and Arrears Mean or %	S4: Owe Current Support Only Mean or %
Number of Orders	0.780	0.513	0.00	1.097	1.083
	(0.553)	(0.502)	(0.00)	(0.303)	(0.293)
Burdensome Order	29.8%	42.9%	0.0%	59.5%	19.2%
Average Monthly Earnings (in $1000s)	1.391	0.19	0.33	1.269	2.495
	(2.816)	(0.717)	(1.121)	(2.513)	(3.70)
No Earnings	58.2%	84.7%	83.2%	54.9%	39.9%
Full-service (IV-D)	81.4%	87.6%	83.2%	87.1%	72.8%
Arrears [Median]	10868.6 [794]	19792 [8459]	24243.7 [11400]	9824.8 [2131]	172.2 [0]
	(28161.6)	(35748)	(38301)	(26617)	(4237.1)
Arrears if Positive [Median]	15738 [4480]	-	-	-	-
	(32612.5)				
Observations	300,962	163,972	85,752	119,656	95,554

*** p<0.001, ** p<0.01, * p<0.05

to pay. The average arrears balance at the time of the policy change for all NCPs was $10,869; among those with a positive arrears balance the average owed was $15,738.

The remaining columns of Table 1 show characteristics for four subgroups of interest. A comparison of the overall sample and S1 highlights several differences between the overall sample and those with high arrears. For example, those with high arrears were more likely to be non-Hispanic Black, more likely to no longer have minor children, and more likely to have had older orders. They earned less, suggesting they were more economically disadvantaged than other groups. In fact, those with the highest arrears were very unlikely to have any recorded earnings in Wisconsin, which could mean they had no actual earnings, their earnings were all in the informal sector, or their earnings were not in Wisconsin. The next three columns highlight the differences between those who only owed arrears (S2), those who owed current orders and arrears (S3), and those who owed current orders only (S4). Those who did not have current orders (S2) primarily had non-minor children. Those who owed only current orders (S4) and those who owed current orders and arrears (S3) were younger than those who only owed arrears (S2), and those who owed current orders only (S4) were more likely to be non-Hispanic White than the other groups. Those who did not have arrears (S4) had much higher earnings, whereas those who owed current support and had arrears (S3) had lower earnings (comparable to the overall sample), and those who only owed arrears (S2) had much lower earnings.

1. How does the growth in arrears three years after the policy change compare to the growth in arrears one year before the policy change?

The policy change lowered the interest rate on the principal owed in the arrears account from 1% per month to 0.5% per month. Thus, unless the principal amount changed substantially, the amount of interest charged after the policy change will be less than before the change. We begin with a graphical exploration of the balance in the total arrears account (including both

principal and interest) in the sample as a whole which, as described above, includes NCPs with current orders and/or arrears around the time of the policy change. The lowest line on Figure 1 shows the median balance for total arrears (principal plus interest) that is owed at the end of every quarter for our study period (one year before and three years after the change). The top line on Figure 1 displays the average balance of the total arrears at the end of every quarter for our study period.

Figure 1. Average and Median Arrears Balances (Total and Interest), with Vertical Line Indicating the Date of the Policy Change
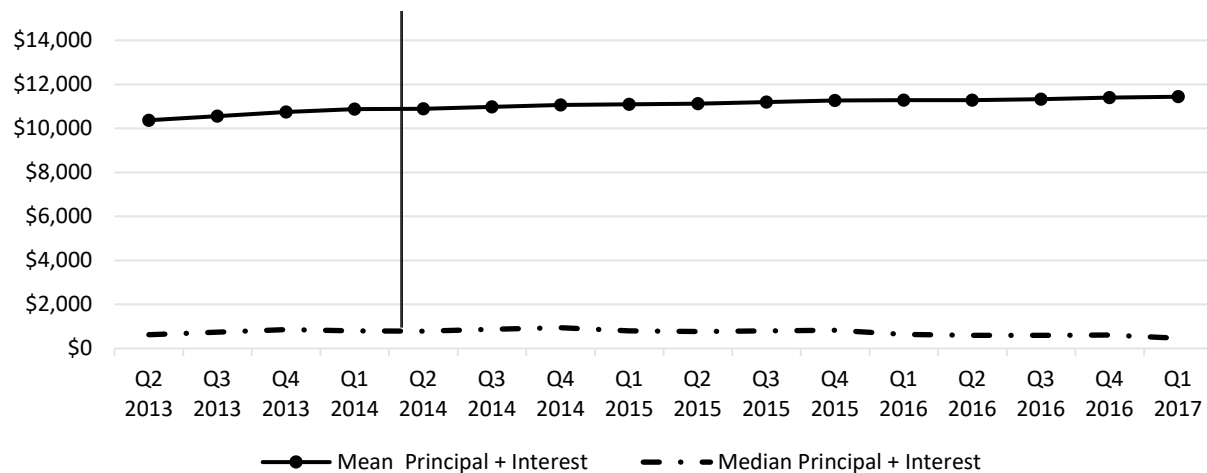
The average total arrears balance (principal plus interest) was quite high, more than $10,000, and slowly increased from $10,370 at the end of the second quarter of 2013 to $11,437 at the end of the first quarter of 2017. About half of this amount is principal; the remainder is interest. Considering interest only, the amount owed increased from $5,501 at the time of the policy change to $5,820 three years later. The figure does not show a large change at the date of the policy change—April 1, 2014—for average total arrears (indicated by a vertical line in Figure 1); but there was a slight dampening of the total arrears slopes (mean and median) over the period following the policy change.

