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THE IMPACT OF PERCENTAGE-
EXPRESSED CHILD SUPPORT
ORDERS ON PAYMENTS

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Abstract

This article examines the impacts on child support payments of explicitly indexing orders to noncustodial parents' incomes by expressing orders as a percentage of income rather than as a fixed sum. We use data collected from twenty-one counties in Wisconsin and merged with annual income data from the Wisconsin Department of Revenue. We find that payments increase much faster with percentage-expressed than with fixed-sum orders, after controlling for differences between cases which receive the two award types. Collections on behalf of percentage-expressed orders increase because of large increases over time in the amount of the obligation; in comparison, fixed-sum obligations are extremely stable. Further gains may be possible by improving the capacity of the courts to monitor compliance via access to current income information.

The Impact of Percentage-Expressed Child Support Orders on Payments

INTRODUCTION

Since the mid-1970s, researchers and policymakers have increasingly focused on the child support system as a means of reducing poverty and welfare dependency among single-mother families. Increased scrutiny of this system has led to growing awareness of a variety of problems, including widespread variation in the amount of support ordered and low compliance with issued awards (Cassetty, 1978; Garfinkel and Melli, 1982). Identification of these problems has resulted in a substantial overhaul of the laws governing the establishment and enforcement of child support awards, both at the state and federal levels.

One of the more far-reaching changes has been the introduction of support guidelines, which are intended to reduce judicial discretion by standardizing the amount of support owed according to the circumstances of the noncustodial and sometimes the custodial parent. The Child Support Enforcement Amendments of 1984 required that states develop guidelines which courts could use to establish support awards; the 1988 Family Support Act strengthened this provision by mandating that state guidelines be presumptive, with judges required to provide a written exemption justifying deviations. Further, the FSA obligates states to review all cases in the child support enforcement system at least every three years, and to update orders as needed to ensure that orders keep pace with changing circumstances.

Wisconsin, one of the first states to introduce child support guidelines, establishes awards according to a percentage of the noncustodial parent's income which varies only with the number of children. Wisconsin guidelines specify that support be set at 17 percent of income for one child, 25 percent for two children, 29 percent for three children, 31 percent for four children, and 33 percent for five or more children. The guidelines are based on estimates of the share of income which two-

parent families spend on children, and reflect the philosophy that parents living apart from their children should share the same proportion of their income with their children as if they lived together.

Wisconsin's guidelines were issued in 1983 and have been presumptive since 1987. According to statute, support orders may be expressed in one of two ways: as a percentage of income so that the obligation changes each time the noncustodial parent's income changes; or as a fixed sum, based on a percentage, that may change every few years if the order is reviewed. The decision to use fixed-sum or percentage-expressed orders is made by judges on a case-by-case basis.

In a previous report (Bartfeld and Garfinkel, 1992) we examined the use of percentage-expressed orders and the impact of such orders on payment changes over time, using the same data source that we use in the present study. Here, we provide an updated analysis of these issues, using a larger sample and a different analytic approach. We begin by discussing the expected effects of percentage-expressed orders on payment patterns from a theoretical perspective. Next we describe our data and methods, highlighting the potential estimation problems which arise from nonrandom assignment of order type. We then present descriptive information on the use of different order types, followed by an analysis of the impact of percentage-expressed orders on payment patterns. We conclude with a summary of our key findings.

POTENTIAL EFFECTS OF PERCENTAGE-EXPRESSED ORDERS ON PAYMENT PATTERNS

There are three principal reasons why payments over time for cases with percentage-expressed orders may be expected to differ from those for cases with fixed-sum awards in the absence of routine updating. The primary reason is the explicit link to income changes, while secondary reasons are the potential impacts of the order type on compliance and work effort.

Recent research using Wisconsin data documents substantial increases over time in the earnings of noncustodial parents, especially in nonmarital child support cases (Phillips and Garfinkel,

1993; Meyer, 1992). To the extent that collections actually reflect earnings, then, the amount of collections in cases with percentage-expressed orders should increase correspondingly. Of course, earnings also decrease in at least some cases, and percentage-expressed orders in these cases would lead to lower obligations and hence lower payments. Further, the direct link to current income could also be expected to lead to fluctuations in payment amounts: as the noncustodial parent's income increases or decreases, so does the child support obligation.

It is also possible that percentage-expressed orders may result in lower compliance rates than fixed-sum orders. Because parents with percentage-expressed orders do not owe a fixed amount each month, it is difficult for child support agencies to monitor compliance and to apply standard enforcement tools when noncompliance is detected. In Wisconsin, the Clerks of Court cannot determine if the appropriate payment was made, because the effective obligation is based on current income rather than income at the time of the order, and current income is not routinely available to the courts. In many counties, whatever payment is received is assumed to be the correct amount (Rothe, 1990). Even when the courts suspect that appropriate payments have not been made, enforcement is difficult because routinized enforcement mechanisms, such as tax intercepts and reports to credit bureaus, can only be used after determining the arrearage amount. This inability of the courts to monitor and enforce compliance may make it less likely that noncustodial parents will pay their full obligation. This problem would be alleviated on an annual basis if the law required that noncustodial parents submit copies of their annual income tax returns to the Office of Child Support; under current law there is no such requirement.

On the other hand, it is possible that percentage-expressed orders would lead to greater compliance if they are perceived as more fair by noncustodial parents. That is, parents may be more inclined to comply with support orders when such orders are a true reflection of current ability to pay rather than a seemingly arbitrary amount.

