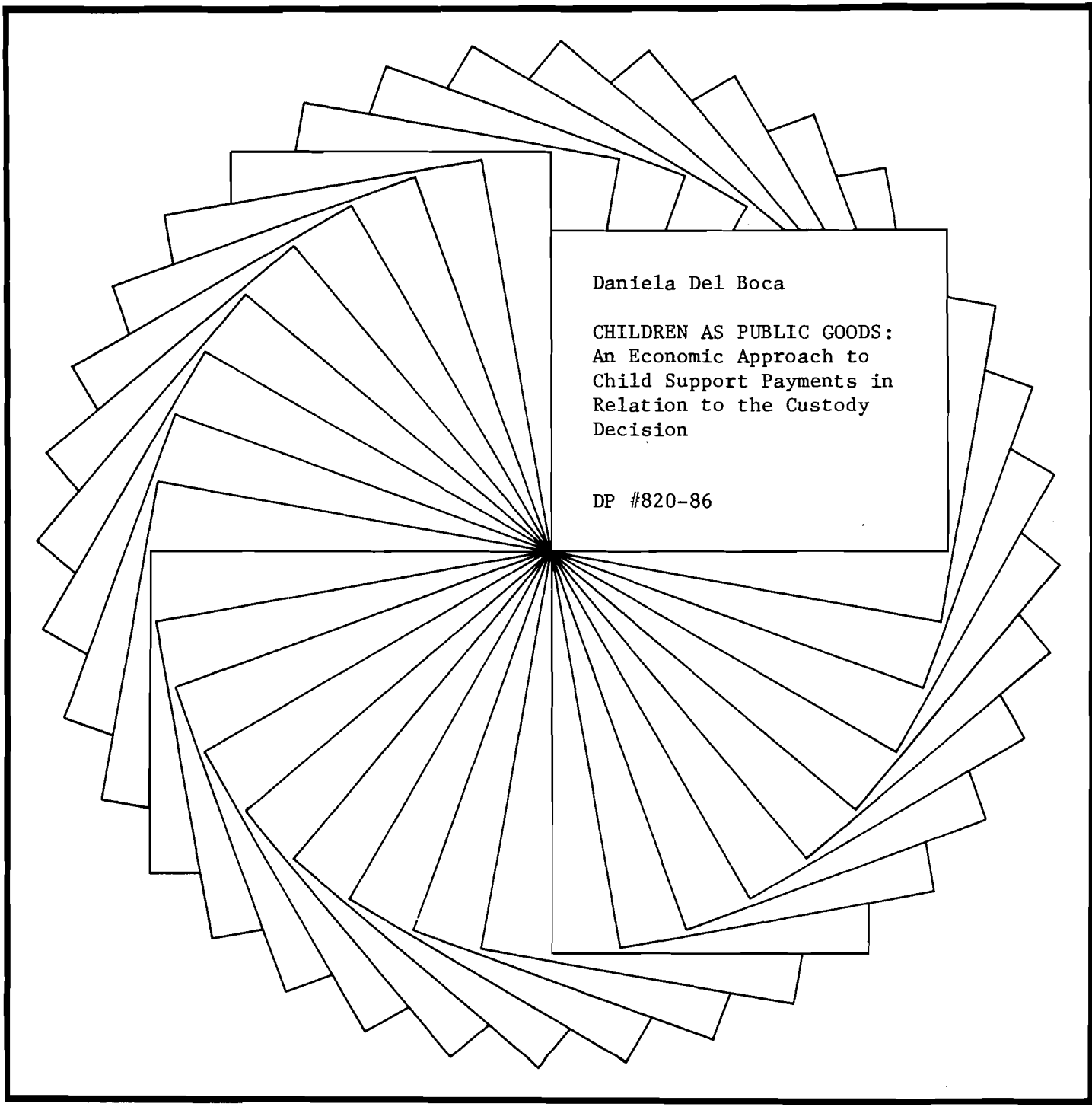# IRP Discussion Papers

Daniela Del Boca

CHILDREN AS PUBLIC GOODS:
An Economic Approach to
Child Support Payments in
Relation to the Custody
Decision

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Children as Public Goods: An Economic Approach to

Child Support Payments in Relation to the Custody Decision

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Abstract

This paper presents several theoretical models of the noncustodial parent's child support payment decision. An empirical analysis examines the determinants of the custody decision and, conditional on custody, the amount of court-ordered support and the actual amounts paid.

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I. INTRODUCTION

Until recently, most divorce contracts gave sole custody of the
children to the wife, along with alimony or a child support award. In
the last few years, joint custody has become a much more common arrange-
ment in this country. In 1979, only six states had custody statutes with
an express provision for joint custody. In 1982, 23 states had joint
custody statutes; by 1985, 30 states had adopted some form of joint
custody law.