Figure 1 is useful for showing the patterns of arrears accumulation, but the fact that arrears (and interest) balances were only slightly higher one year later is not strong evidence of a policy effect. One limitation is that, over time, arrears may have been increasing by a significant amount each year; if the trend changes so that there is only a small increase, this would suggest the policy was effective. In this section we begin with comparisons of the annual increase in total arrears, comparing the trend over the year before the policy change to the trend over the three years after the policy change.

To assess arrears growth before and after the policy change, we fit a series of latent growth curve models. Results from the growth curve analysis suggest the pre-period total arrears growth model and the post-period total arrears growth models demonstrated a good fit to the data.

The first column of Table 2 shows that after controlling for individual characteristics, the policy change was significantly related to average total arrears growth in the first year following the policy change. Individuals' post-implementation arrears growth increased less rapidly than in the year prior to implementation; the difference of around $34/month (about $406/year) was statistically significant. Though the magnitude of the slope coefficient varied for years two and three ($37 and $41/month, respectively) following the policy change compared to year one, findings were consistent in suggesting that the policy change was associated with a sustained reduction in the rate of growth of arrears balances several years after the policy change. Over the three-year period after the policy change, arrears were estimated to have grown by a total of $1,500 less than if their growth rate had remained the same as in the baseline (pre-change) year.

Table 2. OLS Analysis of the Per-month Growth in Total Arrears in the Year Before and Up to Three Years After the Policy Change

Variables	One Year	Two Years	Three Years	One to Three
After Policy Change	-33.80***	-36.92***	-40.99***	-41.31***
	(0.858)	(0.835)	(0.833)	(0.792)
Male	12.51***	12.29***	10.37***	6.081**
	(3.582)	(3.208)	(3.366)	(2.864)
Age	-0.145**	-0.194***	-0.153***	-0.167***
	(0.0595)	(0.0569)	(0.0568)	(0.0524)
Race and Ethnicity (Compared to Non-Hispanic White)				
Non-Hispanic Black	18.56***	17.16***	13.59***	17.33***
	(1.250)	(1.224)	(1.271)	(1.111)
Hispanic	27.46***	24.41***	19.02***	23.61***
	(2.729)	(2.919)	(3.133)	(2.665)
Other Race	13.06***	12.25***	12.58***	12.43***
	(1.775)	(1.762)	(1.726)	(1.600)
Birthplace (Compared to Wisconsin)				
United States, Not Wisconsin	9.139***	8.127***	8.284***	8.350***
	(1.175)	(1.150)	(1.143)	(1.020)
Foreign Born	25.90***	29.81***	32.67***	33.17***
	(2.537)	(2.558)	(2.682)	(2.361)
Youngest Child's Birth Nonmarital (Compared to Marital)				
Nonmarital	-0.233	-0.970	1.243	1.455
	(1.200)	(1.166)	(1.200)	(1.098)
Age of Youngest Child (Compared to 0 to 5)				
6 to 12	8.939***	5.170***	5.439***	5.914***
	(1.233)	(1.199)	(1.231)	(1.121)
13 to 18	7.993***	1.295	-3.403**	-1.562
	(1.798)	(1.674)	(1.707)	(1.601)
Older than 18	-5.739***	-10.23***	-14.89***	-15.22***
	(2.094)	(1.952)	(2.103)	(1.815)
Date of First Order (Compared to before 3/31/03)				
4/1/03–3/31/11	-9.903***	-8.833***	-9.015***	-8.730***
	(1.176)	(1.096)	(1.155)	(1.034)
After 3/31/11	-4.698***	-10.18***	-12.61***	-9.421***
	(1.626)	(1.543)	(1.528)	(1.479)
Number of Orders (compared to zero)				
One Order	1.996	3.145*	2.808	11.26***
	(2.169)	(1.854)	(2.046)	(1.778)
Two or More Orders	1.109	0.0902	1.360	7.919***
	(3.029)	(2.568)	(2.716)	(2.749)
Burdensome Order	74.42***	66.94***	65.35***	69.52***
	(1.867)	(1.680)	(1.710)	(1.670)

