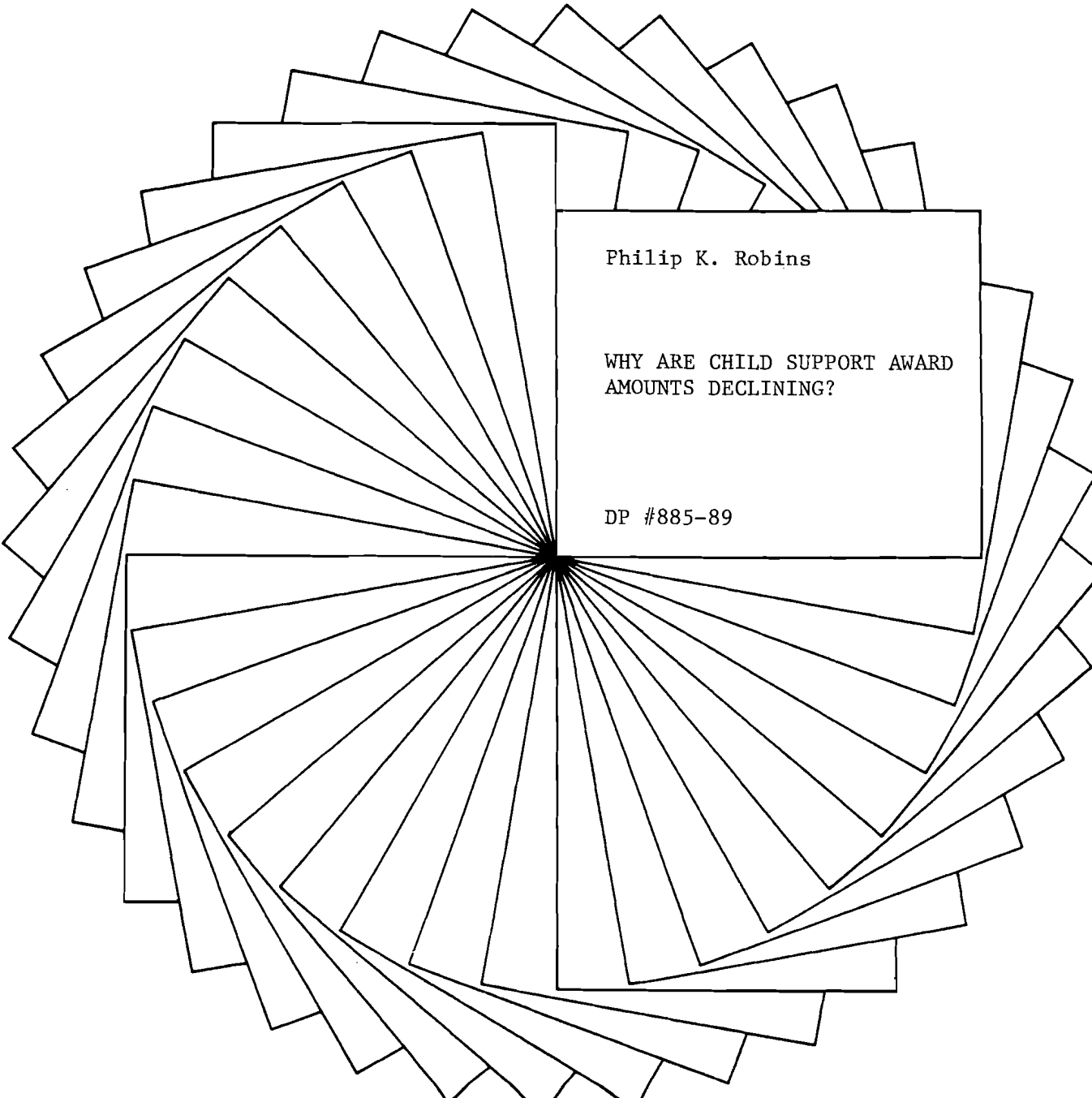University of Wisconsin-Madison

# IRP Discussion Papers

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WHY ARE CHILD SUPPORT AWARD
AMOUNTS DECLINING?

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Why Are Child Support Award Amounts
Declining?

by

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Abstract

Between 1978 and 1985, according to data from the Current Population
Survey (CPS), the average real dollar amount of a child support award in
the United States declined by an astonishing 25 percent, a reduction
that is especially noteworthy, because during the same period, the
federal government greatly increased its commitment to child support
enforcement. (The Child Support Enforcement program was established in
1976 and since then several pieces of legislation have been enacted
aimed at improving the program.)

This paper attempts to explain the causes of the decline in child
support awards during these years. Several potential causes have been
advanced in the literature and are tested here, including erosion of
awards due to inflation and changes in the demographic characteristics
of the population due child support. A further cause, apparently not
recognized before, is also tested--that much of the reduced child
support award levels in recent years can be attributed to a steady
upward trend in female earnings relative to male earnings. In most
states, earnings of both men and women are important determinants of
child support awards levels.

To analyze trends in child support awards, an empirical model is
specified that separates the influence of inflation, demographic
factors, relative female earnings, and exposure to the Child Support
Enforcement program. The model is estimated using CPS data for the years
1978, 1981, 1983, and 1985. The results indicate that the major factor
responsible for the decline in child support award levels was rising
relative female earnings. Inflation and changes in demographic

characteristics of the population due child support also played a role
but their influence was much smaller. In fact, from 1982 to 1985, the
results indicate that the abatement of inflation actually contributed to
an increase in award levels. Increased exposure of child-support-
eligible families to the Child Support Enforcement program is estimated
to have led to a modest increase in child support awards.

The important role played by rising female earnings in explaining
recent declines in child support awards implies that, unlike erosion of
awards due to inflation, the reduction in awards due to rising female
earnings may not necessarily be associated with a reduction in the
standard of living of single-parent families, because the increased
earnings may have somewhat offset the reduction in child support.
However, an important policy question arises concerning whether it is
socially desirable to have a child support system which imposes a "tax"
on female earnings. Available evidence suggests that the standard of
living of women declines by about one-third when a marital dissolution
occurs, while the standard of living of men increases by about 15
percent. As a consequence, the poverty rate among single-parent
families headed by women is much higher than among any other demographic
group. Therefore, it is possible that a system in which child support
supplements, rather than replaces, female earnings may be a more
socially desirable policy.

Owing to data limitations, the results of this paper must be viewed
as tentative. Before firmer conclusions can be drawn, better data are
required and a more complete analysis must be made of the relationship
between child support, custodial and absent parent earnings, and total
family income.