A third way in which percentage-expressed orders may influence payment patterns is through an effect on work effort. A fixed-sum award, like a lump-sum tax, reduces the take-home income of the noncustodial parent without reducing the reward for work. Economic theory implies that the loss of income would promote greater work. A percentage-expressed order, like an income tax, not only reduces net income, but also reduces the reward for work. Economic theory is ambiguous on the impact of percentage-expressed orders on work effort; it is unclear whether an income effect, which would induce more work to offset income lost through support, or a substitution effect, inducing less work because of lower returns, would dominate. Note, however, that child support is different from a typical "tax" in that many noncustodial parents would presumably choose to pay regardless of legal obligation. To the extent that parents increase their own welfare by paying support, any work disincentives would be mitigated. Klawitter (1994) has examined the impact of both fixed-sum and percentage-expressed child support obligations on subsequent noncustodial earnings. She concludes that neither the type nor level of support owed significantly affects work effort.

Updating orders periodically, as mandated by the Family Support Act, serves the same general purpose as expressing orders in percentage terms. There are several reasons, however, why percentage-expressed orders may be preferable to case-by-case updating. First, updating every three years is likely to lead to lower average increases than indexing via percentage-expressed orders, because increases in income during the interim years do not result in higher orders. Second, a substantial administrative burden associated with routine updating has been documented in pilot projects (Paulin, 1991).[1] Third, updating orders in non-AFDC cases may be hampered by lack of cooperation from the custodial parent. In the order revision pilot recently completed in Wisconsin, 74 percent of the cases which were identified as potentially appropriate for revision were not pursued, with the most common explanation being lack of authorization from the custodial parent. Reasons cited by custodial parents included excessive paperwork and fees, concern with upsetting their

relationship with the noncustodial parent, and a general reluctance to "rock the boat" and risk

jeopardizing existing custody or visitation arrangements (Meyer, Corbett, and Kost, 1994). Fourth,

staff are apparently reluctant to pursue revisions when such revisions would result in lower rather

than higher support orders (Paulin, 1991).

The majority of arguments for and against percentage-expressed orders relate directly or

indirectly to their effects on payment patterns. The previous discussion suggests that percentage-

expressed orders may lead both to higher payments and to payments which more accurately reflect the

noncustodial parent's current income, even relative to fixed-sum orders that are subject to a periodic

updating requirement. The former—higher payments—is desirable from the standpoint of custodial

parents and their children, as well as the standpoint of the state, which may realize savings in AFDC

expenditures. The latter outcome—payments which reflect current noncustodial parent income—may

be advantageous to noncustodial parents by preventing orders from creating an undue burden should

income fall. In light of these potentially desirable outcomes, an empirical analysis of the actual

effects of percentage-expressed support orders is warranted.

DATA AND METHODS

Data

The primary data set used in this analysis is the Wisconsin Court Record Database (WCRD),

collected and maintained by the Institute for Research on Poverty (IRP). This database consists of

court record and payment history data on a sample of divorce, separation, and paternity cases

involving at least one child under age eighteen from twenty-one Wisconsin counties. Data have been

collected for cases which entered the courts between July 1980 and January 1991, with cases selected

according to a sequential sampling scheme; for detailed discussion of the sampling procedures, see

Brown, Roan, and Marshall (1994). These data include case characteristics and demographic

information about both parents, as well as records of support orders and payments for up to four years.[2]

We also use income data from the Wisconsin Department of Revenue (DOR). Personal taxable income information is available annually, from 1980 through 1989, for parents in our sample who filed Wisconsin income tax returns.[3] Unfortunately, there is a substantial amount of missing information, for two reasons. First, IRP has not yet been able to obtain DOR data for cases in the most recent two cohorts, i.e. cases entering the courts after July 1988. Second, in any given year, income data are missing for those parents who have moved out of state, who have incomes too low to necessitate the filing of a return, and who have avoided payment of income taxes.

We select a subsample from the WCRD consisting of all cases in the data which entered the courts after January 1984 in which there was a support order with one parent (either father or mother) designated as the payer. We exclude earlier cases because percentage-expressed orders were not used prior to 1984. The sample includes a total of 8176 cases—1904 paternity cases, 5123 divorce cases, and 1149 separation and interstate cases. We modify this sample for various analyses, with such changes noted in our discussion of the results.

Methods

We are interested in estimating the impact of percentage-expressed versus fixed-sum orders on payment patterns over time. Our underlying model is as follows:

$$(1) \quad CS_t = A_t + B(Order_t) + C(Order_t * Pct) + D_t(X) + F(Y_t) + GZ + u_t$$

$$(2) \quad Order_t = Order_1 + H_t(Pct) + v_t$$

Where
CS_t = payment at time t
$Order_1$ = initial amount owed
$Order_t$ = amount owed at time t
Pct = dummy variable for percentage-expressed orders
X = a vector of constant variables with effects which change over time
Y_t = noncustodial parent's income at time t

Z = a vector of constant variables (observed and unobserved) whose effects don't change over time

Note that the order expression appears in both equations. This is consistent with our earlier discussion—percentage-expressed orders could potentially influence both the order amount and the compliance rate. Note also that the only systematic components of the order equation are initial order and order expression. This is consistent with research which finds no significant variables—including income change—in an order change model (Meyer, 1993). Finally, note that the effect of order type on order amount varies with time.