The concept of joint custody has the appeal of promising that
children will keep both parents after divorce. In most cases, joint
custody requires both divorced parents to share the costs and the bene-
fits of the children, in terms of the time and the expenditures necessary
for their care.[1]

A number of studies have attempted to determine the nature of the
relationship between divorce settlements and resulting levels of welfare
of the custodial parent and the children. In longitudinal studies a
reduction in real income of the custodial parent has been observed as the
result of separation or divorce. It has been found that couples with
children who remain married over the course of the observation period are
better off, in terms of economic welfare, than couples who divorce.
Since most children eligible for child support live with their mother,
female-headed households are more likely to suffer the economic

consequences of divorce. In the last few years the real income available to female-headed households has decreased substantially (Palmer and Sawhill, 1984).

The failure of many divorced fathers to comply with court-mandated child support has been identified as a major cause of the growing number of children who live in poverty. Empirical evidence reveals that payments of child support awards from the noncustodial parent are frequently, small and often nonexistent.[2] One explanation for the failure to pay child support is related to the adverse incentives of welfare programs. The existence of the Aid to Families with Dependent Children program (AFDC) may create a disincentive to pay child support because such payments are offset by a reduction in welfare payments. Recent empirical studies have found that the increasing welfare dependency of female-headed households is strongly associated with lack of child support payments from the noncustodial parent (Hoffman, 1977; Robins, 1984). Child support is collected from only 10 percent of the absent fathers of AFDC children. However, disincentives related to welfare programs are not the entire source of the problem of noncompliance. That explanation is in fact cast in doubt by the empirical evidence that inadequate levels of support and cases of noncompliance are quite common among the nonpoor: often, fathers who earn a considerable amount of money do not comply with court-ordered payments of child support.

A decrease in the welfare of divorced parents may be associated with direct and indirect costs of divorce to the ex-partners, which may reduce the ability of the noncustodial parent to comply with the court order. Divorce has direct costs associated with the legal procedures, and more indirect costs associated with the change in the allocation of

resources—the loss of benefits from the division of labor between the spouses and economies of scale within a single household (Weiss, 1984). Recent studies, however (Weitzman, 1985; Bane and Ellwood, 1983), have found that noncustodial parents are likely to suffer less from the economic consequences of divorce. Bane and Ellwood found, in fact, that non-custodial parents experience a rise in their standard of living.[3]

Another explanation of the negative relationship between divorce and child welfare stems from the recognition that children are "collective consumption goods" from the point of view of the father and the mother (Weiss and Willis, 1984). Within the marriage, low costs of communication, transaction, and control over allocation of resources serve to overcome the free-rider problem associated with the provision of public goods. This means, in the case analyzed here, consumption of "child services" without paying for child-rearing. Furthermore, because of the interdependence of household production and consumption, there is an incentive for the two parties to coordinate their actions with respect to the production of child services. Without such an incentive, the non-custodial parent faces the problem of monitoring the expenditures of the custodial parent. If, for example, the wife has sole custody, the ex-husband finds it difficult to determine whether the ex-wife spends the support payments on herself or on the children. The problem of monitoring may result in a lower level of child support provided voluntarily by the noncustodial parent. The Weiss and Willis model compares the problems of allocating time and money to child services for married parents versus a divorced couple in which one parent has sole custody of the children. In the most extreme divorce case, one parent contributes

to the children's welfare with inputs of time and money, while the other devotes only pecuniary resources.

This research analyzes an intermediate case, that of joint custody. Under this arrangement, both parents contribute to the children's welfare with inputs of money and time, and both parents have legal rights and responsibilities regarding decisions directly affecting the welfare of the children. The institution of joint custody may help alleviate some of the welfare problems associated with the more traditional "full custody" arrangements. The following three results seem particularly relevant:

1. Since the child spends a substantial amount of time with each parent, monitoring by each parent is facilitated. Each parent can infer something about the resource allocations made by the other parent by observing and conversing with the children directly. The ability of monitoring in this way will in general increase with the age of the child.

2. By endowing both parents with legal rights, neither can ignore the wishes of the other in their own decision-making. Flagrant disregard of one parent's desires by the other may lead to retaliatory action, leaving both parents (as well as the children) at lower welfare levels. At a minimum, a joint custody arrangement may lead to a noncooperative equilibrium, in which the desires of both parents are reflected in decisions regarding the children.

3. The fact that both parents contribute positive amounts of resources to the children, and that the enjoyment of the children by each parent depends to some extent on the investment of the other, may lead the parents to adopt a cooperative approach to resource allocation.

This "cooperative equilibrium" may lead to essentially the same child resource allocation decisions that are made by married couples, except for the impossibility of realizing the scale economies that prevail in a one-household situation.

