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CHILD SUPPORT ENFORCEMENT: INCENTIVES AND WELL-BEING

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For the majority of women and their dependent children, single parenthood increases the probability of being poor (Meyer, 1998; Baugher and Lamison-White, 1996). With lower income comes an increasing reliance on public welfare programs. In an effort to encourage absent fathers to support their children, rather than allowing them to receive government assistance, government has focused more attention on child support legislation. Child support, it is presumed, will reduce the poverty of women and children in households headed by women; lower participation in means-tested, cash assistance welfare programs and government expenditures on such programs; and maintain both financial and social links between children and their nonresident parents. Strengthening child support enforcement, as with other public policy, also brings with it certain incentives and consequences, some expected, some unexpected. If these incentives imply that more income is added to single mothers' households than just the child support itself, then child support enforcement is a very effective policy indeed. Conversely, if the incentives result in less income, then the policy is less effective.

Only fifty years ago, child support enforcement was strictly a state, and mainly a local, judicial responsibility. Not long after the explosion of welfare caseloads in the 1960s, however, Congress added Title IV-D to the Social Security Act and President Ford signed the bill into law in early 1975. Title IV-D created a federal-state child support enforcement program and provided federal funding for 75 percent of state expenditures on child support enforcement. Part D established the Federal Office of Child Support Enforcement (OCSE), and required states to create similar offices. These offices were to enforce private child support collections on behalf of individuals collecting the major cash benefit program of the time, Aid to Families with Dependent Children (AFDC).

Further legislation followed in 1984 and 1988. In general, the provisions in the 1984 Child Support Enforcement Amendments were strengthened by the 1988 Family Support Act (FSA). In 1984, states were required to produce written numeric guidelines for calculating child support awards but use of these guidelines by judges was voluntary. The 1988 FSA, on the other hand, legislated that judges may deviate from these guidelines only with written justification. In 1984, states were required to withhold child support payments from the wages of nonresident parents who were more than one month delinquent with award payments. The FSA legislated immediate withholding of child support from wages for fathers whose children were receiving AFDC as of 1990 and for all OCSE child support cases by 1994. In addition, the FSA required that child support award amounts be reviewed at least every three years for cases handled by the OCSE; the rate of paternity establishment in nonmarital AFDC cases be increased; the social security numbers of both parents appear on the birth certificate of a child; and all parties to a paternity dispute submit to genetic testing on the request of any party (Garfinkel, 1994; Garfinkel, 1992).¹

Finally, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 also strengthened child support enforcement provisions. Although the cash assistance welfare provisions are arguably the most well known aspects of PRWORA, the act also affected child support, particularly in the areas of child paternity acknowledgement and collection of obligations.² States are required to legislate that a signed voluntary acknowledgement of paternity is considered a legal finding unless rescinded within 60 days or by the date of an administrative or judicial proceeding, whichever is earlier. In addition, states must establish central state registries of child support orders and centralized collection and disbursement units. These facilitate mass case processing and an ability to match child support payment records against other computer databases, both public and private (e.g., local tax and revenue records, unemployment compensation, banks accounts, utilities billing). PRWORA aims to make collecting delinquent child support obligations more proactive, rather than relying on resident parents' complaints to initiate action. This is particularly true with regard to routine cases; for such cases, states are required to have expedited processes that rely on standard administrative enforcement steps rather than legal action. Such procedures may include liens on unpaid child support imposed administratively rather than requiring court action, subpoenaing relevant information, or ordering genetic tests. It is worth noting, however, that PRWORA provisions do not apply to cases handled through avenues other than OCSE, and for nonwelfare cases, participation in the OCSE caseload is voluntary (Legler, 1996; Wolk and Schmahl, 1999).

PRWORA also expands the federal role in child support collection by making it easier to collect child support across state lines. This includes both a national reporting system for newly hired employees (where information on new employees is compared with a federal registry of child support obligators, after matching against a state register) and a requirement that states adopt the Uniform Interstate Family Support Act (UIFSA). The UIFSA, among other provisions, requires all states to have "long-arm" statutes and allows direct withholding of child support obligations from wages among states.

Although PRWORA generally increases the federal role in child support enforcement, there are two exceptions. States are no longer required to disregard the first \$50 of child support payments when child support is paid to a mother receiving cash assistance under Temporary Assistance for Needy Families (TANF) programs. In addition, it is no longer required to review OCSE-administered child support awards every three years (Legler, 1996; Wolk and Schmahl, 1999).

In summary, between 1981 and 1999, in every year save three, Congress passed new and stronger child support legislation (Lerman and Sorensen, 2000). This spate of federal legislation transformed child support enforcement from a system characterized by local, judicial discretion into a system increasingly characterized by state or federal administrative regularity (Garfinkel, 1992). These federal acts provide the framework under which child support obligations are created and collected. They also provide incentives for the behavior of both residential and nonresidential parents in the labor market, participation in cash assistance benefit programs, marital dissolution and re-formation, nonmarital births, and a host of other facets of family life.

¹ The increase in paternity establishment must compose at least half of the AFDC caseload or the rate of paternity establishment increase by at least three percentage points per year.

² Note that child support cannot be awarded in nonmarital cases unless paternity is established.