Analysis is complicated both by lack of random assignment to order type and by high rates of missing income information. The former is problematic because of potential unobserved heterogeneity between cases with different order types, while the latter is problematic because, for percentage-expressed orders, we are unable to determine the amount owed at a given time without knowing income. We address these problems by using a first-differencing approach. Subtracting child support payments at time 1 from payments at time t yields

(3) $CS_t - CS_1 = J_t + K_t(Pct) + L(X) + F(Y_n - Y_1) + \epsilon_t$

Where $J_t = A_t - A_1$
$K_t = B*H_t + C*H_t + B*v_t$
$L = D_t - D_1$
$\epsilon_t = u_t - u_1 + B*v_t$

Equation (3) yields estimates of the net impact of percentage-expressed orders on payment change over a given length of time. We use ordinary least squares to estimate separate equations for payment change after 12, 18, 24, 30, 33, 36, and 39 months. Each case contributes data to all equations for which adequate payment history data are available. Thus, a case with 39 or more months of payment data would be included in all seven equations; a case with 23 months of data would be included in the first two equations.[4] We define the initial payment as the mean monthly payment in months 2–6 following the original support order, and the nth payment as the mean monthly payment in months

7-12, 13-18, 19-24, 25-30, 31-33, 34-36, and 37-39.[5] Our hypothesis is that the coefficients on the percentage-expressed order dummy will be positive and will become increasingly large as the time since the initial order increases.

This model has several desirable properties. First, it addresses the problem of missing order amounts for percentage-expressed orders due to missing DOR data, in that the order amount drops out in the payment change equation. Further, the model addresses one possible form of heterogeneity between cases with percentage-expressed and fixed-sum orders. Constant unobserved person-specific effects on payments, which can be thought of conceptually as representing differences in underlying propensity to pay (for whatever reason), drop out in the payment change equation. Finally, the model explicitly controls for income change, thus controlling for possible differential use of percentage-expressed orders among cases with particular income patterns over time.[6]

The significance of controlling for income change warrants further discussion. Income change may influence payments in two ways. First, changes in income could have a direct effect on payments by making noncustodial parents more willing or able to pay, regardless of the amount of their particular obligation. This effect is captured by the income change variable in equation (3) together with the missing income dummy.[7] Second, we expect income change to play an indirect role by influencing the returns to percentage-expressed orders. The more income increases, the greater the increase in the value of percentage-expressed orders, and hence the greater the expected increase in payments. This implies that the estimated impact of percentage-expressed orders is dependent on the particular income patterns of those cases which have been assigned such orders, a form of selection bias not corrected by first-differencing or other standard selection corrections (Heckman and Robb, 1985; Moffitt, 1991). The coefficient we estimate is the estimated impact on cases which actually received percentage-expressed orders, rather than the expected impact of extending such orders to additional cases.[8]

Finally, we make a crude attempt to disaggregate payment patterns into two underlying components, order amounts and compliance rates. We present descriptive data on changes in the amount of the support obligation over four calendar years for cases with percentage-expressed versus fixed-sum orders, and calculate how orders would have changed for cases with fixed-sum orders had they instead been percentage-expressed. Additionally, we present compliance rates for percentage-expressed and fixed-sum orders over the same four-year period.

USE OF PERCENTAGE-EXPRESSED ORDERS

We begin by examining differences between cases with different order types. We present cross-tabulations showing the use of different order types according to various case characteristics, distinguishing between cases with fixed-sum orders, percentage-expressed orders, and miscellaneous cases. The latter includes a variety of two-part orders, as well as cases in which the expression of the order is not clear from the data.[9] Results are shown in Table 1.

Fixed-sum orders are the most common order type, comprising 74 percent of the sample, followed by percentage-expressed orders with 18 percent. The relative use of different order types changed dramatically over the period studied. Use of percentage-expressed orders increased from 2 percent in 1984 to 41 percent in 1991–92, while fixed-sum orders declined from 96 percent to 39 percent. "Miscellaneous" orders also increased substantially, from 2 percent to 20 percent of orders. Many of these orders have a percentage-expressed component, such as "the greater of $100 or 17 percent of income per month." This change occurred in conjunction with an increase in the use of the percentage standard over this period, especially after July 1987, when it became presumptive. As the practice of basing orders on a percentage of income became more common, so did the practice of expressing them as such, although the former continues to be much more common than the latter (Meyer and Bartfeld, 1993).

TABLE 1
Child Support Cases with Fixed, Percentage-Expressed, and Miscellaneous Orders,
by Case Characteristics

	Fixed Orders		Percentage-Expressed Orders		Misc.	
	No. of Cases	% of All Cases in Row	No. of Cases	% of All Cases in Row	No. of Cases	% of All Cases in Row
Total	6021	74	1471	18	684	8
Year of order:						
1984	464	96	11	2	10	2
1985	1182	89	70	5	75	6
1986	1398	86	117	7	103	6
1987	1060	81	185	14	65	5
1988	923	72	303	24	57	4
1989	543	52	360	34	143	14
1990	350	41	320	38	178	21
1991–92	101	39	105	41	53	20
Case type:						
Paternity	1471	77	334	18	99	5
Divorce	3467	68	1093	21	563	11
Other	1083	94	44	4	22	2
County:						
1	587	91	17	3	38	6
2	199	57	101	29	49	14
3	93	45	88	42	28	13
4	244	82	11	4	42	14
5	203	71	38	13	46	16
6	245	69	71	20	48	11
7	389	86	32	7	31	7
8	517	84	72	12	30	5
9	242	72	76	23	19	6
10	172	73	36	15	27	11
11	155	67	52	23	23	10
12	193	65	60	22	45	15
13	145	56	93	36	19	7
14	180	61	92	31	25	8
15	100	63	39	25	20	13
16	46	34	54	40	36	26
17	114	53	89	41	13	6
18	218	87	17	7	15	6
19	372	82	21	5	61	13
20	159	71	36	16	28	13
21	1448	77	376	20	51	3