## Why Are Child Support Award Amounts
## Declining?

## 1. INTRODUCTION

Perhaps no other area of social policy has received as much attention
in recent years as child support enforcement, for at least two reasons.
First, as documented by Garfinkel and Mclanahan (1986) and others,
poverty has become increasingly concentrated in single-parent families.
Second, nationwide surveys (see U.S. Department of Commerce, 1987, 1988,
for example) have revealed that most single-parent families receive
little, if any, financial assistance from the absent parent. Hence, a
large number of such families are forced to rely on welfare for means of
support. Because women heading single-parent families generally have
low wage rates and low labor force attachment, and because the bulk of
their support comes from public sources, child support enforcement has
taken on the dual role of being both an antipoverty device and a
mechanism for reducing welfare program costs.

Over the past decade and a half, numerous pieces of legislation have
been enacted to facilitate the child support enforcement process. The
landmark legislation was passed in 1975, when the Child Support
Enforcement (or Title IV-D) program was established. Since 1975, the
IV-D program has undergone changes in order to strengthen its basic
provisions. Two of the most important changes occurred with the passage
of the 1984 Child Support Amendments and the 1988 Family Support Act.
The 1984 amendments authorized wage withholding of child support when
payment is delinquent and required states to develop specific guidelines
for the establishment of child support awards. The 1988 Family Support

Act authorizes wage withholding in all new child support cases, requires that child support guidelines be presumptive, and requires periodic updating of child support award levels. Both pieces of legislation received strong bipartisan support and were signed enthusiastically by President Reagan.

When the IV-D program was first established, the child support situation of American families was in a deplorable state. According to Current Population Survey (CPS) data, less than one-half of the families eligible for child support had awards and only about one-third of these families received payments. Moreover, the average award was less than $300 per month per family (1985 dollars), considerably below the average poverty level of about $800 per month.

With low child support award and collection levels and increased governmental resources devoted to child support enforcement, many thought that there would be a significant improvement over time in the child support situation of American families. But, according to the CPS, the opposite has occurred. Between 1978 and 1985, the average child support award in the United States declined by an astonishing 25 percent in real terms and the average real child support payment fell by about the same amount.

What has happened? Why are things apparently getting worse rather than better? An article in the New York Times on August 22, 1987, cited a Census Bureau report based on the CPS data (U.S. Department of Commerce, 1987) indicating that between 1983 and 1985 average real child support payments in the U.S. fell by 12.4 percent. The Census Bureau was quoted as saying that it did not know why child support payments had decreased. One Bureau official noted that the level of child support

awarded by judges had declined by about the same amount and that this was probably the source of the reduced payments. The reduced awards were speculated to be the result of an increase in the percentage of families receiving awards, and since the additional awards involved absent parents with generally lower incomes, they were therefore generally required to make lower payments. Casual inspection of the CPS data, however, suggests that this compositional change in the award population can explain only a small portion of the overall decline.

The purpose of this paper is to attempt to explain the causes of the decline from 1978 to 1985. Several potential causes have been advanced in the literature and are tested here, including erosion of awards due to inflation and changes in the demographic characteristics of the population due child support. A further cause, apparently not recognized before, is also tested: that much of the reduced child support award levels in recent years can be attributed to a steady upward trend in female earnings relative to male earnings. In most states, earnings of both men and women are important determinants of child support awards levels.

To analyze trends in child support awards over time, an empirical model is specified that separates the influence of inflation, demographic factors, relative female earnings, and exposure to the Child Support Enforcement program. The model is estimated using CPS data for the years 1978, 1981, 1983, and 1985. The results indicate that the major factor responsible for the decline in child support award levels was rising relative female earnings. Inflation and changes in demographic characteristics of the population also played a role, but their influence was considerably smaller. Increased exposure of child-

support eligible families to the Child Support Enforcement program is estimated to have led to a modest increase in child support awards during this time period.

The important role played by rising female earnings in explaining recent declines in child support awards implies that, unlike erosion of awards due to inflation, the reduction in child support awards due to rising female earnings may not necessarily be associated with a reduction in the standard of living of single-parent families, since the increased earnings may have somewhat offset the reduction in child support. However, an important policy question arises concerning whether it is socially desirable to have a child support system which imposes a "tax" on female earnings. Available evidence (for example, Duncan and Hoffman, 1985) suggests that the standard of living of women declines by close to one-third when a marital dissolution occurs while the standard of living of men increases by about 15 percent. As a consequence, the poverty rate among single-parent families is much higher than among any other demographic group. Therefore, having a system in which child support supplements, rather than replaces, female earnings may be a more socially desirable policy.

Data limitations make the results of this paper tentative. Before firmer conclusions can be drawn, better data are required and a more complete analysis must be made of the relationship between child support, custodial and absent parent earnings, and total family income.

Section 2 of the paper presents CPS data on general trends in child support from 1978 to 1985, and discusses possible causes of the trends. Section 3 describes the empirical model that is estimated for sorting out the various causes of the trends. Section 4 presents the empirical

findings. Section 5 summarizes the results and discusses their policy implications.

## 2. Trends in Child Support from 1978 to 1985

### A. The CPS Data

Data from four special supplements to the April Current Population Survey (CPS) are used to analyze child support trends. The data collected in the supplements cover the years 1978, 1981, 1983, and 1985. In each supplement, women 18 years of age and older, with children under age 21 whose father was permanently absent from the household, were asked a series of questions about their receipt of child support and alimony. The data from the supplements were merged by the Census Bureau with data from the March CPS of the same year. The resulting CPS match files contain a wealth of economic and demographic information about the families that is useful for analyzing child support trends. For a detailed description of the CPS data, see Robins (1987) and the references therein.

The CPS match files represent the only reliable source of information for analyzing national trends in child support awards and payments. However, several important limitations of the CPS data must be kept in mind. One important limitation is that they do not quite sample the relevant child-support eligible population. In particular, because of an error in questionnaire design, the survey data contain numerous observations on women not eligible to receive child support. These are mainly older women who have adult children (who are also parents) living with them. As discussed in Robins (1987), it is possible to identify a

large majority of these women and exclude them from the data set. In addition, observations with missing data on critical variables as well as certain other cases are excluded from the data set used in this paper. The final analysis sample contains 14,099 observations.[1]

As discussed in greater detail below, another limitation of the CPS data creates problems for the present analysis. Because the purpose of this paper is to explain trends in child support award levels, critical pieces of information for performing the analysis are the date of the child support award, the amount of the original award, and the income of the father and mother at the time of the award. The CPS does not contain any of this information.[2] Hence, proxy variables had to be constructed using other available information. Because of the somewhat artificial nature of some of the variables used in the analysis, the results should be viewed as suggestive only. Further analysis is required before firmer conclusions can be drawn.