In this paper, we examine the effects of the child support enforcement revolution on child support payments; welfare caseloads; both parents' labor supply, divorce, and remarriage; nonmarital births; and the incomes of eligible mothers. We begin with a review of current theory and synthesize existing literature on behavioral effects of child support enforcement. We follow with new empirical evidence on the effects of stronger enforcement on the incomes of mothers and their children.³

Theory and Empirical Evidence

Public enforcement of private child support transfers income from nonresident parents (mostly fathers) to resident parents (mostly mothers) or, if the mother is receiving welfare, to the state. Like any other transfer, child support provides many incentives given that it changes the incomes of parents. Economic theory suggests that enforcement will lower the labor supply of mothers who are not potential welfare recipients, will increase the labor supply of mothers who are potential welfare recipients, will increase the labor supply of fathers liable for support, may increase or decrease divorce and the remarriage of both parents, and will deter nonmarital births. We examine, in turn, the effects of the child support enforcement revolution on child support payments, welfare caseloads, labor supply of eligible mothers and fathers, and the effects of child support on family formation: divorce, marriage, and nonmarital birth. We conclude this section with a review of the impact of child support on the incomes of single mothers and their children.

Child Support Enforcement's Effects on Child Support Payments

We might assume that stronger child support enforcement will lead to more child support payments from the nonresident father to the resident mother; however, this may not necessarily be true. Laws are not always effective, and not always equally effective for all individuals. Data from the March Current Population Survey on the rate of child support receipt among all single mothers show virtually no increase from 1979-1998—from 30 percent to 31 percent. On the other hand, child support payments from the fathers of children receiving welfare doubled, from 8 percent to 16 percent. Similarly, according to data reported by the 50 state offices of child support enforcement and compiled by the federal OCSE, the proportion of single mothers who were receiving welfare and who also had a child support payment nearly doubled—from 13 percent to 25 percent. Although federal and state offices of child support enforcement, in principle, are supposed to serve welfare and nonwelfare cases, the focus of legislators and bureaucrats has been on welfare cases. Thus, a much larger improvement in child support enforcement for welfare cases over nonwelfare cases is to be expected.

Yet the impact of enforcement on child support is not merely a question of legislation but also of environment, as a more sophisticated analysis of the data indicates. As documented in Hanson, Garfinkel, McLanahan, and Miller (1996), increases in the proportion of single mothers who have never married and declines in real wages of nonresident fathers have forced the child support enforcement system to swim upstream. (See also, Sorensen and Halpern, 1999.) Unlike divorce and separation cases, never-married cases require that paternity be established before a child support order can be secured. Declines in real wages reduce nonresident father's ability to pay support. These trends understate the effectiveness of

³ In the vast majority of cases, the parent that resides with the children is the mother and the nonresident parent is the father. Most literature in this area restricts its focus to family formations of this type. For linguistic convenience these arrangements will be assumed to be true in all cases.

the child support enforcement system. Although the prolonged economic boom of the 1990s reverses some of these trends, the data in this analysis go only through 1998 and thus do not reflect the full effects of the extended boom.

Finally, there are a number of academic studies that document a link between specific child support enforcement laws and increases in child support payments, or in a particular component of payments. These include blood and genetic testing (Miller and Garfinkel, 1999), laws allowing paternity to be established up to age 18 (Garfinkel and Robins, 1994), publicizing the availability of IV-D services (Garfinkel and Robins, 1994), establishing numerical guidelines for child support (Meyer, Bartfeld, Garfinkel, and Brown, 1996; Thoennes, Tjaden, and Pearson, 1991), requiring income withholding, requiring payments through a third party (Garfinkel and Klawitter, 1990; Beller and Graham, 1993; Garfinkel and Robins, 1994; Freeman and Waldfogel, 1998; Sorensen and Halpern, 1999), and expenditures on child support enforcement (Garfinkel and Robins, 1994; Freeman and Waldfogel, 1998).

In short, there is strong evidence that the nation's efforts to strengthen child support enforcement have succeeded in preventing overall payment rates from falling and dramatically increasing child support payments from fathers of children on welfare.

Child Support Enforcement's Effects on Welfare Caseloads

Child support enforcement can decrease welfare caseloads both by reducing the proportion of single mothers who receive welfare and by reducing the prevalence of single mothers. Strong child support enforcement reduces entrances into and hastens exits from welfare by increasing the economic security of mothers and by complementing work. Increases in child support raise mothers' income, reducing the need and eligibility for welfare. Compared with welfare, child support is more complementary to work because as mothers' earnings increase, child support payments fall much less rapidly than welfare benefits, and in many states, child support does not decline at all. A number of studies document that child support reduces poverty and welfare caseloads (Robins and Dickinson, 1985; Robins, 1986; Garfinkel, Robins, Wong, and Meyer, 1990; Meyer, Garfinkel, Robins, and Oellerich 1991). In terms of flows into and out of welfare, two studies (Meyer, 1993 and Huang, Kunz, and Garfinkel, 2000) using longitudinal data find that child support payments increase the probability of leaving AFDC and reduce the probability of re-entering AFDC.

As described below, economic theory suggests, and some empirical research confirms, that strong child support enforcement may also reduce nonmarital births and divorce, thereby reducing the prevalence of single mothers. Because child support can reduce welfare caseloads via multiple routes, estimates of the effects of strong enforcement on any particular route underestimate the total effect. Consequently, such estimates are likely to be misleading. Suppose, for example, that strong enforcement reduced entrances into welfare by 6 percent, increased exits from welfare by 6 percent, reduced divorce by 6 percent, and reduced nonmarital births by 6 percent. Each effect by itself is quite small and therefore difficult to detect and isolate at a statistically significant level. However, the aggregate effect of all four together would be a reduction in caseloads of about one-fourth.

Three recent studies relate the strength of child support enforcement to recent aggregate declines in welfare caseloads. Mead (1999) shows that variation in county caseload declines in Wisconsin between 1986 and 1994 were very strongly linked to the county's success (or lack thereof) in securing child support payments. It is worth noting that Wisconsin has had the largest welfare caseload decline and the strongest child support enforcement system in the nation (Garfinkel et al., 1998). In another exploratory note, Mead (2000) finds a similar relation in national data. Finally, Huang, Garfinkel, and Waldfogel (2000) build on the large body of research devoted to the issue by using annual state panel data from 1980 to 1996 to first replicate previous models and then incorporate the effects of child support. These estimates imply that strengthened child support enforcement explains between one-quarter and three-fifths of the caseload decline between 1994 and 1996.