Variables	One Year	Two Years	Three Years	One to Three
Average Monthly Earnings (in $1000s)	-0.607	-0.847*	-0.897*	-0.632
	(0.455)	(0.451)	(0.541)	(0.465)
No Earnings	14.47***	13.34***	11.95***	15.87***
	(1.882)	(1.731)	(1.816)	(1.657)
Full-service (IV-D)	-28.95***	-30.80***	-26.73***	-31.75***
	(1.598)	(1.523)	(1.618)	(1.460)
Constant	32.81***	43.73***	43.92***	41.31***
	(4.819)	(4.568)	(4.860)	(4.188)
Observations	601,924	601,924	601,924	601,924
R-squared	0.018	0.018	0.017	0.024

Notes: Policy change refers to reduction in interest rate charged on arrears. Model also includes indicators for missing sex, age, race/ethnicity, marital/nonmarital birth, place of birth, and age of youngest. Robust standard errors in parentheses.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

The slowing of growth of total arrears occurred because both interest and principal had lower growth rates. A multivariate analysis of the growth rate in interest (not on Table 1) shows declines of $25–$26/month (about $300/year) in the first, second, and third years after the policy change, totaling about $1,000 over the period. Thus, about two-thirds of the decline in the growth of total arrears was due to declines in interest; about one-third due to declines in principal.

While not the focus of our analysis, the other variables on Table 2 show results similar to prior research. For example, males had higher arrears growth rates than females, as did NCPs of color, those born outside Wisconsin (especially those born outside the United States), those with younger children, burdensome orders, and those without formal earnings. Those receiving the services of the IV-D agency also had lower arrears growth.

2. Was the policy change associated with differences in payments on arrears?

Changing the interest rate on arrears could have impacts beyond a mechanical relationship with the level of arrears; different rates could affect payment patterns, as discussed

above. To examine this, we assessed payments towards arrears for those with arrears one year before the policy change. Figure 2 shows the percentage of those NCPs with arrears who paid toward arrears (principal or interest) in each quarter. The percentage varied between 20% and about 28%; payments in the first quarter of each calendar year were higher than other quarters because child support arrears can be collected through tax intercepts, which are concentrated in the first calendar quarter. The proportion paying appeared to increase until the policy change and did not show a marked change on the date of the policy change. However, payments in the quarters following the policy change were generally more likely than before the change.

Figure 2. Average Percent Payment, with Vertical Line Indicating the Date of the Policy Change
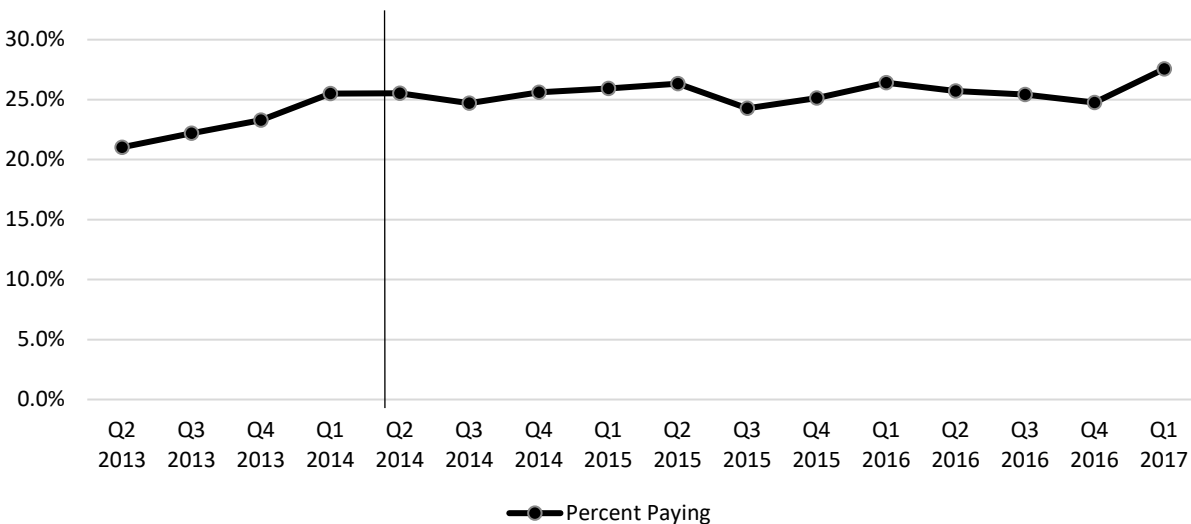
Regarding those with an arrears balance in any given year, total payments to arrears (principal plus interest) averaged $38/month in the year before the policy change, and $44/month in the first year after, $43/month in the second, and $42/month in the third, representing an uptick in average annual payments on arrears after the policy change (not shown). Table 3 shows that, after controlling for other factors, payments toward arrears increased by $6.46/month in the first year after the policy change (about $78/year). This represents an increase of around 17%

relative to the baseline year. Payments were slightly higher in the second year ($86/year) and

even higher in the third (about $93/year).