These assumptions mean that under the joint custody arrangement, the problem of monitoring becomes more feasible and the level of child support actually paid by the noncustodial parent is likely to be closer to the level that would be voluntarily transfered to the child.

This paper analyzes the behavioral and distributional effects of different custody arrangements regarding postdivorce transfers from the noncustodial to the custodial parent. We analyze the relationship of three variables: custody arrangements, the child support amount ordered, and the actual amount paid. We want to test whether different types of custody arrangements, characterized by different compositions of the contribution of parents to children's welfare, have an effect on the actual transfers by the noncustodial parent.

II. CONCEPTUAL FRAMEWORK

One explanation for the reduced interest of the noncustodial parent in the welfare of the children after divorce is related to the cost to that parent of monitoring the allocation of resources by the custodial parent. Children are defined in this context as a "couple-specific" public good, while the consumption levels of husband and wife are regular private goods (Weiss and Willis, 1984). Within the marriage, there is an incentive for the husband and the wife to coordinate their actions. If the marriage fails, however, altruism and proximity will no longer prevent opportunistic behavior of the parents, and the problem of monitoring the allocation of the custodian's expenditures arises. From this perspective, the existence of more flexible contracts between the

spouses, such as shared custody (where neither parent has full custody and control of the children), would decrease the costs of monitoring and create more incentives to coordinate actions.

One of the difficulties in modeling the relationship between custody, order, and payment is associated with the fact that different agents make different types of decisions. The amount specified in the child support order is decided by the judge according to a clearly defined legal system and is conditional on the custody type considered the best under the circumstances. The child support payment is based on the decision of the individual, and is conditional on the custody arrangement and child support order. The custody arrangement assumes, therefore, a crucial role in this analysis because it is the outcome of a decision-making process involving both the institutional agent (the judge) and the individual agents (the parents).[4]

We analyze this problem with two different models. The first assumes that the father makes the decision regarding the child support payment independently of the court order. The second assumes that payments depend (behaviorally) on court orders (custody arrangements and child support ordered).

Let us assume that the utility levels for the husband and the wife depend on the level of their consumption and the children's consumption with each parent. Consider the father to be the noncustodial parent and define his utility as

$$u = u\{g[c, (y - z - t)/c, (q + t)/(1 - c)], z\},$$

where

    c is the proportion of time spent with the child,

    t is the amount of money transferred to the former wife for the child's consumption while in her care,

    z is the consumption level of the father (the price of consumption is normalized to 1),

    q is the amount of support provided by the mother for the child's consumption while in her care,

    y is the income level of the father.

The function g expresses the level of the child's welfare (as evaluated by the father), and contains as arguments: (1) c, the amount of time spent with the father; (2) $(y - t - z)/c$, the rate of consumption of the child while with the father--$(y - t - z)$ is the amount spent on the consumption of the child by the father while in the father's care)—and (3) $(q + t)/(1 - c)$, the rate of consumption of the child while in the mother's care.

The analysis that follows focuses on the behavior of the father, since it is he who is typically ordered to pay child support. A symmetric analysis could be conducted from the perspective of the mother. We will discuss two cases, in which different choice sets and relationships between the individual's and the court's decisions are assumed.

A. A Model in Which Child Support Payments Are Independent of Court Orders

In the first model, we assume that the father chooses a level of consumption transfers to the wife (for support of the child while in her care) that is independent of the amount ordered by the court. We do not mean independent in the strictly statistical sense, but merely that in

deciding on the level of payments, the father applies a decision rule that does not take account of the level ordered by the court. If the court orders what it thinks the father would pay of his own volition, of course these two variables (orders and payments) will not appear to be independent. However, conditional on all other arguments of the father's decision rule, there will be no relationship between orders and actual payments.

Why consider such a model? There is a substantial amount of evidence that failure to comply with child support orders may elicit minor punitive responses. If the costs of noncompliance (defined specifically below) are small, so that the institutional actor (the court) plays a relatively minor role in subsequent enforcement of its support orders, this simple neoclassical model may prove to be an adequate descriptive device for analysis of the payment decision.

With no institutional "constraints" on the father's behavior, he solves the following optimization problem:

$$\max_{(c,\ z,\ t)} u\{g[c,\ (y - z - t)/c,\ (q + t)/(1 - c)],\ z\}.$$

Although we will not discuss the conditions under which there are unique and well-defined solutions for this problem (which relate to the properties of the u and g functions), if unique solutions exist they will be given by

$$c^* = c^*(q,\ y)$$

$$t^* = t^*(q,\ y)$$

$$z^* = z^*(q,\ y).$$

Thus the pair (c*, t*) constitutes an "optional arrangement" from the father's perspective (conditional on the support provided by the mother, q, and his own income, y).