B.  **What the Data Show**

Basic trends in child support from 1978 to 1985 are presented in Table 1.[3] Amounts are presented in 1985 dollars.[4] As this table indicates, there is a slight upward trend in child support award and recipiency rates, but a significant downward trend in average award and payment levels. From 1978 to 1985 the average child support award fell by almost 25 percent in real terms and the average payment fell by roughly the same amount. The biggest decline occurred between 1978 and 1981, when the average award fell by about 14 percent and the average payment fell by almost 19 percent. The average payment then rose about 4 percent from 1981 to 1983 (reflecting a higher percentage of women

**Table 1**

Trends in Child Support, 1978-1985

|                          | 1978    | 1981    | 1983    | 1985    |
|--------------------------|---------|---------|---------|---------|
| **Overall Potential Population (N=14,099)** | | | | |
| Award rate               | .52     | .52     | .50     | .53     |
| Recipiency rate          | .37     | .37     | .38     | .39     |
| Sample size              | 3,082   | 3,711   | 3,686   | 3,620   |
| **Population Due Child Support (N=7,265)** | | | | |
| Recipiency rate          | .72     | .71     | .75     | .74     |
| Mean award               | $3,326  | $2,855  | $2,679  | $2,515  |
| Mean payment             | $2,195  | $1,779  | $1,850  | $1,681  |
| Sample size              | 1,590   | 1,918   | 1,852   | 1,905   |
| **Population Receiving Child Support (N=5,312)** | | | | |
| Mean payment             | $3,039  | $2,491  | $2,472  | $2,275  |
| Sample size              | 1,148   | 1,370   | 1,386   | 1,408   |

Note: Based on data from March/April CPS match files. All amounts are in 1985 dollars, using the Consumer Price Index.

receiving child support rather than a higher average payment for those receiving child support), but the average award level continued to decline by about 6 percent. Between 1983 and 1985 the average award again fell by about 6 percent and the average payment fell by about 9 percent.

## C. Reasons for the Trends

What happened between 1978 and 1985? Although more women were awarded and paid child support, the amount awarded and the amount paid declined steadily, despite important legislation and a sizable increase in federal and state expenditures on child support enforcement.

The most commonly cited explanation for the decline is inflation. Child support awards are almost always made in dollar terms and awards are rarely updated. To have an award updated, a formal petition must be made to the court, which for one reason or another is rarely done. To fully maintain the real value of an award, regular updating is required.

Unprecedented high inflation between 1978 and 1981 undoubtedly played a major role in the decrease in the average real award during this period. But from 1981 to 1985 inflation was considerably more moderate and child support enforcement efforts were intensified, yet the average award level still continued to decline by more than 12 percent. Both the reduction in inflation and more intensive efforts to enforce child support should have led to an increase in the average child support award level.[5] Thus, other factors must have been exerting a downward pressure on awards.

One other commonly cited explanation for the declining awards is a change in the demographic composition of the population awarded child

support. It is argued that in recent years the number of never-married women awarded child support has increased, and these women on average have lower child support awards than the rest of the population, presumably because the fathers are younger and have lower incomes. As the sample increasingly contains such women, the average award level falls.

Between 1981 and 1985, the proportion of women with awards that were never married rose from 4 percent to 7 percent. As indicated in the Appendix table, these women had awards that averaged about one-half those of other women (in 1983 the mean award for never-married women was $1,280 versus $2,835 for divorced women). Thus, the increase in awards for never-married women undoubtedly played a role in the declining average real award level. But, because they are such a small proportion of the total award population, their influence has only been minor and their presence cannot explain a very large proportion of the decline.

If inflation or demographics cannot explain the recent declines in child support award levels, what can? Surprisingly, one of the more important determinants of child support award levels, namely earnings of the mother relative to those of the father, has not been offered as a possible explanation for the observed trends.

Most states use earnings of both the father and mother in setting award levels. As described by Williams (1985, 1987), Dodson (1987), Thompson and Paikin (1985), and Douglas (1985), child support award levels generally tend to increase with earnings of the father and decrease with earnings of the mother. Research by Schaeffer (1987) indicates that families believe this is a fair procedure.

Williams (1987) has classified guidelines currently in use (or being proposed) into four types: flat percentage, income shares model, income equalization, and Delaware-Melson formula. The last three types explicitly incorporate earnings of both the father and mother while the first incorporates only earnings of the father. According to Williams et al. (1988), about fifteen states currently have flat percentage guidelines, twenty use the income shares model, three use the Delaware-Melson formula, and the remainder use a mixture of types.

It is important to note that the use of guidelines in setting child support award levels is a relatively new phenomenon, resulting primarily from a provision in the 1984 Child Support Amendments.[6] Prior to 1984, it is generally acknowledged that child support awards were made in a somewhat arbitrary fashion. As described by Melli (1983), the system was highly discretionary, actions of the court being taken "in the best interests of the child" or as "deemed just and reasonable". Using 1977 data from Wisconsin (a state that has recently adopted a flat percentage guideline unrelated to the mother's income) Melli finds that child support awards were negatively related to the mother's income.[7] It is beyond the scope of the present paper to determine whether the mother's income was used explicitly in all states and in all years covered by the CPS data. Rather, an attempt will be made to determine the effects of changes in relative female earnings over time on changes in child support award levels.[8]

As is explained in the next section, the earliest possible date of a child support award in the CPS data is 1961 and the latest possible date is 1985. In 1961, average female earnings (including nonworkers) were 14 percent of average male earnings. By 1985, that figure was 42

percent. This dramatic increase in relative female earnings almost certainly played an important role in the downward trend in child support award levels observed in the CPS data.

## 3. EMPIRICAL ANALYSIS OF THE DETERMINANTS OF CHILD SUPPORT AWARD LEVELS

### A. The Empirical Model

To sort out the causes of changes in award levels reported in the CPS over time, the following empirical model is specified:

$$(1) \quad C = a_0 + a_1 D + a_2 I + a_3 E + a_4 T + e,$$

where C is the real value of the child support award for a given family during the year covered by the CPS survey (1978, 1981, 1983, and 1985), D is a set of demographic variables for the family, I is the cumulative rate of inflation in the economy from the date of the family's child support award to the date of the survey, E is relative female earnings at the time of the award, T is a measure of exposure to the Child Support Enforcement program, the a's are parameters to be estimated, and e is a random error term. The empirical specification of each determinant of child support awards is discussed in turn.

(1) Demographic Variables. In theory, demographic variables for both the mother and the father are likely to affect award levels. However, because the CPS only collects information about the mother's family, it is not possible to include information about the father in the set of demographic variables used to explain child support award levels. Based on previous studies (see, for example, Jones, Gordon, and Sawhill, 1976; Sorensen and MacDonald, 1981; Beller and Graham, 1984; Robins and

Dickinson, 1984; O'Neill, 1985; Robins, 1986; Sonenstein, 1988), the following demographic variables are included in the empirical model: geographic location (dummy variables for Northeast, Northcentral, West, and South) race/ethnicity (dummy variables for black, white, and Hispanic), age, years of education, number of children eligible for child support, and marital status during the survey year (dummy variables for divorced, (re)married, separated, and never married).