Table 3. OLS Analysis of Mean Monthly Payments on Total Arrears (Principal and Interest), Year Before and up to Three Years After Policy Change

Variables	One Year	Two Years	Three Years
After Policy Change	6.459***	7.125***	7.770***
	(0.259)	(0.272)	(0.296
Male	23.31***	23.35***	22.48***
	(1.448)	(1.516)	(1.551)
Age	-0.270***	-0.233***	-0.213***
	(0.0277)	(0.0273)	(0.0281)
Race and ethnicity (Compared to Non-Hispanic White)			
Non-Hispanic Black	-18.62***	-18.91***	-17.67***
	(0.489)	(0.476)	(0.498)
Hispanic	-12.25***	-13.37***	-13.80***
	(1.294)	(1.249)	(1.330)
Other Race	-9.740***	-9.554***	-9.154***
	(0.720)	(0.725)	(0.746)
Birthplace (Compared to Wisconsin)			
United States, Not Wisconsin	1.162**	1.684***	1.491***
	(0.460)	(0.467)	(0.477)
Foreign Born	-6.020***	-6.986***	-6.852***
	(1.120)	(1.072)	(1.128)
Youngest child's birth marital/nonmarital (Compared to Marital)			
Nonmarital	-9.326***	-8.570***	-7.929***
	(0.642)	(0.614)	(0.637)
Age of youngest child (Compared to 0 to 5)			
6 to 12	3.626***	3.806***	2.834***
	(0.583)	(0.576)	(0.596)
13 to 18	9.596***	12.21***	14.84***
	(0.790)	(0.774)	(0.836)
Older than 18	20.50***	19.21***	17.74***
	(1.022)	(0.973)	(0.998)
Date of First Order (Compared to before 3/31/03)			
4/1/03–3/31/11	-0.257	-0.0408	-1.057*
	(0.523)	(0.534)	(0.541)
After 3/31/11	-8.985***	-8.793***	-9.052***
	(0.935)	(0.975)	(1.115)

Variables	One Year	Two Years	Three Years
Number of Orders (compared to zero)			
One Order	-23.66***	-17.61***	-13.33***
	(1.197)	(1.118)	(1.160)
Two or More Orders	-26.88***	-20.62***	-16.40***
	(1.440)	(1.362)	(1.410)
Burdensome Order	25.29***	22.73***	19.51***
	(1.003)	(1.013)	(0.995)
Average Monthly Earnings (in $1000s)	-1.331***	-1.252***	-1.565***
	(0.422)	(0.456)	(0.434)
No Earnings	-31.53***	-28.31***	-25.56***
	(0.995)	(0.996)	(0.988)
Full-service (IV-D)	18.63***	17.99***	17.76***
	(0.789)	(0.781)	(0.777)
Constant	37.58***	30.45***	25.52***
	(2.379)	(2.431)	(2.421)
Observations	405,828	377,686	355,014
R-squared	0.036	0.036	0.036

Notes: Policy rate refers to reduction in interest charged on arrears. Model also includes indicators for missing sex, age, race/ethnicity, marital/nonmarital birth, place of birth, and age of youngest.
*** $p<0.001$, ** $p<0.01$, * $p<0.05$

3. Does the policy change differently affect certain subgroups of NCPs?

Change in Arrears Growth. Figure 3 shows the average arrears balances by subgroups. The second line shows the trend for those in the high arrears burden group (S1). Prior to the policy change, arrears were growing for this group, and it appears that the growth flattened somewhat after the policy change. The bottom line shows average amounts of arrears over time for those who did not owe arrears at the time of the policy change (S4): while some do fall into arrears, the average owed is quite small. The remaining lines show that the amount of arrears among those who owed arrears only (S2) were substantially higher than among those who owed current support as well as arrears (S3). Those who owed arrears only show a flatter slope after the policy change because their arrears balance only increased with interest. Those who owed both arrears and current support have increased average arrears because some of them were not

paying their current obligation in full, so both principal and interest were growing. The figure

suggests a flattening of arrears growth for some groups, but this model does not control for any

other factors.