In reality, only in extreme cases is it possible for the father to choose the custody arrangement he prefers and to achieve it (by kidnapping the child, for example). Thus it may be more reasonable to examine the father's optimization problem <u>conditional</u> on a prespecified custody arrangement. The problem is exactly the same as the one given above, except that c is no longer a choice variable, and the "new" demand equations are

$$t' = t'(q, y, c),$$

$$z' = z'(q, y, c).$$

Given a custody arrangement c and (q, y), the "optimal" child support order from the perspective of the husband is t'.

B. A Model with Penalties for Noncompliance with Court Orders

We now consider the case in which noncompliance with a court-ordered level of child support entails a cost, possibly psychic or monetary, to the father. (We assume that custody orders must be followed.) The court order is given by the pair (s, x), where s is the custody ordered ($0 \leq s \leq 1$), and x is the level of child support ordered per unit of time. In practice, it may be reasonable to assume that full-time custody for the mother implies s = 0, joint custody implies s = .5, and full-time custody for the father implies s = 1.

The court-ordered arrangement is a function of the preferences of the
father and mother as well as the institutional actors (judges, lawyers,
social workers, etc.), which we can loosely represent as

$$(s, x) = r[(c^*, t^*/q), (c^{**}, q^{**}/t), I],$$

where $(c^{**}, q^{**}/t)$ is the preferred arrangement of the wife conditional
on the husband's transfers, t, and I represents characteristics of the
institutional actors. We assume (realistically) that the custody
arrangement decided by the court may not correspond to the husband's pre-
ferred outcome, c^* (thus $s \neq c^*$, in general). There exists a penalty for
noncompliance with the court-ordered support payment, x. The penalty
will be modeled as primarily psychic in nature (such as stigma), but
monetary penalties could also be introduced in a straightforward way.
The utility function will be expanded so as to incorporate this penalty.
Write $u = u(g, z, k)$, where k is the psychic cost associated with under-
payment of the court order, x. Define $m = x - t$, the difference between
orders and actual payments. In this model, $k = k(m) \geq 0$, while in the
model presented above, $k(m) = 0$ for all values of m. Thus, it may be
reasonable to consider that for $m > 0$, the function k increases in m, the
size of the underpayment. For $m \leq 0$, so that the father meets or pays
more than the court order, x, the function $k = 0$. Stigma, k, is con-
sidered undesirable, so the partial derivative of u with respect to k is
negative.

The maximization problem of the husband is now given by

$$\max_{t, z} u[g, z, k(x - t)/x, c = s, q, y],$$

yielding demand functions

$$t'' = t''(x, s, q, y),$$

$$z'' = z''(x, s, q, y).$$

Thus payments, t, depend behaviorally on orders (s, x). By the structure of the penalty, any individuals who choose (conditional on custody, c = s) to transfer _less_ than the ordered amount, x, are affected by the existence of a penalty. For these individuals, with $t' < x$, the presence of stigma leads them to transfer more than they would freely choose, but usually not the full amount, so that $t' < t'' \leq x$. For those individuals transferring more resources than are ordered, so that $t' \geq x$, the presence of a penalty does not affect behavior. Thus t' is independent of x conditional on the event $t' \geq x$.

III. ECONOMETRIC MODELS FOR CUSTODY AND CHILD SUPPORT DECISIONS

In this section we describe the econometric framework within which the custody arrangement, child support orders, and actual child support payments are analyzed. The motivation for the econometric specifications adopted here is provided by the discussion in the previous section. In all cases described below, the analysis proceeds in a sequential fashion. We first analyze the choice of custody arrangement by using a discrete choice framework. We consider the case in which one of three well-defined arrangements must be chosen: mother's sole custody, father's sole custody, or joint custody. We estimate models of child support payments corresponding to the two discussed in the previous section.

A. Econometric Models for Analyzing the Custody Decisions

We analyze the determination of custody arrangements using a multinomial logit model, which is appropriate for analyzing the probability that an individual chooses any of a finite set of mutually exclusive and exhaustive alternatives. In our analysis, the dependent variable, custody arrangement, assumes one of the three possible values mentioned above.

The multinomial logit model is constructed as follows. Let z_j denote a vector of characteristics associated with alternative j for a particular individual. The utility associated with the choice of alternative j for the individual is assumed to be given by

$$u_j = u(z_j) = V(z_j) + e(z_j).$$

The utility is decomposed into its mean (deterministic component) $V(z_j)$ and a random element $e(z_j)$. By the principle of utility maximization, the individual will choose alternative j over all other (there are a total of J alternatives) if

$$u(z_j) \geq u(z_k), \quad k = 1, \ldots, J, \quad \text{or}$$

$$e(z_k) - e(z_j) \leq V(z_j) - V(z_k), \quad k = 1, \ldots, J.$$

The probability that the individual will choose alternative j is given by

$$P_j = \Pr[e(z_k) - e(z_k) \leq V(z_j) - V(z_k), \quad k = 1, \ldots, J].$$

If we assume that e are independently Weibull, the cumulative distribution of the difference $e(z_k) - e(z_j)$ will generate a logit model. The