(table continues)

TABLE 1 (continued)

	Fixed Orders		Percentage-Expressed Orders		Misc.	
	No. of Cases	% of All Cases in Row	No. of Cases	% of All Cases in Row	No. of Cases	% of All Cases in Row
Noncustodial employed:						
Yes	4943	75	1086	17	542	8
No	525	67	173	22	84	11
Missing	553	67	212	26	58	7
Noncustodial income:[a,b]						
Zero	215	68	75	24	28	9
$1–9999	1028	77	196	15	103	8
$10,000–14,999	834	75	177	16	108	10
$15,000–19,999	823	75	176	16	94	9
$20,000–29,999	1038	73	243	17	141	10
$30,000–39,999	499	78	90	14	52	8
$40,000+	275	76	53	15	33	9
Missing	1309	69	461	24	125	7
Noncustodial age:						
<21	294	74	78	20	26	7
21–25	768	74	205	20	67	6
26–35	2639	73	663	18	337	9
>35						
Income withholding:						
Yes	4094	73	1053	19	464	8
No	1919	75	414	16	217	9

Source: Wisconsin Court Record Database and Wisconsin Department of Revenue.

[a]Order type is not independent of this variable according to a chi-square test ($p < .05$).
[b]Income is in constant 1988 dollars.

Order type is fairly similar across case types. There is substantial variation in the rate of percentage-expressed orders across counties, ranging from 3 percent to 42 percent. In the most recent cohorts, in which percentage-expressed orders were most widely used, county rates ranged from 4 to 68 percent (not shown). Interviews with county child support staff document widely varying views regarding the utility of different types of orders (Meyer, Bartfeld, and Kost, 1993).

It is possible that judges may issue percentage-expressed orders based on the anticipated benefit of such orders in a given case. For instance, judges may be more likely to use such orders when a fixed order corresponding to the requisite percentage of income seems unreasonably high or low (i.e., when current income is extremely high or low); when they anticipate that income may change significantly over time (for instance, when the payer is young or is not employed); when income information from which to determine an appropriate fixed award is not available in the record; or when support is to be withheld from income. The last condition may increase the usefulness of percentage-expressed orders by increasing the likelihood of compliance, in that the noncustodial parent has less control over the amount of payment. The use of percentage-expressed orders according to these characteristics is also shown in Table 1.

As expected, a number of income and employment characteristics of the payer appear to be associated with the expression of support orders. Noncustodial parents who are employed at the time of the order are least likely to have a percentage-expressed order (17 percent), while payers who are unemployed or for whom employment information is not available in the court record are more likely (22 percent and 26 percent). Similarly, 24 percent of payers with no income or missing income information have percentage-expressed orders.[10] Among cases in which the payer has at least some known income, there is no apparent relationship between income level and order type. Likewise, there is no apparent relationship between the age of the payer and the expression of support orders.

Finally, percentage-expressed orders are approximately as common in cases with income withholding (19 percent) as in those without withholding (16 percent).

While the majority of cases keep the same order type over the length of time for which we have data, some cases experience changes. Fixed-sum orders are the most stable over time (93 percent remain unchanged), followed by percentage-expressed orders (82 percent unchanged) and miscellaneous orders (72 percent unchanged).

PAYMENT PATTERNS OF PERCENTAGE-EXPRESSED VERSUS FIXED-SUM ORDERS

Figure 1 illustrates the payment pattern for cases with stable fixed-sum versus percentage-expressed orders over a three-year period, showing mean monthly payments averaged over six-month intervals, for all cases in which three full years of payment data are available. The difference in patterns is striking: average payments for fixed-sum orders fall from $153 to $130, while average payments for percentage-expressed orders increase from $147 to $169 (in nominal dollars). Under routine updating as mandated by the Family Support Act, fixed-sum orders would not be revised until the end of this three-year period.

In order to control for underlying differences in cases with different award types, we estimate a series of equations, described above, in which the dependent variables are the change in mean monthly child support payment after 12, 18, 24, 30, 33, 36, and 39 months. The key independent variable is a dummy variable for percentage-expressed orders. We expect this coefficient to be positive and to become increasingly large as the time between initial and subsequent payments increases. Additional variables include dummy variables for miscellaneous other order types, use of routine income withholding to collect support, case type (paternity and separation/interstate cases), age at initial order (≤ 21, 22–25, 26–35), and county, as well as a continuous variable for annual