Father's Labor Supply

A possible adverse effect of stronger child support enforcement is that fathers may work less. Conventional economic theory, in contrast, predicts that fathers should work more, not less, in response to more stringent enforcement. Stronger enforcement reduces a nonresident father's income, which encourages him to work more to make up for the loss. If child support orders automatically increased and decreased over time in response to changes in income, the effects on his work effort would be equivalent to the effects of an income tax, which is to say they would be ambiguous. Although the decrease in his income would promote work, the reduction in the reward for work (from the tax child support imposes on work) would reduce work. Child support orders are, by far, expressed in fixed dollar terms and are very rarely updated to reflect changes in the incomes of fathers. Only in a few dozen counties in Wisconsin are child support orders expressed in percentage terms and thereby change automatically with changes in fathers' incomes. Thus, the only effect predicted by conventional theory is to encourage more work. Moving beyond conventional theory, however, child support could encourage some fathers to work less out of spite or anger toward the mother, and might encourage other fathers to substitute underground labor for legitimate earnings in order to avoid enforcement.

Only two studies have examined this issue. Klawitter (1994) finds that, after adjusting for the child support obligation amount, there is no significant impact of obligation amount on a father's future earnings. This holds true both for fixed sum and percentage of income awards, implying that child support officials need worry less about fathers deliberately reducing their labor income in order to decrease their child support. Freeman and Waldfogel (1998) examine the effect of child support enforcement, as opposed to type of child support order as Klawitter did, on the labor behavior of all nonresident fathers. Using data from the 1986 and 1991 waves of the Survey of Income and Program Participants, the authors examined the effect of child support enforcement policy variables on the difference in labor supply between nonresident fathers and resident fathers. Although the results of the two data years were slightly different, Freeman and Waldfogel conclude that stronger child support enforcement does not reduce the labor supply of nonresident fathers. Indeed, in states in which child support enforcement was strongest, nonresident fathers were slightly more likely to be working, compared with resident fathers, and slightly less likely to work in casual settings or self-employment. When fathers earn money that is paid in cash (as is more likely to happen

in casual labor and with self-employment), it is more difficult for the relevant authorities to ascertain income and demand child support obligations be paid. The finding that nonresident fathers were less likely to work in such settings when child support enforcement was more stringent belies the argument that stronger enforcement prompts more fathers to avoid their financial obligations to their children.

Mother's Labor Supply

Although child support payments seem to have little effect on the labor supply of nonresident fathers, the receipt of child support may affect a mother's labor supply. Labor supply effects will depend on whether a mother receives welfare. When a woman does not receive welfare, the income effect of increased child support payments dominates her labor supply decision and she reduces her work hours. This occurs because child support payments increase her income but her marginal return from work is unaltered.

On the other hand, child support payments have the opposite effect on the labor supply of women participating in welfare. Receipt of child support offers an incentive to increase their labor supply. Most women on welfare work very little or not at all; thus, a labor supply response is, in general, either to continue to not work or to begin working. Throughout most of the period from which our data are drawn, if a woman combined welfare and child support, the maximum addition to her income would be \$50 per month. Child support in excess of \$50 per month went to the state rather than the mother. If a woman left welfare, however, she received the full amount of her child support. In addition, work is always more remunerative off welfare than on welfare. Thus, increases in child support increase the incentive to leave welfare for work.

Overall, the effect of child support payments on labor supply is ambiguous because the labor supply response to child support payments is in opposite directions for women on welfare and women not receiving welfare. Early investigations of the link between child support and women's labor supply found a positive correlation between hours of work and child support (Grossman and Hayghe, 1982; Veum, 1992), and simple cross-tabulations seemed to imply that women who received child support worked more hours in the labor market. This relation was upheld when multiple regression techniques were applied (Beller and Graham, 1985; Robins and Dickinson, 1985). However, this result was challenged when Graham and Beller (1989) estimated the effect of child support on labor supply, allowing the participation in welfare to be an endogenous decision.

Using a sample of divorced and separated single women, Graham and Beller estimated work hours while including a regressor variable that controlled for the choice of welfare participation. They also allowed the receipt of child support to be endogenous. Results indicate that women who receive child support differ from those who do not receive child support on unobserved variables, and this "selection" significantly affects the choice of labor hours. In addition, the "selection" into welfare participation also has significant influence on labor supply. Graham and Beller found that the receipt of child support reduced the number of hours these women chose to work, once their receipt of child support and their participation in

welfare were controlled. When the amount of child support was also allowed to be endogenous, it still reduced the hours of work, but the coefficient was no longer statistically significant. Hu (1999) also finds, when controlling for welfare participation and remarriage, that higher child support payments reduce hours of work.

Marital Dissolution, Marital Re-formation, and Nonmarital Births

Child support enforcement has been theorized to affect family formation in multiple ways: by influencing whether couples divorce, whether unmarried mothers and fathers marry, and whether never-married individuals have children. Nixon (1997) examines the impact of child support enforcement on marital dissolution. Divorce will occur if the difference between the sum of the utility of the man and woman before and after divorce is positive. Nixon theorizes that if a husband expects stronger child support enforcement to increase his child support payments, then it raises the cost of divorce for him, lowering his utility. On the other hand, if a wife expects to receive more child support under a strengthened child support program, this may make divorce more attractive for her. The net effect of child support enforcement on marital break-up is thus ambiguous.