Because child support awards are generally terminated upon a child's eighteenth birthday, the analysis sample is restricted to women whose marriage ended within the previous 18 years. For never-married women, the sample is restricted to families in which the youngest child is under the age of 18. Given these age restrictions, the earliest possible date of marital disruption in the sample is 1961 (which applies to the CPS covering the 1978 calendar year).

(2) _Inflation._ Inflation is often cited as an important factor influencing the real value of child support awards over time. In particular, because awards are rarely updated, it is generally contended that the real value of awards will be negatively related to the level of inflation that has occurred since the time the award was originally made. To measure the effects of inflation on the current real value of the award, it is necessary to know the original date of the award. The CPS does not contain such information. But it does contain the date of marital dissolution for women who were previously married. For purposes of this study it is assumed that for these women, the date of the award can be approximated by the date of the marital dissolution. For never-married women, it is assumed that the date of the award can be approximated by the date of birth of the youngest child.

Given the date of the award, a variable is constructed that measures the _cumulative_ rate of inflation from the date of the award to the survey year in the CPS. Because the sample is restricted to families with children under 18, the earliest possible award date is 1961 (for the 1978 CPS). Table 2 (last column) shows the value of the constructed inflation variable for each possible award date in the data.

Because of the way this variable is defined, it is more appropriate to interpret it as capturing the effects of inflation since the date of marital disruption rather than since the date of the original award. However, to the extent that there is a high degree of correlation between the award date and the disruption date, the effects can be interpreted as measuring the effects of inflation on the real value of the award. The expected sign of the coefficient on the inflation variable (I in Equation (1)) is negative.

(3) _Relative Earnings of Men and Women_. To test the importance of relative female earnings on child support award levels, it is necessary to know the earnings of both the mother and father at the time of the award.[9] Because that date is not known, an indirect test must be performed using a proxy variable. As was done to measure the effects of inflation, it is assumed that the date of the award is proxied by the date of the marital dissolution of previously married mothers and the age of the youngest child of never-married mothers.

Based on this assumption, published CPS data on earnings of women and men have been used to calculate a relative earnings variable at the time of the marital disruption. The methodology for calculating this variable along with its value is given in Table 2. The variable is an estimate of the ratio of unconditional earnings of the mother to

**Table 2**

Trends in Male and Female Earnings and Inflation, 1961-1985

| Year | Labor Force Participation Rates Married Women With Children under 18 | Men | Median Earnings of All Workers [a] Women | Men | Adjusted Female-Male Earnings Ratio [b] | Cumulative Rate of Inflation up to 1985 |
|------|------|------|------|------|------|------|
| 1961 | 29.6% | 82.9% | $6,297 | $16,559 | .136 | 259.6% |
| 1962 | 30.3 | 82.0 | 6,444 | 17,120 | .139 | 255.6 |
| 1963 | 31.2 | 81.4 | 6,764 | 17,681 | .147 | 251.4 |
| 1964 | 32.0 | 81.0 | 7,072 | 18,004 | .155 | 246.8 |
| 1965 | 32.2 | 80.7 | 7,538 | 18,203 | .165 | 241.0 |
| 1966 | 33.2 | 80.4 | 7,419 | 19,256 | .159 | 231.5 |
| 1967 | 35.3 | 80.4 | 7,575 | 19,396 | .171 | 222.2 |
| 1968 | 36.9 | 80.1 | 7,767 | 19,920 | .180 | 209.2 |
| 1969 | 38.6 | 79.8 | 7,524 | 20,215 | .180 | 193.4 |
| 1970 | 39.7 | 79.7 | 7,563 | 19,814 | .190 | 177.0 |
| 1971 | 39.7 | 79.1 | 7,931 | 19,624 | .203 | 165.6 |
| 1972 | 40.5 | 78.9 | 8,182 | 20,548 | .204 | 157.1 |
| 1973 | 41.7 | 78.8 | 7,911 | 21,017 | .199 | 142.1 |
| 1974 | 43.1 | 78.7 | 7,773 | 19,897 | .214 | 118.1 |
| 1975 | 46.1 | 77.9 | 7,901 | 19,336 | .242 | 99.9 |
| 1976 | 47.4 | 77.5 | 8,118 | 19,466 | .255 | 89.0 |
| 1977 | 49.5 | 77.7 | 8,297 | 19,593 | .270 | 77.5 |
| 1978 | 52.9 | 77.9 | 8,655 | 20,006 | .294 | 64.9 |
| 1979 | 53.1 | 77.8 | 8,881 | 19,317 | .314 | 48.2 |
| 1980 | 55.3 | 77.4 | 8,648 | 18,292 | .338 | 30.6 |
| 1981 | 56.6 | 77.0 | 8,542 | 17,814 | .352 | 18.3 |
| 1982 | 57.3 | 76.6 | 8,566 | 17,133 | .374 | 11.4 |
| 1983 | 58.0 | 76.4 | 8,886 | 17,354 | .389 | 8.0 |
| 1984 | 59.6 | 76.4 | 8,985 | 17,633 | .397 | 3.6 |
| 1985 | 61.0 | 76.3 | 9,328 | 17,779 | .419 | 0 |

Sources:   U.S. Department of Labor (1984, 1985), Hayghe (1986), U.S. Department of Commerce (1963-1985), Economic Report of the President (1988).

[a] In 1985 dollars.

[b] (Column 1 x Column 3)/(Column 2 x Column 4)

unconditional earnings of the father at the time of the disruption. It
is calculated using figures on median earnings of employed men and women
and their labor force participation rates.[10]

As Table 2 indicates, the relative earnings ratio more than tripled
between 1961 and 1985, rising from .136 to .419. Furthermore, the
increase is attributable entirely to rising female earnings. Average
real earnings of men went from $13,727 in 1961 (column 2 x column 4) to
$13,565 in 1985, while average real earnings of women rose from $1,864
in 1961 (column 1 x column 3) to $5,690 in 1985.

If female earnings have played a significant role in lowering award
levels, the coefficient of the relative earnings variable (E in Equation
(1) above) should be negative. It may be noted that an alternative
specification was tested in which the male and female earnings variables
were entered separately, rather than their ratio. This specification
yielded results that were consistent with the results using the ratio
variable, but the precision of the estimates was lower. The results
using the earnings variables separately for men and women are available
upon request from the author.