Figure 1
Mean monthly payment by order type
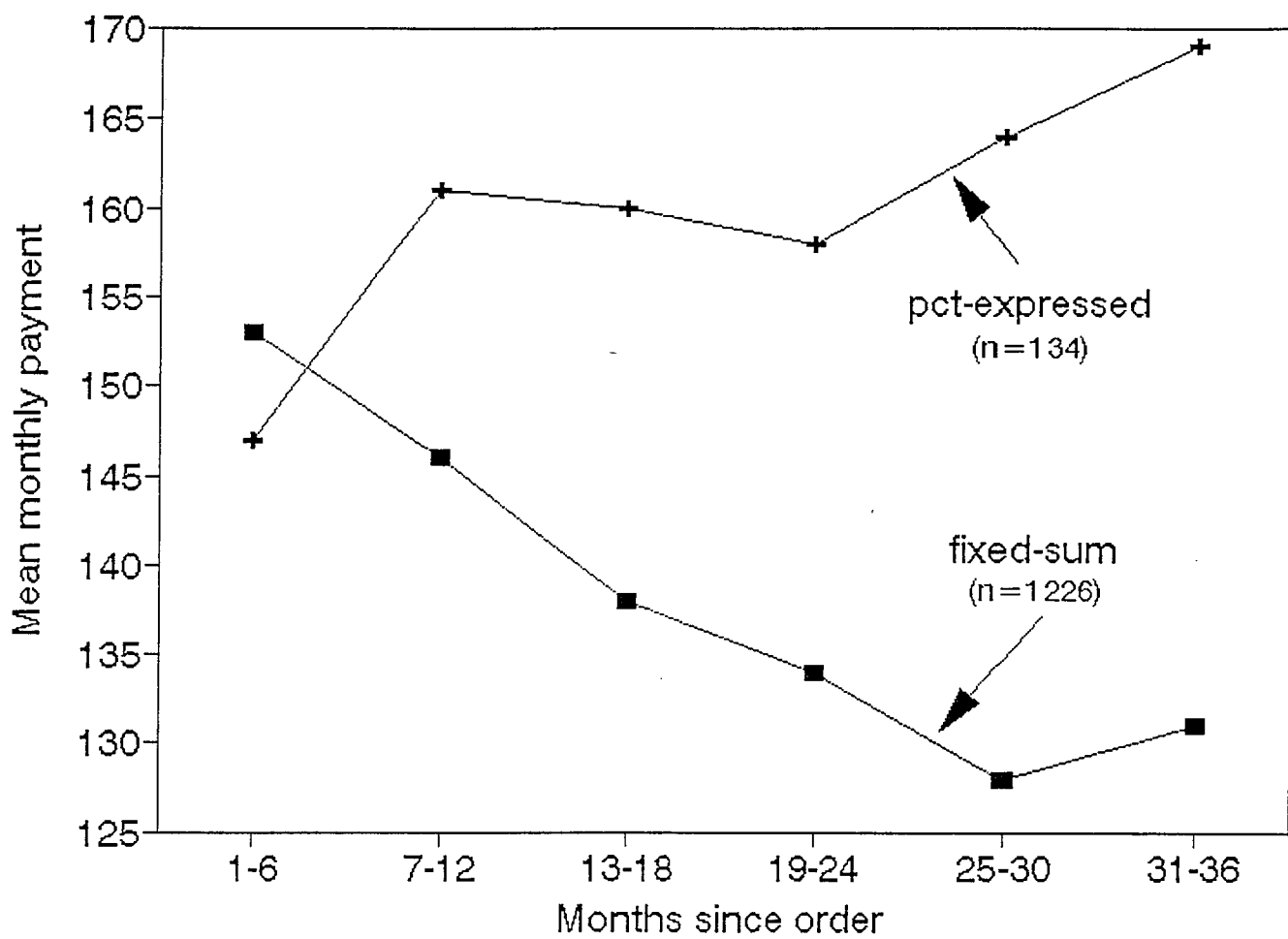
income change and a dummy for missing income.[11] For this analysis we exclude cases in which the expression of the order changed over the case life.[12]

Table 2 shows summary information about the samples used in each of the seven equations, including sample size, distribution of order types, extent of income information available, and mean payments during the last several months of the sample period. Sample sizes vary because not all cases have the same length of payment history available in the data. The length of payment history is a function of the data collection scheme rather than inherent case characteristics (see endnotes 2 and 4).

Results for all equations are shown in Table 3. The coefficient on percentage-expressed orders is always positive, becomes increasingly large, and is statistically significant for four out of the seven time periods. The coefficients in the 33-, 36-, and 39-month models are 26, 52, and 66, all of which are significantly different from zero ($p < .05$, $p < .01$, $p < .01$). Thus, payments for cases with percentage-expressed orders increase by an average of $66 more per month than fixed-sum orders, between the first 6 months and the 37th–39th month. This corresponds to 51 percent of the actual mean payment in the 37th–39th month for cases with percentage-expressed orders, suggesting that payments for such cases (in months 37–39) averaged twice what they would have with fixed-sum orders.

Income change is significant in all models, with increases in income associated with increases in payments. The coefficients range from .03 to .08, generally decreasing with time, indicating that 3 to 8 percent of income change is transferred in child support. The coefficients on the missing income dummy are small, ranging from 0 to -26, implying that income change in these cases is somewhat below the mean. Note that the income change coefficient captures a direct effect of income change on payment change, regardless of order type. This is consistent with existing research showing that

TABLE 2

Sample Sizes, Distribution of Order Types, Availability of Income Information, and Mean Payments for Regression Samples

Sample	n	Order Type:			Income Known	Mean Payment[a]
		Fixed-sum	Pct-expressed	Misc.		
12-month	6223	4829	991	403	36 %	212
18-month	5393	4280	810	343	34 %	200
24-month	3914	3164	529	221	32 %	183
30-month	2610	2168	314	128	32 %	170
33-month	2048	1732	223	93	30 %	156
36-month	1417	1226	134	57	29 %	137
39-month	856	784	49	23	28 %	117

Source: Wisconsin Court Record Database and Wisconsin Department of Revenue data.