This situation, however, is affected by the presence of welfare programs, where the wife is likely to begin receiving welfare should divorce occur. At the time of analysis, the welfare program was AFDC. Under AFDC program regulations, the first \$50 of child support was disregarded and then the welfare benefit was reduced one dollar for each additional dollar of child support over \$50. Assuming that the wife's utility after divorce is measured purely by her income, and her post-divorce income will make her eligible for AFDC, then only the first \$50 of child support is relevant because the additional child support does not change her income. (It is assumed that child support payments and welfare do not alter the woman's labor supply.) If the husband expects to pay less than \$50 under strengthened child support enforcement, then the situation is the same as that of nonwelfare couples, and the effect of child support enforcement on divorce is ambiguous.⁴ However, if he expects to pay more than \$50 after strengthened child support, the situation is altered.

When stronger child support enforcement implies that payments are more than \$50, there are three possible outcomes. In the first scenario, the father pays at least \$50 in child support whether the regulations are strengthened or not. Under this scenario, stronger child support reduces the chances of marital dissolution. This occurs because the wife only receives the additional \$50, leaving her utility unchanged after divorce, but the husband expects to pay more child support, thus reducing the appeal of divorce for him (especially given that any payment over \$50 does not change the welfare of his children).

In the second scenario, under weaker child support enforcement, the child support payments will be less than \$50, but under stronger enforcement, as indicated, they will be more than \$50. A mother's utility increases because stronger child support enforcement has raised her additional income (and her utility) from less than \$50 plus the welfare benefit to \$50 plus the welfare benefit. Divorce is, however, more costly for the father and thus, again, the final effect is ambiguous. Yet the wife's income rises by so little that the father's decrease in utility is likely to outweigh the utility gain of his wife, making it less likely that they will divorce compared with nonwelfare couples.

⁴ Child support payments, if they occur at all, are unlikely to be this low, making this situation unusual.

The third possibility is that under weaker child support regulations, the father would pay child support under the table (especially if the amount is more than \$50) but under more stringent regulations, he will be unable to do so. Here, the stronger child support regulations reduce the wife's income after divorce and also negatively affect the father's utility. Divorce is thus less likely. In summary, in cases in which the wife will begin receiving welfare should divorce occur, stronger child support enforcement has a larger negative effect on divorce than for other couples, thus reducing the chances of marital dissolution compared with nonwelfare couples.

Nixon (1997) confirms this theory using data from the March-April match of the Current Population Survey (CPS). Nixon uses the marital history of women to construct a dependent variable of the probability that a woman divorces in the five years prior to the survey year. She also includes several robustness checks that confirm the results. She finds that stronger child support reduces the chance of divorce and that this effect is larger when the woman will be eligible for welfare. However, the child support enforcement variables used are measured by the OCSE and thus only represent enforcement for those mothers who compose the OCSE caseload—a different sample than divorced mothers in the CPS.

If child support enforcement reduces the chances that couples divorce, then what are its effects on marriage among single mothers? For low-income mothers, marriage offers the surest route out of poverty, particularly for divorced mothers (Duncan, 1984). This occurs because of the access a wife gains to her husband's income. Theories on the marriage market have been formed by applying job search models to the issue (Freeman and Waldfogel, 1998; Folk, Graham, and Beller, 1992; Yun, 1992; Beller and Graham, 1985). A woman will marry if she receives an offer better than some minimally acceptable offer. The receipt of such an offer depends on the pool of potential partners, the time and effort spent in search, and the standards of her minimally acceptable offer.

Child support enforcement, by increasing child support payments, may affect the marriage-income relation (Folk, Graham, and Beller, 1992; Yun, 1992). The increased income may allow her to fund a more thorough search for a new partner, and her increased income may generate more and better offers of marriage,⁵ increasing the probability of marriage (Yun, 1992); however, it may also lower her chances of marriage by raising her minimally acceptable standard and extending the duration of her search. Women with higher child support payments are likely to have less need of the additional income that marriage provides (Freeman and Waldfogel, 1998; Folk, Beller and Graham, 1992; Yun, 1992). The effect of child support enforcement, or at least of child support payments, on women's marriage is thus ambiguous.

Most of the evidence of the effect of child support on women's marriage comes from studies of divorced women. Folk, Graham, and Beller (1992) examine the remarriage of divorced women other than African Americans using data from the April-March CPS. They analyze cross-sectional pooled data spanning 1979-1986. The authors indicate that child support receipt is not related to remarriage for divorced mothers who remarry quickly (within the first five years). For those who are not married five years after their divorce, child support lowers the probability of remarriage, but the effect is very small. However, as Folk et al. (1992) indicate, those who remain unmarried after five years may be more homogenous as a group

⁵ If the woman receives child support, it is less likely that a potential partner will be required to support those children as child support does not legally cease with the marriage of the mother. However, Hill (1992) indicates that a divorced mother's remarriage reduces child support payments from the biological father of the children.

than is the group of women who remain single one year (for example) after their initial divorce. This homogeneity may strengthen the influence of factors, such as child support, that only weakly affect the chances of remarriage in more heterogeneous groups. In addition, those who are unmarried five or more years after their divorce may differ from women who remarry more quickly on unobservable factors that also affect their probability of remarrying.

Yun (1992) used longitudinal Wisconsin data to examine the remarriage of white, divorced women. She was thus able to undertake an event-history analysis. She finds that the relation between child support payments and remarriage is not linear. Receiving any child support makes remarriage more likely, but the strength of this influence wanes as the amount of child support paid grows. In addition, continuity in payment is important. Those mothers who do not receive regular payments are more likely to remarry. It appears that when the future financial security is less certain, because child support payments are nonexistent, low, or irregular, remarriage is more attractive than when child support payments are larger and more routine. Yun also examines who the women marry, using income and education as measures of the quality of the match. Theory would predict that those who do not receive child support marry men of lower quality because, for economic security, the women must marry more quickly, thus shortening their search, while those who receive larger amounts of child support marry higher quality men. This is upheld when income is used to measure men's quality as a husband, but not when education is used.