(4) The Child Support Enforcement (IV-D) Program. Besides
demographic changes, inflation, and changes in relative earnings, other
events occurred between 1961 and 1985 that would be expected to
influence child support award levels. Most important perhaps are
changes associated with child support enforcement. Since 1975, when the
IV-D program was established, governmental resources devoted to child
support enforcement have grown steadily. If effective, these efforts
should have led to an increase in child support awards and/or
collections. However, it might be argued that prior to the 1984 Child

Support Amendments, most of the effects of enforcement would be on

collections rather than awards, because IV-D efforts were devoted mainly

to enforcement of existing obligations. Nevertheless, it is possible

that prior to 1984 the IV-D program had a positive effect on child

support.

The CPS asks specific questions about utilization of various services

offered by the IV-D program, but unfortunately these questions were only

asked of all women in the 1982 survey.[11] Because all four surveys are

used in this study, data based on these questions cannot be used.[12]

Because specific information about the IV-D program is not available

in the CPS, it is necessary to infer IV-D effects from other variables.

One approach would be to include state-level variables measuring various

enforcement techniques used. However, it is difficult to obtain

definitive results using this approach because so many techniques are

used and it is difficult to isolate the effect of each (see Robins and

Dickinson, 1984, for example). Another approach, and the one adopted in

this paper, is to measure IV-D effects by a variable indicating the

degree of "exposure" to the IV-D program at the time of the marital

disruption. Two time-trend variables are defined: one prior to 1975 and

one subsequent to 1975. Time is measured by the date of the marital

disruption for previously married women and by the birthdate of the

youngest child for never-married women. It is argued that if a marital

disruption occurred after the IV-D program was in existence, the

cumulative effect on awards will be different than if the disruption

occurred before establishment of the IV-D program.

If the IV-D program has been effective in increasing award levels,

then the coefficients of the time-trend variables (T in Equation (1))

should be positive, and the time trend for disruptions after 1975 should exhibit a larger effect than the time trend for disruptions before 1975. Of course, these time-trend variables may be picking up effects other than the IV-D program, and the results for these variables must consequently be viewed as suggestive only.[13]

B. Estimation Method

Because a large fraction of the sample does not have a child support award, the model given by Equation (1) has a substantial number of observations at zero. Hence, ordinary least squares (OLS) estimation of Equation (1) would yield biased estimates of the coefficients. Similarly, restricting the sample to those with an award would also yield biased coefficients if the excluded observations are not a random subset of the full CPS analysis sample.

There are two standard ways of dealing with this problem. One is to estimate a tobit model over the entire sample. The other is to adopt a two-stage procedure, such as the one developed by Heckman (1979). The two-stage procedure requires estimating separate equations for the determinants of having a child support award and for the level of the award given that there is an award. The tobit model implicitly assumes that the parameters of each equation are the same. Both procedures account for the selection bias associated with predicting awards for the subset of the sample with awards (see Maddala, 1983, for a discussion). However, the tobit model involves a much more restrictive set of assumptions. Because both methods are widely used, the results for each are presented. In addition, OLS estimates on the full sample and the sample with awards are reported for comparative purposes. Thus four

equations are estimated: OLS on the entire sample, tobit on the entire

sample, OLS on the subsample with awards, and OLS with a correction for

selectivity bias on the subsample with awards.[14] The dependent variable

is the real value of the mother's annual child support award level, in

1985 dollars.

## C. Empirical Results

The empirical results are presented in Table 3. Generally, the

results are consistent across estimation technique, although some

differences do exist. The discussion below is confined to the tobit

estimates.

Among the demographic variables, it is seen that award levels are

significantly lower in the West, are lower for blacks relative to

Hispanics and for Hispanics relative to whites, are higher for more

educated mothers, are lower for (re)married, separated, and never-

married mothers relative to divorced mothers, and higher for families

with more children. The large coefficient for never-married mothers

indicates that the growing size of this subgroup among the award

population has contributed to the decline in the average award level

over time.

The results also indicate that inflation has a significant effect on

real award levels. For those with an award, each percentage-point

increase in inflation reduces the real value of the award by $7, or

roughly .25 percent.[15] At the mean level of cumulative inflation in the

sample (54.2 percent), the results indicate that the real value of the

award at the time of the survey had been reduced by close to $360, or

roughly 13 percent.[16]

**Table 3**

Determinants of Child Support Award Amounts

| Explanatory Variable | Mean | Full Sample (N = 14,099) OLS Coefficient | OLS Standard Error | TOBIT Coefficient | TOBIT Standard Error | Sample With Awards (N = 7,265) OLS (with selectivity OLS Coefficient | OLS Standard Error | correction Coefficient | correction Standard Error |
|---|---|---|---|---|---|---|---|---|---|
| Constant Term | 1.0 | 795.1*** | 253.7 | 121.0 | 450.1 | 522.8 | 438.0 | -662.9 | 941.9 |
| 1 = Northeast | .19 | 119.5 | 63.3 | -32.7 | 106.5 | 303.8*** | 112.0 | 272.8** | 113.7 |
| 1 = Northcentral | .24 | 88.8 | 59.1 | 36.3 | 107.2 | 71.1 | 99.7 | 126.6 | 107.1 |
| 1 = West | .24 | -113.5* | 60.8 | -264.4** | 113.7 | -161.9 | 101.4 | -176.4 | 101.8 |
| 1 = Black | .24 | -616.5*** | 61.1 | -1792.1*** | 101.4 | -385.4*** | 126.1 | -762.7*** | 293.7 |
| 1 = Spanish | .08 | -316.3*** | 87.7 | -1020.6*** | 176.4 | -255.2* | 165.2 | -463.6** | 220.2 |
| Years of education | 11.9 | 156.0*** | 9.8 | 258.1*** | 16.1 | 197.8*** | 17.5 | 245.7*** | 38.2 |
| 1 = (Re)married | .29 | -321.0*** | 57.2 | -705.4*** | 96.1 | 20.1 | 86.2 | -191.5 | 172.0 |
| 1 = Separated | .15 | -776.6*** | 70.8 | -2012.8*** | 113.3 | 287.0** | 130.0 | -453.4 | 535.9 |
| 1 = Never married | .21 | -1301.4*** | 75.1 | -4921.3*** | 158.0 | -740.6*** | 194.0 | -2346.9** | 1143.0 |
| Number of children | 1.7 | 419.4*** | 24.0 | 621.8*** | 36.9 | 717.2*** | 43.1 | 779.6*** | 61.6 |
| Age of mother | 33.3 | 16.1*** | 3.2 | 5.1 | 5.6 | 38.9*** | 5.7 | 31.9*** | 7.5 |
| 1 = Married part of year | .11 | -166.8** | 78.9 | -304.0** | 135.8 | -481.0*** | 122.0 | -427.4*** | 128.0 |
| Cumulative rate of inflation since disruption | 54.2 | -9.8*** | .8 | -19.8*** | 1.5 | -16.3*** | 1.4 | -16.2*** | 1.4 |
| Year of disruption (if prior to 1976) | 4.0 | 7.6 | 17.2 | -18.8 | 36.4 | -27.3 | 36.3 | 45.3 | 62.5 |
| Year of disrupton (if after 1975) | 12.5 | 29.5 | 18.7 | 4.6 | 38.2 | -9.8 | 37.5 | 72.6 | 68.9 |
| Female-male earnings ratio at time of disruption | .28 | -5980.9*** | 1381.2 | -6282.3** | 2587.1 | 649.7** | 2498.8 | -10101.0*** | 3999.3 |
| Selectivity correction term | | -- | -- | 3865.7[a] | 7.0 | -- | -- | 1480.5[a] | 1039.4 |

[a]This coefficient is an estimate of the standard deviation of the error term in Equation (1) of the text.