[a]Mean payment is calculated over the final six months of the sample period for the first four samples and the last three months for the last three samples. Payments are in nominal dollars.

TABLE 3

Regression Analysis of the Effects of Percentage-Expressed Child Support Orders
on Change in Monthly Support Payments

	12-month model:		18-month model:		24-month model:		30-month model:		33-month model:		36-month model:		39-month model:	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
Constant	-12.65*	5.81	-17.06*	6.95	-16.93	8.81	-26.96*	12.20	-20.27	13.98	-2.39	17.65	-28.42	20.97
Order expression:														
Percentage-expressed	1.47	5.01	13.09*	5.90	14.47	7.68	13.25	11.15	26.39*	13.02	52.17**	16.76	66.00**	26.00
Fixed-sum	(omitted category)													
Miscellaneous	19.61**	7.09	16.92*	8.22	-.14	10.83	18.31	15.91	10.00	18.72	35.94	24.11	20.83	36.25
Noncustodial inc. change	.06**	.01	.08**	.01	.06**	.01	.06**	.01	.04**	.01	.03**	.01	.03**	.01
Missing income indicator	-.48	3.66	-9.25*	4.78	-10.25	5.43	-8.38	7.55	-13.90	8.65	-26.37*	10.81	-10.49	13.69
Case type:														
Divorce	(omitted category)													
Paternity	6.33	4.68	8.11	5.33	14.30*	6.56	14.35	9.09	18.84	10.23	25.95*	12.34	32.47*	15.40
Separation/interstate	-.03	5.43	4.62	6.14	-3.29	7.42	.86	10.09	1.67	11.00	10.59	13.04	-5.98	16.19
Age of payer:														
<21	3.53	8.65	7.80	9.58	3.50	11.72	-6.29	16.34	5.33	17.37	5.45	20.16	-20.91	24.05
21-25	2.41	5.59	2.03	6.40	2.58	7.85	-4.10	10.65	-8.24	11.84	-5.02	14.17	-2.47	16.92
26-35	(omitted category)													
>35	-1.32	3.92	-15.12**	4.54	-15.03**	5.76	-37.93**	8.03	-35.12**	9.23	-34.00**	11.63	-43.08**	15.01
Missing	-1.06	9.28	-.54	-.54	5.71	12.46	-14.52	16.86	-15.35	18.34	-9.33	20.39	-28.43	24.31
Immediate withholding	-5.88	3.76	-6.30	4.32	-6.22	5.35	1.49	7.33	-.54	8.26	-14.30	10.14	-6.39	12.41
N =	6223		5393		3914		2610		2048		1417		856	

Source: Authors' computations based on Wisconsin Court Record Database and Wisconsin Department of Revenue data.

Note: Model also includes county dummies (results available from authors on request).

*Significant at the .05 level.
**Significant at the .01 level.

higher incomes are associated with higher rates of compliance with support orders (Bartfeld and Meyer, 1994; Sonenstein and Calhoun, 1990).

Additionally, case type is associated with payment change, with payments increasing faster for paternity cases than for divorce cases. The coefficient on paternity cases increases from 6 in the 12-month model to 32 in the 39-month model, and is statistically significant in the later models. Age of payer is also related to payment change; the coefficient on the older payer (over 35) dummy is negative in all models and is often significant. Finally, there is no evidence of systematic differences across counties in the rate of payment change. While various counties have coefficients which are significant in any given model, there is no consistency across models (not shown in table).

To what extent might our results still be affected by selection bias? Unobserved differences with constant effects on payments are differenced out, as described earlier. Differences in the rate of income change are explicitly controlled in the model, although the control is imperfect due to missing information. If income change is correlated with order type, then adequately controlling for such change is important to obtain unbiased results. We reestimated the models without the income change variables to see how sensitive the percentage-expressed coefficients were to the income change control; the new coefficients were essentially the same as those reported here, suggesting that the missing income information is not likely biasing our results.

As a final test, we reestimated the models with predicted probability of a percentage-expressed order serving as an instrument for actual percentage-expressed orders. Predictions are based on a probit model, estimated separately for each sample, with independent variables including the correlates of order type discussed earlier. Coefficients on the percentage-expressed instruments are shown in Table 4. Coefficients are positive in all models, significant in four of the seven models, and generally larger in the longer-term models, although the trend is much less smooth than in the original models and the estimates are less precise.

TABLE 4

**Coefficients on Predicted Probability of Percentage-Expressed Order,
from Regression on Change in Monthly Support Payments**

	Coefficient	Std. Err.
12-month sample	34.93***	11.81
18-month sample	47.42***	13.84
24-month sample	31.27*	17.37
30-month sample	26.66	23.79
33-month sample	52.62*	27.90
36-month sample	40.19	33.93
39-month sample	56.67	47.73

Source: Authors' computations based on Wisconsin Court Record Database and Wisconsin Department of Revenue data.