distribution of the random variable $e(z_k)$ is independent of z_k, and is only specific to the alternative, so we write e_k, $k = 1, \ldots, J$. Let e_k be distributed according to a Weibull distribution function with parameters a_k. Then

$$Pr(V_j + \varepsilon_j) \; V_k + \varepsilon_k, \; k = 1, \; \ldots, \; J = \frac{e^{V_j - \alpha_j}}{\sum_{k=1}^{J} e^{V_k - \alpha_k}}$$

where $V_k = V(z_k) = \beta'_k z_k + \alpha_k$, so $V_k - \alpha_k = \beta'_k z_k$. It follows that

$$P_j = \frac{e^{\beta' z_j}}{\sum_{k=1}^{J} e^{\beta' z_k}} \; ,$$

which gives the probability that an individual i will choose alternative j from the J choices he faces. In our model, P_j is the probability that custody arrangement j is obtained by the divorced parents. The vector z_j contains primarily characteristics of the father and mother in the analysis conducted below.

B. Econometric Models for the Analysis of Child Support Payments

In the first model we assume that child support payments are independent of court orders. In deciding the level of payment, the father uses a decision rule that includes only his characteristics and the characteristics of the marriage.

In the second model the father chooses a level of transfer, T, which is conditional on the custody arrangement decided by the court, S, and

on the child support order, X. In this case, noncompliance with a court-ordered level of child support entails a cost to the father (which could be modeled as psychic or monetary).

We assume that the court decision depends on a set of variables different from the ones determining by the individual's decision. This set is that observed and relevant to the judge in making the decision regarding custody and child support. But the information available both to the judge <u>and</u> the analyst is very limited. When we analyze the relationship between child support paid and that ordered by the court, we assume that the type of custody decided by the court is the outcome of both the judge and the parents' characteristics and as such may not correspond to the father's desired arrangement.

To analyze the relationship between actual transfer to the children and custody arrangement, we have estimated a two-equation simultaneous equation model with both discrete and continuous endogenous variables.

The model we use is a special case of the "hybrid" model analyzed by Heckman (1978) in the context of dummy endogenous variables in a simultaneous equation system.

In this model we always observe the first endogenous variable, and we observe only the sign of the second one:

(1) $y* = \beta X + u_1$

(2) $y = \beta X + \delta d + \gamma y* + u_2,$

where $y*$ is a continuous latent variable which we interpret as the father's desired time with the child. We observe the dummy variable d defining the custody arrangement:

$$d = 1 \qquad \text{iff } y* > 0$$

$$d = 0 \qquad \text{otherwise.}$$

y is observed and is the actual child support payment.

It is assumed that

$$E(u_1) = 0$$

$$E(u_2) = 0$$

$$E(u_1 \, u_2) = s_{12}$$

$$V(u_1) = 1.$$

We have two problems to deal with: the first relates to the fact that the father's sentiment is never observed; the second is that d is not exogenous in (2) but depends on u_1. The decision of the judge regarding custody depends on the characteristics of the parents, and not all of this information is available to us; thus, d will be correlated with u_1.

We substitute in the second equation:

$$y = \delta d + \beta X + \gamma(\beta X + u_1) + u_2.$$

Even if the father's sentiment toward the child (y*) is observed, least squares estimators of equation 2 are inconsistent because of the correlation between d and y* with u_1.

Heckman's method to estimate consistently the separate effects consists of a two-step procedure. We first estimate β by using a probit function to estimate the conditional probability of the event d = 1 and d = 0.

By using probit results, (β), we form:

$$F(Z) = F(X\beta)$$

$$Z = X\beta$$

to replace d and y* with F(Z) and Z.

By replacing y* with Z and d with F(Z) we can consistently estimate the structural parameters by ordinary least squares under the assumption $V(u_1) = 1$.

This model allows us to estimate the separate effects of the latent variable describing the father's sentiment and the custody arrangement on the actual transfer of resources to the child and to eliminate the simultaneity problem of the dependence of d and u_1.

IV. THE DATA

The data used in this paper are from the court and payment records of divorce, separation, annulment, and paternity cases collected over five years in 18 counties in Wisconsin. Eligibility for inclusion in the sample was defined as all family court cases involving a child under 18 years of age. In each county, 150 to 200 cases over the 1980-1985 period were randomly selected, equal numbers of cases being selected in each year. The estimates in this paper concern only divorced families. The information obtained from the court and payment records include basic demographic data: race, age, education, income amounts and sources, number and age of children, marital history. These data are described in

Garfinkel (1984). Unfortunately, in many cases data on education and income are missing. This reduced the original sample to 429 cases.