  * Significant at the 10 percent level.
 ** Significant at the 5 percent level.
*** Significant at the 1 percent level.

The effect of female earnings relative to male earnings is also statistically significant. A one-percentage-point increase in relative female earnings (about $148 of female earnings at the mean male earnings in the sample) reduces the real value of the award by $21, or by just under 1 percent of the average award in the sample. Over the period covered by possible award dates in the CPS (1961-1985), relative female earnings rose by 28 percentage points. Hence, the rise in relative female earnings is estimated to have been responsible for a decline of about $594 in the real value of the award, or roughly 21 percent of the average real award in the sample. This is the first evidence supporting the notion that rising female earnings have been playing a significant role in the observed downward trend in average real award levels in the CPS.[17]

One interpretation of a negative relationship between relative female earnings and average real award levels is that the child support system has been imposing a "tax" on female earnings. In the context of the results presented in this paper, the estimated "tax rate" is about 14 percent ($21/$148). It is worth noting that such a tax rate is consistent with the implicit tax rates associated with most of the guidelines being adopted in recent years by the states as a result of the 1984 Child Support Amendments. For example, Dodson (1987) shows how award levels vary with the mother's income under five of these guidelines (Equal Living Standard, Massachusetts, Wisconsin, Income Shares-Colorado, and Delaware-Melson). Except for the Wisconsin guideline, which does not consider the mother's income in setting award levels and hence imposes a zero tax rate on the mother's earnings, the implicit tax rates under the other guidelines range from about 16

percent under the Delaware-Melson guideline to about 33 percent under the Equal Living Standard guideline.[18] Because the CPS data analyzed in this paper cover a period prior to the time most of these standards were being implemented (recall that the CPS covers awards made from 1961 to 1985), it is not entirely appropriate to compare them to the 14 percent tax rate estimated here. Nevertheless, it is of interest to note that the estimated tax rate in this paper is very close to the tax rates being imposed by the guidelines used most frequently today.

Finally, neither of the time trend variables are statistically significant, although the coefficient on the post-1975 trend variable is somewhat larger than the coefficient on the pre-1975 trend variable. However, the difference in the coefficients (which measures the effect of exposure to the IV-D program at the assumed time of the disruption) is not statistically significant. These results provide very weak evidence that the IV-D program has had a modestly positive effect on child support award levels, but the IV-D effects do not appear to be getting stronger over the period covered in the sample (1976-1985).[19] Of course, the data used in this study do not cover the period subsequent to implementation of the 1984 Child Support Amendments, so the results could very well change when later CPS data become available.

## D. Importance of Each Factor in Explaining the Observed Trends

Although the results in Table 3 indicate that a variety of factors influence child support award levels, they provide no information about the relative importance of each factor in explaining the observed trends. In this section, an analysis of the relative contribution of each factor is performed.

To determine the relative contribution of each factor, the following methodology is adopted. First, the tobit results in Table 3 are used to derive an equation predicting the average award level among families having an award. This equation is a nonlinear function of the variables in Equation (1) (see Maddala, 1983, for the precise formula). Second, the equation is used to predict an average award level in each year of the CPS (1978, 1981, 1983, and 1985). The means of the explanatory variables used to predict these average award levels are given in Table 4. In general, because the prediction equation is nonlinear, the predicted level does not equal the observed level. Third, the difference in the predicted level between two chosen years is calculated. Fourth, the prediction from the base year is then changed sequentially, by altering the values of the means for each set of factors.[20] Thus, for example, to measure the contribution of inflation between 1978 and 1981, the 1981 mean of the inflation variable is used together with the 1978 means of the other variables to predict an award level. The difference between this predicted level and the predicted level using 1978 means for all variables represents an estimate of the contribution of inflation to the total predicted difference between 1978 and 1981. Finally, each portion of the predicted differences is multiplied by the observed difference (from Table 1) to derive an estimate of the contribution of each factor.

The importance of each factor for various time periods is presented in Table 5. For the entire seven-year period (1978 to 1985), the increase in relative female earnings is predicted to have been the most important factor behind the $811 (or 24 percent) decline in awards. In fact, the increase in relative earnings is predicted to have been seven

## Table 4

Means of Explanatory Variables Used to Predict Award Levels
(Sample with Awards:   N = 7,265)

|                                           | 1978  | 1981  | 1983  | 1985  |
|-------------------------------------------|-------|-------|-------|-------|
| 1 = Northeast                             | .17   | .18   | .17   | .19   |
| 1 = Northcentral                          | .26   | .26   | .26   | .25   |
| 1 = West                                  | .29   | .25   | .26   | .24   |
| 1 = South                                 | .28   | .31   | .31   | .32   |
| 1 = Black                                 | .12   | .12   | .11   | .13   |
| 1 = Spanish                               | .05   | .05   | .06   | .06   |
| 1 = White                                 | .83   | .83   | .83   | .81   |
| 1 = Divorced                              | .49   | .51   | .52   | .49   |
| 1 = Separated                             | .12   | .11   | .10   | .10   |
| 1 = (Re)married                           | .35   | .34   | .33   | .35   |
| 1 = Never married                         | .03   | .04   | .05   | .07   |
| Number of children                        | 1.85  | 1.77  | 1.71  | 1.70  |
| 1 = Married part of year                  | .16   | .16   | .13   | .12   |
| Years of education                        | 12.06 | 12.37 | 12.37 | 12.49 |
| Age of mother                             | 34.18 | 34.20 | 34.26 | 34.48 |
| Cumulative rate of inflation since disruption | 37.47 | 55.09 | 51.27 | 43.77 |
| Female-male earnings ratio at time of disruption | .23 | .28 | .30 | .33 |
| Year of disruption (1961 = 1)             | 13.52 | 16.52 | 18.15 | 20.00 |
| fraction prior to 1976                    | .60   | .33   | .24   | .16   |
| Year of disruption (if prior to 1976)     | 11.15 | 11.70 | 12.40 | 12.84 |
| Year of disruption (if after 1975)        | 17.12 | 18.87 | 19.97 | 21.35 |