*Significant at the .10 level.
***Significant at the .01 level.

ORDER CHANGES AND COMPLIANCE RATES FOR PERCENTAGE-EXPRESSED AND FIXED-SUM ORDERS

As discussed above, the impact of percentage-expressed orders on payments has two potential components—an impact on order amounts, and an impact on compliance rates. We present descriptive data as a crude means of disentangling these factors. While the results for this portion of our analysis are clearly limited by the extent of missing income information, they do offer insights into the process by which different order types lead to particular payment patterns.

For cases with fixed-sum orders, the amount of the initial order is available in the court record data.[13] Likewise, any changes in the amount of the order over the case history are also available in the data. For cases with percentage-expressed orders, however, the actual amount owed in any given year must be calculated from the payer's annual income. Thus, we only know the amount of the order for a subset of the cases with percentage-expressed orders in any given year.

In light of this data limitation, we use the following approach to analyze changes in the support obligation over time: For cases with percentage-expressed orders, we calculate the change from the original support obligation for each year subsequent to the original order, using a changing sample which includes all cases with available information. That is, we calculate the change after one year for all cases in which income information is available in the first two years, the change after two years for all cases with known income in the first and third years, etc. Note that the potential number of cases decreases steadily, as later cases have fewer potential years of information than earlier cases. For cases with fixed-sum orders, virtually complete order information is available in the court record data.

Table 5 presents means and quartiles of the order change distribution for cases with percentage-expressed and fixed-sum orders after two, three, and four years. As expected, there is substantially more change over time in the percentage-expressed orders than in the fixed-sum orders.

TABLE 5

Change in Monthly Child Support Orders, by Type of Order and Years Since Order

	n	Mean	Quartile: 1	2	3
One year since order					
Fixed orders	5140	$ -3	0	0	0
Percentage-expressed orders	223	36	-13	22	66
Adj. fixed orders[a]	1992	72	-6	19	65
Two years since order					
Fixed orders	3827	-5	0	0	0
Percentage-expressed orders	117	59	-6	41	95
Adj. fixed orders	1392	105	3	39	103
Three years since order					
Fixed orders	1856	-3	0	0	0
Percentage-expressed orders	18	110	33	64	168
Adj. fixed orders	610	142	8	55	139

Source: Wisconsin Court Record Database and Wisconsin Department of Revenue.

[a]The adjusted fixed order is the amount the order would have been had it been indexed to income.

For cases with fixed-sum orders, orders are basically unchanged over the four-year period. In all years, the mean order change is slightly negative, and the first, second, and third quartiles of the change distribution are zero. The orders in percentage-expressed cases, on the other hand, generally increase over time. The mean increases are $36, $59, and $110 in the second, third, and fourth year; median changes are $22, $41, and $64.

Perhaps more revealing than the comparison between fixed-sum and percentage-expressed orders is the comparison between fixed-sum orders and "adjusted" fixed orders, that is, the potential value of such orders had they changed proportionally to income. These results are of necessity limited to the subsample of fixed-sum cases with relevant income information.[14] The median potential order changes are quite similar to those for percentage-expressed orders ($19, $39, and $55). Thus failure to modify support orders regularly, either by annual updating or by explicitly linking orders to income, results in substantially lower obligations than are warranted by the child support guidelines. These results also indicate that the potential gains of using percentage-expressed orders are not limited to cases in which such orders are already in effect. We are unable to determine potential gains in cases with missing income information.

We next compare mean compliance rates for cases with the two order types, looking at the year of the order and the subsequent three years. For percentage-expressed orders, we only know the compliance rate for years in which income is available. However, if we assume that all payers have at least some income in a given year, and hence owe at least some child support, we can impute zero compliance for all cases in which no support is paid, regardless of the availability of tax data. For parents who have no income for the entire year, though, this will underestimate compliance. We report two compliance estimates for cases with percentage-expressed orders, one for cases in which the order is known, and one which also includes cases with imputed zero compliance. We also report two estimates for cases with fixed-sum orders—an estimate for all such cases, and an estimate for the

subsample with known income (i.e., analogous to the sample of percentage-expressed order cases with known compliance).

Several things are apparent from these results, shown in Table 6. First, compliance rates are substantially higher for the subset of cases with DOR data in a given year. This can be seen by comparing compliance for the full sample of fixed-sum orders with the subsample which has DOR data available. Each year, compliance rates are 10 to 12 percentage points higher in the DOR subsample. This suggests that our compliance estimates for the percentage-expressed sample without imputed zeros are likely biased upwards by the lack of information for cases with missing DOR data.

Second, results show that the compliance rate for percentage-expressed orders varies dramatically depending on our assumptions about income for cases with missing data. Imputing zero compliance for all years with no payments and no income information reduces compliance rates by more than 50 percent each year.

Among those cases for which compliance is known with certainty, compliance is actually higher for cases with percentage-expressed orders than for all cases with fixed-sum orders in all years. When the sample of fixed-sum orders is limited to those with known income information (analogous to the restriction on the percentage-expressed sample), compliance rates for the two groups are quite similar. When zero compliance is imputed for nonpaying percentage-expressed cases with missing income data, however, compliance rates for percentage-expressed order cases are substantially lower than for either sample of fixed-sum orders.