What about fathers? Bloom, Conrad and Miller (1998) investigate the effect of child support enforcement on the remarriage rates of nonresident fathers. In theory, the effects of strong child support enforcement on remarriage should be the opposite of mothers', which is to say they are ambiguous. The decrease in income increases fathers' incentive to remarry but makes them less desirable partners. Bloom and colleagues find that stronger enforcement leads to a decline in remarriage. Further, among fathers who do remarry, the child support payments to his absent children lessen their poverty but increase the poverty of his stepchildren and the biological children in the new marriage. In simulations, Bloom, Conrad, and Miller (1998) find the poverty effects of child support payments on nonresident children are more than offset by the poverty effects such payments have on potential or actual stepchildren.

Single motherhood occurs not only with the dissolution of marriage, but also when nonmarital childbearing occurs. Given current available methods of contraception, nonmarital conception is a matter of choice for men before conception and, with the legality of abortion, a choice for women both before and after conception. Further, the couple may jointly decide to make the birth a marital birth rather than nonmarital birth by marrying.

Why then does nonmarital child bearing occur and how would child support enforcement alter it? Willis (2000) suggests that nonmarital childbearing occurs when women outnumber men, and when women, even low-income women, can afford to support children alone. Once the pool of marriageable men have partnered with their choice of available women, there will be women who are unmarried. These women will likely be low-income if we assume that higher-income women make more attractive partners and will tend to marry. The presence of welfare, however, allows low-income women to support children even without the help of a second income. This gives the men who father their children an opportunity for what Willis (2000) calls "costless fatherhood," and thus offers little incentive for them to practice birth control.

Stronger child support legislation, however, creates costs for these fathers by requiring them to pay child support. Because both men and women can control contraception, some men who would have fathered children under “costless” conditions now choose to avoid those costs and prevent conception from occurring. Nonmarital births should thus decline.⁶

Two studies examine the effect of child support enforcement on the rate of nonmarital births. In a state-level analysis, Case (1998) examines the effects of five child support enforcement laws on the rate of nonmarital births among women ages 15-44. Each law is entered separately into a regression and each is designed to avoid bias in the coefficient. Three of the five laws significantly reduced the rate of nonmarital births.⁷

Garfinkel et al. (unpublished) also perform an aggregate, state-level analysis similar to that of Case (1998), examining the effect of child support enforcement on nonmarital birth rates. In their study, however, the strength of child support enforcement is gauged by the paternity establishment rate. In addition, Garfinkel and colleagues estimate the influence of welfare generosity on nonmarital births. The authors find that, although there is a possibility of omitted variable bias, stronger child support enforcement and less welfare generosity both deter nonmarital birth. Child support enforcement, however, had a larger effect than did welfare.

Child Support Effects on Mother's Income

Little research looks directly at the effects of child support enforcement or payments on the income of single mothers and their children. However, studies do examine the impact of child support on poverty. Most find that the poverty rates of single mothers are higher than those of their nonresidential partners (Bartfeld, 2000; Bloom, Conrad, and Miller, 1998; Fletcher, 1989; Nichols-Casebolt, 1986). In addition, child support payments do little to reduce the number of single-mother households in poverty, although they do reduce the poverty gap of these families by increasing their incomes (Bartfeld, 2000; Meyer and Hu, 1999; Meyer and Kim, 1998; Sorensen and Clark, 1994; Robins, 1986; Oellerich and Garfinkel, 1983). Even if the child support system were perfect,⁸ many children in single-mother households would still live in poverty (Miller, Garfinkel, and McLanahan, 1997; Nichols-Casebolt, 1986). However, Meyer and Hu (1999) suggest that child support payments are comparable to social insurance and welfare in their antipoverty effects, and that the effects of child support payments are growing larger over time. Note that these measures of poverty capture the situation of children in single-mother households but not the poverty rate of children overall. As suggested by Bloom et al. (1998), the overall effects may be quite different.

Although little examined, the effects of child support enforcement on the incomes of eligible women are vital because these households have such high poverty rates. In addition, examining the effects of child support enforcement and payments on the incomes of eligible women allows us to indirectly explore the behavioral incentives created by child support and the effectiveness

⁶ Although increased child support payments may increase the incentive for mother to give birth outside marriage, this may have less effect on nonmarital birth for two reasons: one, under welfare rules the size of child support payments must be large in order to make more than a fifty dollar difference in the mother's income; two, given contraception may be practiced by either party, both must be ignoring contraception for birth to occur.

⁷ However, the standard errors estimated may be understated due to the presence of an instrument in the second stage.

⁸ A perfect system being one in which all eligible mothers have an award, the award was calculated using a reasonable uniform standard, and all obligations are collected.

of child support. We can assess the effectiveness of more stringent child support by exploring whether it increases the income of eligible women and, therefore, their well-being. However, we know from the literature that the income effects of child support payments are not straightforward. Enforcement of child support and the resultant payments affect the income-producing behavior of eligible women, that is, their labor supply, welfare participation, and divorce, marriage, and nonmarital birth rates. A dollar increase in child support receipt may thus not produce an additional dollar of income. On the other hand, it may produce more than an additional dollar of income. By measuring how much extra income an extra dollar of child support provides to single mothers, we indirectly explore the impact of a subset of these incentives—the offsetting labor supply and welfare participation incentives.