Figure 3. Average Arrears Balances (Total and Interest) by Subgroups, with Vertical Line Indicating the Date of the Policy Change
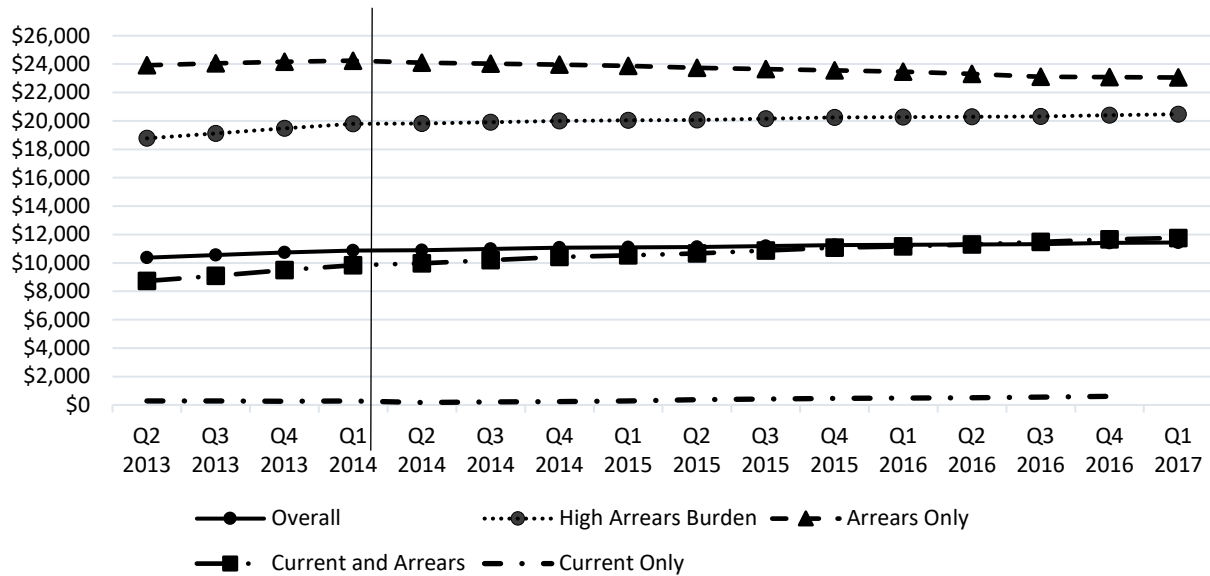
In Table 4, we control for other factors. The first rows within each panel in the first

column repeat the key results from Table 2, which were based on all relevant NCPs; subgroups

are shown in the next columns. The subgroup with the highest arrears (S1), shown in the first

subgroup column, showed the largest declines in arrears growth after the policy change, with

declines of $79/month, $82/month, and $87/month in the three years following the policy

change, respectively. Over the three-year post-policy change period, this is equivalent to a

substantial decline, over $3,200. Those who did not owe arrears at the point of the policy change

(S4) had no growth in arrears in the year before the policy change, by definition. Their modest

growth in arrears ($12–$15/month) after the policy change is therefore expected, and merely

shows that some NCPs fell into arrears. The other two subgroups (S2 and S3) had arrears at the

point of the policy change, and both of these groups showed significant (and similar) declines in

arrears growth, between $50/month and $70/month. Over a three-year period, this equates to a

decline in the growth of arrears of about $2,900 (S2) and $2,100 (S3).

Table 4. Subgroup Analyses of the Monthly Growth in Total Arrears and Payments on Total Arrears in the Year Before and the Three Years After the Policy Change

Variables	All	S1 Highest Arrears Burden	S2 Owe Arrears Only	S3 Owe Current Support and Arrears	S4 Owe Current Support Only
Year One					
Arrears Growth After Policy Change	-33.80***	-79.06***	-58.76***	-54.20***	14.16***
	(.86)	(1.47)	(2.11)	(1.33)	(.96)
Observations	300,962	163,972	85,752	119,656	95,554
R^2	0.0179	0.0271	0.0086	0.0331	0.0043
Total Arrears Payment After Policy Change	6.46***	7.09***	0.63	10.68***	
	(.26)	(.31)	(.38)	(.35)	-
Observations	202,914	160442	85,181	117,733	
R^2	0.0363	0.0573	0.0479	0.041	-
Year Two					
Arrears Growth After Policy Change	-36.92***	-81.76***	-61.11***	-60.96***	14.88***
	(.84)	(1.42)	(2.17)	(1.24)	(.82)
Observations	300,962	163,972	85,752	119,656	95,554
R^2	0.0177	0.0292	0.0090	0.0326	0.0039
Total Arrears Payment After Policy Change	7.13***	8.29***	0.51	12.11***	
	(.27)	(.31)	(.35)	(.40)	-
Observations	188,843	152,799	81,123	107,720	
R^2	0.0362	0.0597	0.0483	0.0373	-
Year Three					
Arrears Growth After Policy Change	-40.99***	-87.07***	-67.09***	-64.64***	12.05***
	(.83)	(1.44)	(2.21)	(1.24)	(.70)
Observations	300,962	163,972	85,752	119,656	95,554
R^2	0.0174	0.028	0.0084	0.0327	0.0038
Total Arrears Payment After Policy Change	7.77***	8.85***	.21	13.66***	
	(0.30)	(.34)	(.37)	(.44)	-
Observations	177,507	146,137	77,783	99,724	
R^2	0.036	0.0567	0.0414	0.039	-
Years One through Three					
Arrears Growth After Policy Change	-41.31***	-90.21***	-81.05***	-58.43***	15.78***
	(.79)	(1.37)	(2.03)	(1.24)	(.65)
Observations	300,962	163,972	85,752	119,656	95,554
R^2	0.0240	0.0153	0.0153	0.0361	0.0068

Notes: Policy change refers to reduction in interest rate charged on arrears. Models control for all covariates in tables 2 and 3 and also includes indicators for missing sex, age, race/ethnicity, marital/nonmarital birth, place of birth, and age of youngest.
*** $p<0.001$, ** $p<0.01$, * $p<0.05$

Change In Payments Toward Arrears. Figure 4 provides context for our subgroup payment analysis, showing the percentage of the groups that still had an arrears balance at the end of various quarters. Some of those who did not have arrears at the point of the policy change (S4) fell into arrears. The other groups showed declines in the percentage with arrears, indicating that some had paid off their balances.