Joint custody occurred in 18.3 percent of the cases. The variables used in Model 2 also include father's custody and split custody (father's custody comprises 6 percent of our sample; split custody, in which each parent has custody of separate children, comprises 2 percent).

Table A.1 in the Appendix reports the mean and the standard deviations of the variables used in the empirical analysis. Table A.2 reports the means and the standard deviations for the same variables according to the custody arrangement obtained. Families with joint custody have higher incomes and educational levels, and longer marriages. The child support order is much lower in joint custody than in mother's custody, but the difference between the payments in these two forms of custody is less marked.

Table A.3 gives the definition of the variables used in the empirical analysis.

V. EMPIRICAL RESULTS

A. The Custody Decision

We use a multinomial logit model in which the custody choices are defined as: (1) mother's custody, (2) joint custody, or (3) father's custody.

The independent variables in this model are age of the oldest child, years of schooling of the father, and years of schooling of the mother.

The results reported in Table 1 show that the variables that more significantly affect the choice among different types of custody are the "human capital" of the father and the length of marriage with a child present. These variables are more significant for the choice between mother's custody and joint custody. The higher the education of the father and the higher the age of the oldest child, the higher is the propensity to share the responsibility of the children under joint custody. Years of schooling reflect the stock of human capital conveyed by education, but are also a good proxy for permanent income. The age of the oldest child proxies the length of time the parents have spent together with the child, and a longer period spent with the child is presumably associated with lower communication costs between the two ex-spouses.

The variable relative to mother's education is negative, but is only significant in the choice between mother's custody and father's custody.

B. **Model 1: Child Support Payments Are Independent of Court Orders**

In the "free choice" model, we empirically estimate the determinants of the custody decision and child support payment as dependent only on the characteristics of the parents and their marriage history. We introduce into the regression equation the variables describing individual characteristics: years of schooling of the parents, age of the oldest child, and income of the payor (Table 2).

The variables that more significantly affect the amount of child support actually paid are the human capital of the father, the income of the father, the number of children and the age of the oldest child. As

Table 1

Estimates of the Probability of Custody Type[a]
(Multinomial Logit)

Variables	Coefficient	Asymptotic Standard Error
	2 Relative to 1	
Constant	-3.375	(1.228)
X_2 Age of oldest child	0.009	(0.002)
X_3 Father's education	0.216	(0.088)
X_4 Mother's education	-0.197	(0.114)
X_{10} Number of children	-0.070	(0.053)
	3 Relative to 1	
Constant	-4.917	(0.787)
X_2 Age of oldest child	0.003	(0.001)
X_3 Father's education	0.253	(0.060)
X_4 Mother's education	0.076	(0.075)
X_{10} Number of children	-0.023	(0.019)
Log likelihood	-447.815	
Number of cases	429	

[a]Mother's custody = 1; father's custody = 2; joint custody = 3.

Table 2

Estimates of Monthly Child Support Payments
(Ordinary Least Squares)

Variables	Coefficient	Asymptotic Standard Error
Constant	−4.642	(1.301)
X_2 Age of oldest child	−.063	(0.031)
X_3 Father's education	.212	(0.004)
X_4 Mother's education	−.195	(0.132)
X_5 Monthly income of payor	.026	(0.003)
X_6 Monthly income^2	−.002	(0.004)
X_{10} Number of children	.761	(0.231)
Number of cases	429	
R^2	.496	

shown in other empirical studies (e.g., Chambers, 1979), a longer marriage has a positive influence on the noncustodial parent's payment performance. The variable relative to the education of the mother, (X_4), is negative and not significant. In other empirical studies, mother's education is expected to have a positive effect on actual payment, and is interpreted as having the knowledge, competence, and values to seek enforcement of support through the courts and the ability to deal with legal system (Cassetty, 1978).

C. Model 2: A Model with Penalties for Noncompliance with Court Orders

In the second model, as described above, the husband chooses a level of transfer, T, which is conditional on the custody arrangement decided by the court, S, and on the child support order, X.

In this case, noncompliance with a court-ordered level of child support entails a cost to the father (which could be modeled as psychic or monetary). Proposals for child support reform which include among their goals collection of support through universal wage withholding and establishment of a uniform support amount, calculated as a percentage of income, are intended to reduce the psychic costs resulting from stigma and a sense of inequity which could have a negative effect on fathers' compliance (see Garfinkel and Melli, 1982; Garfinkel, 1984). We therefore assume that the custody arrangement decided by the court may not correspond to the father's custody choice.

The court decision depends on a set of variables different from the ones determining the individual's decision. This set of variables is the one observable and relevant to the judge. But the information available to the judge and to the analyst is quite limited.