New Estimates of the Effects of Enforcement on Mothers' Incomes

Data

The March CPS, administered by the U.S. Census Bureau, is a nationally representative sample. Information gathered from respondents includes income sources, allowing users to accurately identify child support receipt, and detailed individual and family characteristics that may be associated with child support receipt. The 1979-1999 March CPS are used to track trends in single mothers' income and child support payments in the past two decades. A single mother is defined as a currently unmarried and non-widowed woman who lives with her own children, children who are younger than age 18. These single mothers are all potentially eligible for child support.

Unfortunately, we are unable to identify mothers who are currently married but not to the father of all of their children. Such women are potentially eligible for child support from the children's natural fathers. Excluding these women from the sample poses a sample selection problem.⁹ However, the problem may be lessened by the fact that many fathers reduce or stop paying child support to women when they remarry (Hill, 1992). Most important, excluding remarried mothers does not allow us to include the effects on income via remarriage of child support enforcement.

We focus on two outcomes: mother's total income and child support amount received. Before 1989, however, child support amount was combined with amounts from alimony and other income in the CPS. We employ the information from 1979-1988 CPS-CSS to impute the child support amount in 1979-1988 March CPS.¹⁰

The strength of child support enforcement is measured by the number of key laws a state has adopted and state expenditures per single mother on child support enforcement. We use an index rather than individual laws because the latter is clearly a misspecification for three reasons. First, child support payments are a multiplicative function of the probability of having a legal obligation, the level of the obligation, and the probability of paying the full obligation. This means that the effects of laws, like genetic testing, that affect the probability of having an obligation depend on laws and practices that affect the probability of paying what you owe. The effect of each step in the enforcement process depends on the effectiveness of all the other steps in the enforcement process. The second reason for using an index is that each step

⁹ Our thanks to discussant Elizabeth Peters for identifying this problem.

¹⁰ For previous married mothers with child support income, the percentages of child support amount in the amount of child support, alimony, and other income were 87.9, 85.2, 84.4, 86.2 and 82.0 percent for 1978, 81, 83, 85, and 87 respectively. The comparable numbers for never-married mothers are 92.5, 93.5, 84.7, 88.0, and 82.4 percent, respectively.

in the enforcement process is affected by more than one law. The probability of securing a child support obligation, for example, depends on, for example, admitting, and more recently requiring, blood and genetic tests in disputed cases; allowing paternity to be established any time before the child's eighteenth birthday; and requiring that paternity be established to include the father's name on the birth certificate. Third, effective practices are derived in part, but not in whole, from laws. Good laws that are not effectively enforced may have little effect. Common sense suggests, and Freeman and Waldfogel (forthcoming) confirm, that effective child support enforcement requires both strong laws and high expenditures on enforcement.

Thus, we create a legislative index to measure state child support legislative vigor, adding one to the state's index for each piece of relevant legislation. This legislative index covers each step of the enforcement process: establishing paternity, obtaining orders, and collecting obligations. Specifically, the index includes genetic tests, paternity establishment up to age 18, numerical guidelines, presumptive guidelines, wage withholding under delinquency, immediate wage withholding for new cases, universal wage withholding, and state income tax intercept. We collect information on legislation mainly from various years of National Conference of State Legislatures (NCSL) and OCSE Legislative Tracking System Report (OCSE-LTSR). We consolidate the inconsistencies between NCSL and OCSE-LTSR by examining each state's existing laws in the Library of Congress. We assume a one-year lag between legislative enactment and implementation. For the measure of child support expenditures for each state, the expenditures reported by OCSE is divided by the number of single-mother families in that state, as measured in the March CPS.

Analysis Techniques

Our analysis is based on ordinary least squares (OLS) regression models that treat natural logarithm of mother's income (or child support amounts) as a function of state child support enforcement, unemployment rate, and mother's socioeconomic characteristics.

The mother's characteristics include her marital status, race, education, age, number of children, and residential location. One important feature of our analysis is that we also take father's income into account. Because the March CPS does not have this information, we adopt a method developed by Garfinkel and Oellerich (1989) to predict father's income.

This method is based on the custodial mother's characteristics to predict nonresident father's income. Specifically, we estimate an income equation for a sample of men ages 25-60, and then apply the coefficients to the custodial mother's characteristics. The coefficients used to predict father's incomes were obtained from regression using 20 years of March CPS (1979-1999). For each survey year, we estimate separate models for ever-married white men, ever-married black men, ever-married Hispanic men, never-married white men, never-married black men, and never-married Hispanic men. We model the respondent's annual income as a function of his age, education, residential location, and state environment, such as unemployment rate and median wage rate. For ever-married men, we also take marital status into account (current married, divorced, and separated). The coefficients from the models are then applied to the custodial mother's characteristics to estimate father's income assuming positive assortative mating. Appendix 1 shows the coefficients for the ever-married black men from the 1998 March CPS.

An additional analysis is provided by estimating the impact of child support receipt on mother's income. Because child support receipt is endogenous to income, we instrument for it using our child support variables and all other controls. Child support payments are censored at zero and, thus, this first stage is estimated using a tobit. In the second stage, the instrument from the first stage is regressed, using OLS, on mother's income. The standard errors of the second stage are corrected using Murphy and Topel's (1985) equation (24).