**Table 5**

Estimated Sources of Changes in Average Annual
Award Levels
(Based on Tobit Results)

| Period | Actual Change | Estimated Source of Change | | | |
|---|---|---|---|---|---|
| | | Demographic | Inflation | Female-Male Relative Earnings | Exposure to IV-D Program at Time of Disruption |
| 1978-1985 | -$811 | -$103 | -$145 | -$725 | +$162 |
| 1978-1981 | - 471 | + 29 | - 318 | - 254 | + 72 |
| 1981-1985 | - 340 | - 210 | + 401 | - 638 | + 106 |
| 1981-1983 | - 176 | - 66 | + 136 | - 293 | + 48 |
| 1983-1985 | - 164 | - 140 | + 299 | - 386 | + 62 |

times as important as demographic changes and five times as important as inflation. It is also 4.5 times as important as increased exposure to the IV-D program, which is predicted to have increased award levels, but it should be recalled that the coefficients upon which the IV-D predictions are based are not statistically significant.

From 1978 to 1981, inflation is predicted to have been the most important factor behind the $471 (or 14 percent) decline in awards, but the change in relative earnings is almost as important. Between 1981 and 1985, demographic changes are about one-third as important as the change in relative earnings, while inflation contributed to an increase in award levels.

The positive effect of inflation on award levels may seem strange, but an examination of the means in Table 4 provides the explanation. Between 1981 and 1985, the average rate of inflation experienced by sample members fell, because persons with awards in earlier years (before the rampant inflation of 1980-1981) aged out of the sample, while persons with awards in later years entered the sample. The result is a decrease in the average rate of inflation experienced by sample members with awards. The reduction in the cumulative rate of inflation implies an increase in the average real award level.

Between 1983 and 1985, several offsetting factors are predicted to have been at work, yielding a net reduction of $164 (or 6 percent) in the average award level. Demographic changes (principally the increased number of never-married mothers with awards) and increased relative earnings of women led to a $526 decline in awards, while reduced inflation and greater exposure to the IV-D program led to a $361 increase in awards.

## 4. CONCLUSIONS

This paper has investigated possible causes of declining real child support awards recorded in the Current Population Survey from 1978 to 1985. Four major sets of factors are hypothesized to have influenced average awards over this period: demographic changes, inflation, increased relative earnings of women, and increased exposure to the Child Support Enforcement program. Although data limitations preclude definitive tests of the influence of each of these factors, the results strongly suggest that the persistent increase in relative earnings of women during this period was the most important factor behind the observed downward trend. Other factors were also significant, but their effects varied over the period. For example, from 1978 to 1981 high inflation seriously eroded the average real award level. However, from 1981 to 1985 abating inflation increased the average real award level.

The results of this paper have several important policy implications. First, these findings help reconcile the apparently contradictory evidence that the Child Support Enforcement program has become more effective over time while the CPS data on child support indicate a worsening of the child support situation of American families. Second, the results add credence to the notions that a variety of factors influence child support award levels and that these factors have been changing in different ways during recent years. Third, the results suggest that it is dangerous to draw policy implications based on the net overall decline in awards, because the implications associated with each factor are quite different. For example, erosion of child support awards due to inflation implies a reduced standard of living among

custodial parents and indicates a weakness in the child support system
that must be rectified by developing procedures for regular updating of
awards.[21]  On the other hand, the erosion of awards due to increased
relative earnings of women may not imply a reduced standard of living
among custodial parents.  Furthermore, it indicates that the child
support system may not have been operating in as arbitrary a fashion as
many thought, at least with respect to the role played by resources of
both parents in setting award levels.  In fact, it is found that the
implicit tax rate on the mother's earnings during the period covered by
this study (1961-1985) is very close to the implicit tax rates
associated with several of the child support guidelines currently being
developed.

Because most of the decline in the real average award level between
1978 and 1985 appears to be attributable to increased earnings of women,
the economic consequences of the decline may not be as serious as first
thought.  However, a more comprehensive study of the relationship
between child support and other family income is required before drawing
such a conclusion.

Gaining a greater understanding of how awards are made in practice is
an important topic for future research.  As states continue to develop
and implement guidelines in response to the recent child support
amendments, and to the extent these guidelines are perceived as being
more equitable and less arbitrary than the guidelines that existed under
the previous system, it is important to determine whether such
guidelines actually lead to the desired outcomes.  Currently, national
data for evaluating the current guidelines are not available.  It is
hoped that a national data set containing information about the award

history (date of the award, original level of the award, and any updating that occurs) plus information about economic resources available to both the custodial and absent parent (earnings and other income) will become available in the future. Such a data set will enable a more comprehensive analysis of the factors influencing award levels (both initial and current) and will provide policymakers with the information needed to maintain and improve the effectiveness of the nation's child support system.

**Appendix Table**

Trends in Child Support by Mother's Current Marital Status, 1978-1985

|  | 1978 | 1981 | 1983 | 1985 |
|---|---|---|---|---|
| **Overall Potential Population** (N=14,099) | | | | |
| | | | | |
| Award rate | | | | |
| Married (N=4,031) | .60 | .60 | .61 | .64 |
| Divorced (N=5,023) | .74 | .75 | .70 | .74 |
| Separated (N=2,062) | .41 | .36 | .35 | .38 |
| Never married (N=2,983) | .08 | .11 | .13 | .15 |
| | | | | |
| Recipiency rate | | | | |
| Married | .41 | .39 | .43 | .44 |
| Divorced | .55 | .55 | .53 | .56 |
| Separated | .30 | .29 | .30 | .33 |
| Never married | .07 | .07 | .10 | .11 |
| | | | | |
| **Population Due Child Support** (N=7,265) | | | | |
| | | | | |
| Recipiency rate | | | | |
| Married (N=2,473) | .68 | .65 | .70 | .69 |
| Divorced (N=3,665) | .75 | .74 | .75 | .75 |
| Separated (N=771) | .73 | .81 | .86 | .85 |
| Never married (N=356) | .82 | .65 | .78 | .74 |
| | | | | |
| Mean award | | | | |
| Married | $3,213 | $2,786 | $2,489 | $2,227 |
| Divorced | 3,527 | 2,841 | 2,835 | 2,834 |
| Separated | 3,299 | 3,691 | 3,264 | 2,626 |
| Never married | 1,493 | 1,379 | 1,280 | 1,483 |
| | | | | |
| Mean payment | | | | |
| Married | $1,874 | $1,513 | $1,515 | $1,379 |
| Divorced | 2,475 | 1,919 | 1,995 | 1,958 |
| Separated | 2,233 | 2,318 | 2,744 | 1,895 |
| Never married | 1,218 | 820 | 884 | 879 |
| | | | | |
| **Population Receiving Child Support** (N=5,312) | | | | |
| | | | | |
| Mean payment | | | | |
| Married (N=1,679) | $2,764 | $2,327 | $2,164 | $2,004 |
| Divorced (N=2,744) | 3,318 | 2,587 | 2,643 | 2,604 |
| Separated (N=625) | 3,062 | 2,864 | 3,196 | 2,228 |
| Never married (N=264) | 1,493 | 1,269 | 1,134 | 1,182 |