CONCLUSIONS

In this paper we have examined both the utilization of percentage-expressed orders and the differential impact of such orders on payment patterns over time. Additionally, we have made a

TABLE 6

Mean Compliance with Child Support Orders, by Type of Order and Years Since Order

| | Years since order | | | | | | | |
| | 0 | | 1 | | 2 | | 3 | |
	n	Cmpl.	n	Cmpl.	n	Cmpl.	n	Cmpl.
Fixed-sum orders								
All	5400	.63	5130	.61	3847	.58	1875	.53
Subsample 1[a]	2497	.73	2401	.72	1827	.70	892	.65
Percentage-expressed orders								
Subsample 1	283	.70	243	.69	123	.63	26	.68
Subsample 2[b]	559	.35	524	.32	339	.23	133	.13

Source: Wisconsin Court Record Database and Wisconsin Department of Revenue.

[a]Subsample 1 only includes cases with DOR data available.
[b]Subsample 2 includes cases with DOR data available or with no payments; compliance is imputed as 0 for the latter.

crude attempt to disaggregate this impact into two underlying components—an impact on order amounts and an impact on compliance rates. A number of interesting findings have emerged.

Our most significant finding is that payments increase much faster with percentage-expressed than with fixed-sum orders, after controlling for differences between cases which receive the two award types. Collections on behalf of percentage-expressed cases increase because of large increases over time in the amount of the obligation; in comparison, fixed-sum obligations are extremely stable. We suspect that compliance is at least somewhat lower for the percentage-expressed sample, although incomplete income information makes our compliance estimates quite crude. This implies that further gains may be possible by improving the capacity of the courts to monitor compliance via access to current income information.

We found that the use of percentage-expressed orders in Wisconsin has increased dramatically since the mid-1980s, such that these orders are now as common as traditional fixed-sum awards. There remains substantial variation across counties, however, reflecting differing perspectives on the advantages and limitations of alternative order forms. To our knowledge, percentage-expressed orders are not currently used in states other than Wisconsin.

Concern with the deteriorating value of support orders over time, both in absolute terms and relative to noncustodial ability to pay, resulted in the Family Support Act's requirement that support orders issued by the Office of Child Support Enforcement be updated every three years. While demonstration programs have found that periodic updating does indeed result in higher orders in some cases, a majority of cases which are potentially eligible for updating apparently drop out during the sequence of administrative steps involved. Our results suggest that percentage-expressed orders provide a valuable alternative to updating on a case-by-case basis.

We have thus far not attempted to identify case-level or system-level variables associated with differential effectiveness of percentage-expressed orders. We suspect that such orders are particularly

beneficial in combination with routine withholding, as withholding has been shown to increase compliance rates. Additionally, such orders likely yield the greatest benefits in cases with the largest income gains. Identifying variables which affect the returns to percentage-expressed orders is a promising direction for future research, as it would allow more accurate predictions of the impact of extending percentage-expressed orders to additional cases.

Notes

[1]We do not have any estimates of the costs incurred in administering percentage-expressed orders, however, so cannot make a direct comparison.

[2]The number of months of available data is primarily a function of the data collection strategy. The WCRD was collected in several "waves," each of which includes cases entering the courts over a 2–3 year period. Payment data were collected up to a fixed date for each wave. For instance, wave 2 consists of cases entering the courts from 1984–86, with payment data collected through 1988. Cases which entered the courts earlier in each wave of cases have somewhat longer payment histories in the data than do cases which entered the courts later in that wave; likewise, cases which had support orders issued quickly have more payment data available than cases with a longer time prior to the award.

[3]A small number of parents in our sample (less than 5 percent) do not have social security numbers available in the court record data. For these cases, we were unable to obtain tax records.

[4]The payment history length is a function of the data collection strategy rather than inherent characteristics of a case (see endnote 2). Because cases with percentage-expressed orders became more common over time, such cases tend to occur later in each wave of cases, and thus have shorter average payment histories in the data.

[5]We skip the first month in computing initial payment because retroactive orders may result in extra payments in the first month.

[6] Income change is considered exogenous in the model. Although theory suggests that the order type might influence future income, this effect has not been substantiated by research, as discussed earlier (Klawitter, 1994).

[7]To the extent that the direct impact of income change on payment change is the same for cases with missing information as for cases with known information, this control is adequate.

[8]Note that other factors in addition to income changes likely influence the impact of percentage-expressed orders on payment patterns. In particular, we would expect administrative procedures which vary across counties, such as efforts to monitor compliance, to be important.

[9]Examples of the kinds of orders in this category include $XX or YY% of income, whichever is greater; $XX until the family home is sold, $YY afterwards; and $XX if the noncustodial parent is employed, $YY if unemployed.

[10]When income information is missing in the court record, we use information from the DOR data. Cases are only classified as having missing income information when such information is unavailable from both data sets.

[11]To calculate income change, we impute income for time 1 and time n by weighting annual DOR incomes by the number of months of a payment period which falls in each year. Cases with missing income for one or more relevant years are assigned the mean change, and are assigned a 1 for the missing income dummy.

[12]We also reestimated the models with changing orders included and classified by their original order type. As in the results reported below, the coefficients on the percentage-expressed order dummy became increasingly large over time and were significant in the last three models; however, the coefficients didn't increase as much when changing orders were included.

[13]For a small number of cases, the data indicate that the order is fixed yet the order amount is missing.

[14]The actual order change distribution for this subsample is quite similar to that reported for the sample as a whole.

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