Results

Given that data are included in our analysis sample for every year between 1978 and 1998, we examine our descriptive statistics over this time period. The trend in our independent variables are displayed in Table 1. In the interests of simplicity, the statistics in Table 1 are those for every fourth year between 1978 and 1998. The statistics describe single mothers who are potentially eligible for child support; that is, women who have dependent children whose father is alive but living elsewhere. Remarried mothers eligible for support are not included in the data because they could not be identified as such in the March CPS. In other words, these mothers are separated, divorced, or have had children out-of-wedlock.¹¹

Year	1978	1982	1986	1990	1994	1998
The Characteristics of Mothers						
Marital Status						
Never Married	0.192	0.307	0.348	0.392	0.407	0.459
Separated	0.297	0.232	0.204	0.199	0.187	0.159
Divorced	0.510	0.461	0.447	0.408	0.406	0.383
Race						
Black	0.330	0.359	0.339	0.347	0.325	0.316
White	0.574	0.530	0.526	0.516	0.514	0.501
Hispanic	0.082	0.091	0.113	0.110	0.139	0.159
Other	0.013	0.019	0.020	0.025	0.021	0.029
Education						
Below High School	0.364	0.328	0.292	0.273	0.235	0.212
High School	0.375	0.409	0.416	0.450	0.374	0.352
Some College	0.200	0.192	0.213	0.189	0.299	0.319
College	0.061	0.071	0.079	0.088	0.092	0.117
Number of Children	1.908	1.764	1.705	1.741	1.739	1.720
Mother's Age	33.158	31.838	31.998	32.366	32.774	33.480
Central City	0.418	0.394	0.371	0.356	0.341	0.359
Father's Income [1998 dollars]	23212	19070	21252	20039	19685	22702
State Child Support Enforcement						
Legislative Index	0.7 (0.7)	1.4 (1.1)	3.8 (1.0)	6.6 (1.1)	7.7 (0.6)	7.9 (0.2)
Expenditure per single mother family [1998 dollar]	140 (95)	135 (69)	163 (86)	214 (88)	271 (115)	374 (155)
State Unemployment Rate	6.2 (1.1)	9.9 (2.2)	7.1 (1.9)	5.6 (0.8)	6.2 (1.3)	4.7 (1.2)
N	3,327	4,544	4,789	4,872	4,942	4,332
Weighted N (1,000)	4,757	6,608	7,389	7,885	9,038	9,086
Standard Errors in parentheses						

¹¹ The statistics included in table 1 are the averages of state means—they are not compiled on an individual basis.

Over the twenty years described here, the proportion of women potentially eligible for child support who have never been married has grown from 19 percent in 1978 to 46 percent in 1998. Equivalently, the proportion of women eligible for child support who are divorced or separated has diminished. The proportion of eligible white women has declined from 57 percent to 50 percent. Similarly, the proportion of black women also declined slightly from a high of 36 percent in 1982 to a low of 32 percent in 1998. On the other hand, the proportion of Hispanic women potentially eligible for child support has grown each year, from 8 percent in 1978 to 16 percent in 1998.

The proportion of women eligible for child support who have less than a high school degree has also fallen steadily across the time period, whereas the proportion of those with a college education has increased steadily. This reflects the increase in education in the American population in general. The number of children, the mother's age, and central city residence have remained at a steady level from 1978-1998. Father's income dropped from 1978 to 1982 with the slowing of the economy, before rising again. Another drop occurs between 1990 and 1994, which can be attributed to a second recession and to the decline in male wages at the bottom of the income distribution. The state of the economy is loosely tracked by the average state unemployment rate.

Our child support enforcement variables indicate a growing commitment on the part of states to enforce child support arrangements. Both the number of laws and the expenditures used to enforce them increased steadily across the 20 years of our analysis. The trends in income over time for mothers eligible for child support are shown in Table 2, together with the trends over time in the percentage of income that child support payments compose. All income figures are presented in constant 1998 dollars.

Table 2:
Trends in Mother's Total Income and Percent of Child Support in Total Income

Year	1978	1982	1986	1990	1994	1998
Total Income						
All Eligible Mothers	16,958	14,938	15,681	16,134	16,866	18,856
Mothers w. Child Support Receipt	24,446	23,891	22,562	23,115	23,065	26,745
Mothers w/o Child Support Receipt	13,814	11,788	12,727	13,144	13,963	15,324
Mothers w. High School or Above Edu.	20,229	17,900	18,840	19,050	19,624	21,761
Mothers w. Education Below High School	11,208	8,840	7,967	8,292	7,843	8,044
Previously Married Mothers	18,231	17,502	19,006	19,755	20,889	23,500
Never-Married Mothers	11,611	9,150	9,459	10,541	10,998	13,376
Mothers without AFDC payments	21,508	19,030	19,929	20,469	20,774	21,149
Mothers with AFDC payments	10,244	7,473	7,484	7,306	8,354	8,608
Percent of Child Support in Total Income						
All Eligible Mothers	7.17	5.97	5.90	6.12	6.60	6.10
Mothers w. Child Support Receipt	24.26	22.95	19.65	20.43	20.69	19.73
Mothers w/o Child Support Receipt	0.00	0.00	0.00	0.00	0.00	0.00
Mothers w. High School or Above Edu.	9.05	7.22	6.72	7.18	7.11	6.65
Mothers w. Education Below High School	3.87	3.41	3.90	3.28	4.92	4.00
Previously Married Mothers	8.56	8.02	8.04	8.51	8.88	8.69
Never-Married Mothers	1.36	1.36	1.91	2.45	2.70	3.60
Mothers without AFDC payments	10.94	8.49	7.84	8.00	8.10	6.90
Mothers with AFDC payments	1.61	1.38	2.16	2.31	3.32	2.56

Aside from a drop in 1982, the income of mothers potentially eligible for child support has risen over the 20 years in our analysis. The sharpest rise in income is between 1994 and 1998, mirroring the strong economy of the late 1990s. Mothers who receive child support have higher incomes than those who do not, reflecting both the fact that women with higher incomes are more likely to receive a child support award and the effects of child support awards on total income. However, between 1982 and 1994, the incomes of women who received no child support grew at a faster rate than those of women who received child support.