The variables included in the empirical model are the number of minor children, (X_{10}), the income available (X_5), and the type of custody (X_1). Table 3 reports the results of the estimation by ordinary least squares of the child support ordered by the court. The negative sign of the variable relative to the joint custody (X_1) is significant and confirms what we expected: because joint custody implies a more equal share of time spent with the child by the parents, the amount of postdivorce transfer between the two ex-spouses will be smaller.

Table 4 reports the probit estimates of the first equation. We have assumed that the father's desired time with the child depends on his education (which is also a proxy for permanent income and his current income), on the ex-wife's education (a proxy for the permanent income of the mother), and on the age of the oldest child. The coefficient of the variable representing age of the oldest child is positive and significant, indicating that the longer the time the father spends with the child before marital disruption, the more time he wishes to spend with the child after divorce. The coefficient on father's years of schooling is also positive and significant, indicating that more education increases his postdivorce involvement with the child. The effect of mother's education is negative but not significant. The effect of income is positive at a decreasing rate.

Table 5 reports the results of the estimation of the ordinary least squares regression of the actual payment, in which we introduce as regressors F(Z) and Z. The first specification (column 1) reports the effect of F(Z) and Z on the actual payments, conditional on income and income squared, without taking into account the court order. In the

Table 3

Estimates of Monthly Child Support Orders
(Ordinary Least Squares)

Variables	Coefficient	Asymptotic Standard Error
Constant	.783	(0.565)
X_1 Type of custody	-1.672	(0.441)
X_5 Monthly income of payor	.025	(0.003)
X_6 Monthly income^2	-.001	(0.0001)
X_{10} Number of children	.841	(0.192)
Number of Cases	429	
R^2	.397	

Table 4

Estimates of the Custody Arrangements[a]
(Probit)

Variables	Coefficient	Asymptotic Standard Error
Constant	2.21	(0.480)
X_2 Age of oldest child	.003	(0.009)
X_3 Father's education	.139	(0.042)
X_4 Mother's education	-.043	(0.500)
X_5 Monthly income of payor	.081	(0.010)
X_6 Monthly income^2	-.007	(0.001)
Number of cases	429	
Log likelihood	-229.692	

[a] X_1 joint custody = 1, mother's custody = 0.

Table 5

Model 2

Estimates of Monthly Child Support Payment
(Ordinary Least Squares)
Heckman's Method

Variables	Payment Unconditional on Court Order	Payment Conditional on Court Order
Constant	.244 (.455)	.315 (.376)
Z	.805 (.306)	.321 (.212)
F(Z)	-.228 (.093)	.623 (.309)
X_5 Monthly income	.002 (.003)	.009 (.301)
X_6 Monthly income^2	-.002 (.004)	-.001 (.004)
X_8 Child support order		.986 (.083)
X_9 Child support order^2		-.021 (.004)
Number of Cases	429	429
R^2	.159	.432

Note: Standard errors are in parentheses.

second specification (column 2), we estimate the same effects, con-
ditional on the amount of child support the court has decided. The
effects of the two variables are different under the two specifications.
In the first, the effect of father's sentiment is positive and signifi-
cant, while the effect of custody arrangement is negative and signifi-
cant. The stronger the feelings of the father for the child, more time
he desires to give and the more resources he actually allocates. If he
obtains joint custody he will substitute money for time in his contribu-
tion to the child's welfare. In the second specification, when we
include the order, the effects of the two instrumental variables are both
positive and less significant. Joint custody has a negative impact on
child support payment, but a positive effect on compliance with the court
order. The explanation for this is that, since joint custody means that
both parents contribute to their children's welfare in both time and
money, the amount of the child support payment (and the amount in the
order) will be less under joint than under full custody arrangements, yet
compliance with the court order will be higher under joint custody
because the father is not excluded from decisions affecting the child.

The father's sentiment (desired time with the child) has a con-
sistently positive effect on the amount of resources the father allocates
to the child. Since custody arrangements depend not only on the father's
sentiment but also on the judge's decision, it is important to be able to
estimate the separate effects. When we do not separate the effects and
do not take into account the simultaneity problem, we find a positive but
insignificant effect (Table 6). Thus, as we assumed before, the custody
arrangement decided by the court may not correspond to the father's pre-
ferred custody arrangement.

Table 6

Model 2

Estimates of Monthly Child Support Payment
(Ordinary Least Squares)

Variables	Coefficient	Asymptotic Standard Error
Constant	-1.307	(.403)
X_1 Custody	.334	(.353)
X_5 Monthly income of the payor	.009	(.030)
X_6 Monthly income^2	-.0001	(.003)
X_8 Child support order	.001	(.008)
X_9 Child support order^2	-.002	(.005)
Number of Cases	429	
R^2	.412	

Very similar patterns are shown in the results in Table 7, where we estimated by OLS the effects of the father's sentiment and custody arrangement on the number of months that child support was paid, conditional and unconditional on the number of months the child support was owed. For this "frequency" measure of child support payment, we also observe different behavior if we do or do not take into account the court order.