Figure 4. Percent with Positive Arrears Balances (Total and Interest) by Subgroups, with Vertical Line Indicating the Date of the Policy Change
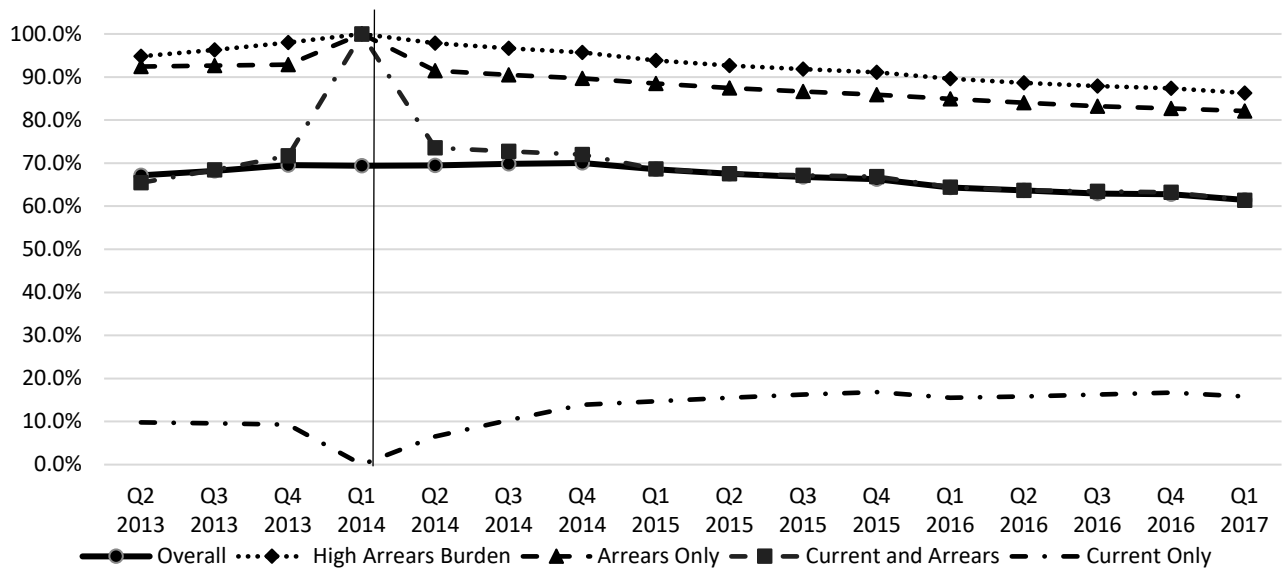
Table 4 also shows subgroup analyses for mean payments toward total arrears among those who had arrears at the beginning of each period. Compared to the year before the policy change, those with the highest arrears burdens (S1) showed higher payments toward arrears in each year after the policy change, averaging $7 – $9/month over the three years. Among all those who already owed arrears at the time of the policy change (S2 and S3), those who also owed current support (S3) showed larger increases in payments on arrears, $11, $12, and $14/month over the three years. In contrast, those who did not owe current support (most of whom had only non-minor children), S2 showed no difference in payments on arrears in the three years

following the policy change. Overall, these patterns show that different groups responded differently to the policy change.

Robustness Check

Our analysis comparing payments on arrears before and after the policy change suggested that lowering the interest rate was associated with an increase in payments. To explore this further, we developed an alternative comparison group to examine the extent to which NCPs pay their arrears in full.[5] The alternative comparison group consisted of NCPs with an open case one month before or after April 2011 (n = 265,511); within this group we were interested in those who owed arrears in April 2011 (n = 176,288). These NCPs had similar characteristics to our main sample (the 205,408 who had arrears in April 2014, S3 and S4). We compared the extent to which NCPs paid their entire arrears balance one, two, and three years later. That is, for the comparison group, we considered whether they paid off arrears in April 2012, 2013, and 2014, all periods before the policy change. We then considered whether those in the base sample (arrears in April 2014) paid off arrears in April 2015, 2016, and 2017, all periods after the policy change. Arrears levels at the beginning of the period among those with arrears were similar between the two groups, averaging $15,503 for the 2011 group and $15,738 for the 2014 group (the main sample).

In Figure 5, the first bar in each set shows the cohort before the policy change. One year later 5.63% had paid their entire balance, but some of these NCPs fell into arrears again, so that by two years later, only 4.91% of the original group had paid everything, and only 3.84% three years later. The post-change group shows a very different pattern. While 5.94% had paid their

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[5]To ensure that arrears compromise (forgiveness) was not interfering with our analyses, those who had an arrears balance at one point but not in the next time period were only treated as paying off their arrears if payments were actually made.

entire balance one year later (very similar to the pre-change group), at the end of the second year, 9.23% had paid off their balance, and 11.73% at the end of the third year. Thus, we see substantial differences between the groups: those with arrears at the date of policy change were much more likely to pay them all off three years later, compared to the group with arrears in April 2011. This finding reinforces our main finding of increases in payments after the reduced interest rate.