## Notes

[1]The following cases are excluded from the full CPS sample: women whose marital disruption occurred more than 18 years prior to the year covered by the survey (the previous calendar year) or subsequent to the year covered by the survey (between January and April of the survey year), never-married women whose youngest child was over the age of 18 in the year prior to the survey, widows who were previously divorced, women who were over the age of 55 in the year prior to the survey, and women for whom the year of disruption or the age of the youngest child was missing. About 1,500 cases are lost as a result of these exclusions.

[2]However, the three most recent CPS match files (for 1981, 1983, and 1985) do contain an indicator of the employment status of the mother at the time of the marital disruption for mothers who were previously married (hence, this information is missing for the never married). Although not ideal, this indicator was used as part of a supplemental test of the basic hypotheses advanced in this paper. The results are reported below.

[3]The trends broken down by the mother's current marital status are presented in the Appendix.

[4]Nominal figures for years prior to 1985 are inflated using the Consumer Price Index. The inflation factors used are 1.08 for 1983, 1.18 for 1981, and 1.65 for 1978.

[5]A reduction in the inflation rate would lead to an increase in the average child support award level for the following reason. Over time, as inflation moderates, the population more and more comprises families with awards that have eroded less, on average. For example, in the 1978 CPS sample, the average cumulative rate of inflation from the date of the award to the survey date was 37 percent. In the 1981 survey, the average cumulative rate of inflation increased to 55 percent. This increase in inflation undoubtedly played a major role in the large decline in the average real award level from 1978 to 1981. However, by 1983 the average cumulative rate of inflation in the sample fell to 51 percent and by 1985 it had fallen to 44 percent. In other words, by 1985 a fairly large part of the sample had awards that were made after 1981 and hence the average cumulative rate of inflation was lower. Therefore, one would have expected the average real award in the sample to increase as inflation moderated.

[6]States were required to adopt guidelines by October 1, 1987. However, most states had implemented them prior to this date.

[7]Melli's data applied to a period in which the Wisconsin statutes authorized the court to "grant such allowance to be paid by either or both parties for the support, maintenance, and education of the minor children committed to the other party's care and custody as it deems just and reasonable."

[8]It should be pointed out that awards in practice may differ considerably from statutory guidelines. For example, even though a state may have adopted a flat percentage guideline that does not

explicitly consider the mother's income in setting child support award levels, in practice awards may vary negatively with the mother's income.

[9]It is also necessary to know if the award was ever updated and earnings of both parents at the time of the update. Because updating of child support awards is rare and because information on updating is not available, this effect is ignored in the empirical analysis.

[10]The earnings are averages among all men and women. In principle it would be desirable to derive estimates for various demographic subgroups represented in the CPS. However, the published figures do not give a consistent series by major demographic subgroups (such as race) over the period analyzed. It is not clear whether a more finely defined relative earnings variable would yield more precise empirical results.

[11]The questions about IV-D participation were not asked at all in the 1979 survey and were asked only of non-AFDC families in the 1984 and 1986 surveys. Apparently, the reason for excluding AFDC families in the 1984 and 1986 surveys was because the data for them were viewed as being unreliable.

[12]An analysis by Robins (1986) using the 1982 CPS data indicates a positive effect of the IV-D program on child support award levels, but the effects are not statistically significant.

[13]All of the models estimated in this paper were reestimated excluding the time-trend variables. The coefficients of the other

explanatory variables remained virtually unchanged when the time
variables were excluded.

[14]In the OLS equation with a correction for selectivity bias, the
underlying probit model explaining whether or not there is an award
contains all but one variable included in the model determining award
levels, and vice versa. The variable excluded from the probit model is
the cumulative inflation rate (which is not expected to affect whether
there is an award, only the real value of the award) and the variable
excluded from the award level equation is the age of the youngest child.
This latter variable is excluded from the tobit model as well.

[15]This effect is calculated using the derivative of the conditional
expectation function of the tobit model ($\partial E(C|C>0)/\partial E$), evaluated at
the means of the explanatory variables in the sample (see Maddala, 1983,
p. 160).

[16]Tests were performed to determine whether the inflation effect is
nonlinear. The hypothesis of a nonlinear inflation effect was rejected
by the data.

[17]As indicated earlier, for a subset of the CPS sample (previously
married women in the 1981, 1983, and 1985 surveys), an indicator of the
mother's employment status at the time of the marital disruption is
available. This variable, which has a mean of .57 in the sample, was
used in place of the relative earnings variable in Equation (1) to test
the hypothesis that employed mothers had systematically lower real award
levels than nonemployed mothers. It should be noted that such a

specification represents a somewhat weaker test of the main hypothesis advanced in this paper because it does not control for either the mother's level of earnings or the father's earnings. When the original model is reestimated on the subsample of 8,643 women, the tobit coefficient on the relative earnings variable falls to -2549.5 and is not statistically significant (the standard error is 4035.0). The tobit coefficient on a dummy variable indicating whether the mother was employed at the time of the marital disruption is -313.3 and is statistically significant at the 1 percent level (the standard error is 103.9). Hence, although the effect of the employment status variable is somewhat smaller in magnitude than the effect of the relative earnings variable, the alternative specification does provides corroborating evidence that the real award level is negatively related to employment of the mother.

[18]The implicit tax rate under the Massachusetts guideline is about 18 percent and under the Income Shares-Colorado guideline it is about 19 percent. All of the tax rates reported here were calculated from data given in Dodson's paper. It is worth noting that according to Dodson, most states do not base their current guidelines on the Equal Living Standard, which appears to impose the highest implicit tax rate of all the guidelines currently being practiced.

[19]An alternative specification was tested in which the time trend variable subsequent to 1975 was replaced by a series of dummy variables for each year from 1976 to 1985. The dummy variables exhibited no discernible pattern over this period and the coefficient of the time

trend variable prior to 1976 was small, positive, and not statistically significant.

[20]The predictions are not very sensitive to the order in which each factor is introduced.

[21]A provision in the recently enacted 1988 Family Support Act requires periodic review of child support awards. This provision may reduce the effects of inflation on award levels in the future.

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