VI. CONCLUSION

This paper has explored the determinants of custody arrangements and compliance with court-ordered support payments for a sample of 429 Wisconsin families eligible for child support.

In our analysis we developed two frameworks for theoretically investigating the father's child support payment decision. Using these two models as guides, we estimated a number of empirical specifications involving custody arrangement, court-ordered child support payment, and the actual amount transferred to the child.

The results indicated that there is a substantially important relationship among all three variables, even after taking into account a number of couple-specific factors.

We found that the court order has a positive effect on the transfer that the father allocates to his children. This means that the model that includes institutional constraints on fathers' decisions is more appropriate for analyzing child support payments. This in turn indicates a role for policies oriented toward establishing different types of enforcement mechanisms in order to establish a more equitable system of

Table 7

Estimates of Number of Months of Child Support Paid
(Ordinary Least Squares)
Heckman's Method

Variables	Payment Unconditional on Court Order	Payment Conditional on Court Order
Constant	.211 (.922)	.478 (.161)
Z	.243 (.888)	.143 (.069)
F(Z)	.851 (.272)	.413 (.037)
X_5 Monthly income	.003 (.0001)	.0022 (.0001)
X_6 Monthly income^2	.031 (.006)	.032 (.006)
X_8 Child support order		.014 (.005)
X_9 Child support order^2		.041 (.002)
X_{12} Number of months ordered		.554 (.086)
Number of Cases	429	429
R^2	.541	.413

Note: Standard errors are in parentheses.

parental financial responsibility for child support. However, the effort devoted to making fathers aware of their responsiblities should be accompanied by efforts to make both parents aware of their obligations for their children. The postdivorce involvement of the father in financial support of his children partly depends on his ability to contribute to their welfare not only with money but also with time. Joint custody seems to be an arrangement that, conditional on the father's feelings, has a positive effect on father's compliance with court orders.

Notes

[1]There are different forms of joint custody. One type allows judges
to award joint custody when both parents request it. Another allows
judges to award joint custody when only one parent requests it.

[2]Garfinkel and Melli (1982) found that 59 percent of women poten-
tially eligible to receive support had child support awards. Of those
awarded child support, only 49 percent received the full amount due them,
and 28 percent received nothing.

[3]Bane and Ellwood, analyzing needs-adjusted income found that the
probability of being in poverty increases after divorce among children
and ex-wives: when income is compared to needs, divorced men experience
on average a 24 percent rise in their standard of living in the first
year after divorce, while divorced women and their children experience a
73 percent decline.

[4]This is particularly appropriate for our analysis of the Wisconsin
system, where the judge is allowed to award joint custody only when both
parents agree in requesting it. The Wisconsin joint custody statute,
enacted in 1978, defines such custody as "equal rights and
responsibilities."

APPENDIX

Table A.1

Means and Standard Deviations of the Variables

Variable	Mean	Standard Deviation
Father's education (years)	12.69	2.316
Mother's education (years)	12.43	1.844
Age of oldest child	8.77	5.77
Monthly income of payor	1,371	1,059
Number of children under 18	1.97	1.014
Years of marriage before divorce	9.36	7.771
Child support paid ($)	3,201	3,166
Child support ordered ($)	4,839	4,419
Number of months ordered	18.28	11.48
Number of months paid	14.65	10.28
% joint custody	26.8	
% mother's custody	73.2	

Table A.2

Means and Standard Deviations of the Variables
According to Custody Arrangement

	Joint Custody (N = 119)	Mother's Custody (N = 310)
Child support ordered ($)	4062.36 (5197.7)	5122.8 (4071.7)
Child support paid ($)	3068.03 (4345.59)	3098.32 (3375.60)
Father's education	13.50 (2.75)	12.39 (2.05)
Mother's education	12.84 (9.12)	12.28 (1.71)
Years of marriage before divorce	12.97 (9.12)	10.09 (9.21)
Age of oldest child	10.62 (5.73)	8.08 (5.65)
Monthly income ($)	1555.80 (1346.5)	1303.0 (1925.12)
Number of months paid	15.9	14.62
Number of months ordered	16.3	18.77

Table A.3

Variable Definitions

X_1	Custody (Dummy variable 1: Joint Custody 0: Mother's Custody)
X_2	Age of oldest child ($<$ 18 years)
X_3	Father's education (years of schooling)
X_4	Mother's education (years of schooling)
X_5	Monthly income of the payor
X_6	$(\text{Income})^2$
X_7	Child support payment
X_8	Child support order
X_9	$(\text{Child support order})^2$
X_{10}	Number of children under 18
X_{11}	Number of months paid
X_{12}	Number of months ordered

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