Figure 5. Percent Paying Off Arrears in Full, Before and After the Policy Change
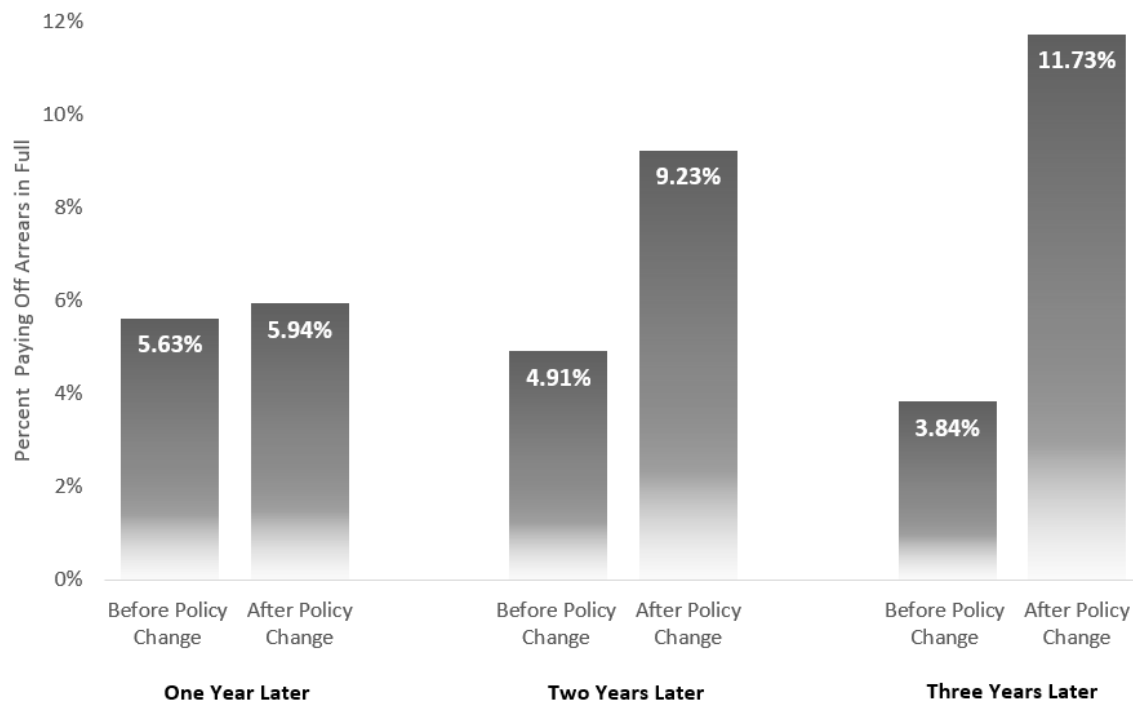
Note: Figure shows the percent of NCPs with arrears in pre-policy-change and post-policy-change cohorts that are paid in full after one, two, and three years.

DISCUSSION AND CONCLUSIONS

This paper examines whether arrears growth patterns and payments on arrears changed after Wisconsin lowered the interest rate on arrears from 1% per month to 0.5% per month on

April 1, 2014. We extend previous research by considering a longer period after the change: 3 years as compared to 1 year in our earlier research.[6]

Our first finding is that arrears growth slowed in the year after the policy change, as expected. Compared to the year before the change, arrears growth slowed by more than $400 in the first year, another $440 in the second year, and nearly $500 in the third. Overall, arrears growth slowed by about $1,500 during this period. While most of the slowdown was due to slowing the rate of growth in interest, the rate of growth of principal also declined. Some subgroups showed even larger slowdowns: those who had the highest burdens (defined as arrears divided by formal earnings) showed the largest slowdown (the smallest growth compared to the pre-change period), with arrears growth after the change $3,000 less than before the change. Those who no longer owed current support also showed substantial slowing of arrears growth.

Lowering interest rates was also hoped to increase payments toward arrears. However, the change may have had unintended consequences. A lower interest rate might have reduced the urgency to make payments for some NCPs who would have otherwise been motivated by high interest charges, which possibly resulted in lower payments to arrears. Another possibility is that payment patterns were closely tied to the financial capacity to fulfill support obligations rather than being driven by interest rate incentives. If this effect dominates, changing the interest rate

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[6]There are several other differences between the current analysis and the previous report. Primarily, this paper uses a larger sample, requiring an open case only in the month before or after the policy change; the previous report required an open case in every month of the year before and after the policy change. We made this change because the previous report excluded those without a current order who had an arrears balance one year before the policy change and, within the year after the policy change, paid off their balance. (These would have been excluded in the prior analysis since there would be some months at the end of the first year after the policy change when they did not have an open case.) In addition, the previous state report did not use the more sophisticated quantitative analysis used here (LGCM). Demographic information in the current analysis has also been updated. Nonetheless, the first-year results are generally similar. In the previous state report, arrears growth slowed by $20/month; we now show a slowing of $34/month. We are conducting different types of payment analyses here. The previous state report included payments toward arrears among all NCPs in the sample; since fewer of these parents owe arrears over time, we now focus explicitly on payments towards arrears among those who still owe arrears in a given period. As such, the payment analyses are not comparable.

might have limited if any effects on payments. Because of the conflicting predicted effects, understanding the overall impact of a lower interest rate requires empirical testing rather than theoretical speculation.

The analyses shown here suggest that the policy change was associated with an increase in the amount paid towards arrears in each of the three post-policy-change years (among those who still had arrears in a given year), compared to the amount paid in the year preceding the policy change. Overall, our results are quite consistent with the policy change leading to modestly increased payments on arrears. Our comparison group robustness checks demonstrate further support for these findings.

Thus, the findings generally show positive results: the rate of arrears growth slowed substantially and, among NCPs with arrears, payments toward arrears increased. Moreover, declines in the rate of arrears growth were largest for a group of NCPs of particular concern: those who owed high amounts of support compared to their earnings.

The findings have some ambiguities, however. Relatively small differences in payments after the change implies that incentives may not have had large effects: payments may have been more affected by ability to pay than by how arrears are treated (at least within the range of arrears policies considered here). Relatedly, the policy change did not prevent NCPs with no arrears from falling into arrears; for many NCPs, payments declined over time regardless of the interest rate. Attention to improving the ability of NCPs to meet their obligations and ensuring that their obligations are consistent with their abilities to pay may be more effective at promoting payments than changing incentives.

The study's scope is limited in that its analyses rely on comparisons before and after a policy change, without accounting for other potential influences like economic improvements or

administrative process enhancements. This is an inherent limitation of pre-post studies such as this, in that the policy can't be differentiated from other contemporaneous changes. Additionally, this research centers on a single policy change within Wisconsin, a reduction in interest from 1% to 0.5% monthly (12% to 6% annually). The effects of more substantial interest rate reductions could differ from the findings here. Another limitation of this work is that it does not consider the differences between arrears owed to the custodial parent and arrears owed to the state, nor does it examine whether arrears were forgiven (compromised) by either the custodial parent or the state. NCPs may respond to these two types of arrears differently; this is a potential direction for future research.

Overall, future research could include exploring whether those with different levels of arrears had differential responses to the policy change, and whether responses differed based on whether arrears are owed to the custodial parent or the state. Other potential topics include impacts on high-earning vs. low-earning NCPs perhaps over a longer period.

While the current analysis cannot definitively establish a causal link between lowered interest rates, slowdowns in arrears growth, and increased child support payments, the relationship remains consistent even when controlling for other variables. This analysis provides suggestive evidence that reducing interest rates on arrears is advantageous to NCPs in slowing the growth of arrears and to custodial parents and children in that payments on arrears for many actually increased. In conclusion, this policy change appears to have had substantial positive effects in this three-year period, but we are uncertain whether it holds the potential to improve both NCPs' welfare and the well-being of their children over longer periods of time.

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APPENDIX: CONTROL VARIABLE DEFINITIONS

Sex. A binary indicator equal to 1 for males.

Age. A continuous variable reflecting the NCP's age on 3/31/13.

Race/ethnicity. A categorical variable reflecting whether the NCP was non-Hispanic White, non-Hispanic Black or African American, Hispanic, or classified as Other.

Place of birth. A categorical variable reflecting whether the NCP was born in Wisconsin, in the United States but not Wisconsin, or foreign born.

Marital/nonmarital birth of youngest child. A binary indicator of whether the NCP's youngest child was marital or non-marital.

Age of youngest child. A categorical variable of the NCP's youngest child's age on 3/31/13 reflecting whether the child was 0 to 5, 6 to 12, 13 to 18, or older than 18 years.

Date of first order. A categorical variable reflecting whether the NCP's case began before 3/31/03, between 4/1/03 and 3/31/11, or after 3/31/11.

Number of orders. A continuous variable that is the count of the number of current child support obligations for the NCP.

Burdensome order. A binary indicator equal to 1 if the amount of current child support owed during the year totals more than 50% of the NCP's formal earnings.

Average monthly earnings (in thousands). A continuous variable of the NCP's average monthly earnings in the quarter prior to the policy change.

No earnings. A binary indicator equal to 1 in the NCP had no earnings in the quarter prior to the policy change.

Full services case. Custodial parents receiving public benefits are required to use the full services of the child support agency (a IV-D case). Those not receiving public benefits typically use the collection and disbursement service, but do not necessarily receive other services unless requested (enforcement, monitoring, assistance in location of the other parent or assistance in gaining an order, etc.). This indicator equals 1 if all of the NCP's using the full services of the child support agency.