Eligible mothers with a high school education or more have higher incomes than mothers with less than a high school education, and their income grew faster between 1982 and 1998. This trend again reflects a general trend of an increased return to education (Murphy and Welch, 1994). Never-married mothers have lower incomes than ever-married mothers, and the average income of never-married mothers dropped precipitously between 1978 and 1982. However, the income of never-married mothers rose enormously between 1994 and 1998, much faster than their ever-married counterparts. Not surprisingly, those on welfare have lower incomes than those not receiving welfare (the benefit being means tested). Yet, especially considering the stability of welfare payments over time, the income trend of those on welfare was quite volatile, dropping sharply between 1978 and 1982 and rising rapidly between 1990 and 1994. Again, the income trends of never-married mothers and welfare recipients may be attributed to the recession of the early 1980s and the strong economy of the later 1990s.

The second panel of table 2 shows the changing percent of income that is child support. On average, this dropped between 1978 and 1982, dropped again between 1982 and 1986, and rose steadily until 1994. Note, however, that although income among eligible mothers rose on average between 1994 and 1998, the percentage of income that was child support did not. This may reflect the increasing proportion of women eligible for child support who are never-married, and thus less likely to have any income from child support. Among those who received child support, the support composed about one-fifth of income; the proportion was larger for those with a high school education or more than it was among their less educated peers. Child support was also a larger percentage of income for ever-married mothers than never-married mothers, and for those not receiving welfare than for those who did. However, child support increased as a percentage of income over the 20 years among never-married mothers, suggesting some success in collecting child support in paternity cases (i.e., nonmarital births).

Table 3 shows the first set of regression results. The dependent variable is the natural log of total income. The first column displays the income of women potentially eligible for child support. In the majority of cases, the independent variables have the expected effects on single mothers' incomes. Divorced women have higher incomes than women separated from husbands or never married; minority women have less income than whites; and women with less education have lower incomes. Women who are older have more income, as do those whose absent partner is wealthier.

The coefficients for the number of children and residence in the central city are more surprising. Our results indicate that those who have more children have more income, and those who live in the central city are also better off. The positive coefficient for children undoubtedly reflects the effect of higher child support payments to women with more children. The positive effect of central city residence is more puzzling. However, single mothers are more likely to be poor than are other Americans. Single mothers with relatively higher incomes may be those who choose to work. Central city residence may be a proxy for better access via transportation to local job markets than can be achieved in suburban or rural areas.

Table 3:
The Determinants of Total Income Among Women, 1978-1998
(Dependent Variable = log [Total Income])

Sample Variables	Single Mothers			Married Mothers			Unmarried Women		
	Coeff.	S.E.	P	Coeff.	S.E.	P	Coeff.	S.E.	P
Marital Status									
Divorced	---	---		---	---		---	---	
Never Married	-0.412	0.018	***	---	---		---	---	
Separated	-0.385	0.017	***	---	---	---	---	---	
Race									
White	---	---		---	---		---	---	
Black	-0.044	0.019	*	-0.099	0.008	***	-0.381	0.024	***
Hispanic	-0.191	0.020	***	-0.124	0.006	***	-0.410	0.028	***
Other	-0.217	0.039	***	-0.056	0.009	***	-0.491	0.040	***
Education									
Below High School	---	---		---	---		---	---	
High School	0.566	0.021	***	0.186	0.007	***	1.271	0.028	***
Some College	0.785	0.028	***	0.258	0.009	***	1.746	0.029	***
College	0.801	0.053	***	0.137	0.014	***	2.189	0.027	***
Mother's Age	0.037	0.001	***	-0.039	0.002	***	0.018	0.001	***
Number of Children	0.106	0.006	***	0.012	0.000	***	---	---	
Central City	0.030	0.015	*	-0.019	0.005	***	0.029	0.017	
Father's Income (\$1,000)	0.024	0.002	***	0.026	0.000	***	---	---	
State Child Support Enforcement									
Legislative Index	0.022	0.008	**	0.000	0.002		0.001	0.010	
Expenditure (\$100)	0.040	0.010	***	0.005	0.003	+	0.008	0.011	
State Unemployment Rate	-0.008	0.006		-0.010	0.002	***	-0.020	0.007	**
Year Effects									
1978	---	---		---	---		---	---	
1979	-0.048	0.043		-0.016	0.010		0.031	0.056	
1980	-0.123	0.043	**	-0.034	0.010	***	-0.023	0.056	
1981	-0.227	0.043	***	-0.052	0.011	***	-0.009	0.057	
1982	-0.258	0.047	***	-0.034	0.012	**	-0.002	0.061	
1983	-0.318	0.047	***	-0.023	0.012	+	0.006	0.059	
1984	-0.240	0.044	***	-0.036	0.011	***	-0.026	0.056	
1985	-0.263	0.045	***	-0.036	0.011	***	-0.054	0.057	
1986	-0.351	0.048	***	-0.010	0.013		-0.034	0.061	
1987	-0.356	0.051	***	-0.019	0.013		-0.025	0.065	
1988	-0.337	0.053	***	-0.004	0.014		0.064	0.067	
1989	-0.337	0.054	***	0.001	0.014		0.051	0.068	
1990	-0.348	0.063	***	-0.005	0.017		-0.021	0.078	
1991	-0.412	0.067	***	-0.007	0.018		-0.069	0.084	
1992	-0.465	0.068	***	0.006	0.019		-0.067	0.085	
1993	-0.398	0.068	***	-0.015	0.019		-0.114	0.085	
1994	-0.474	0.071	***	-0.048	0.019	*	-0.175	0.088	*
1995	-0.492	0.073	***	-0.076	0.020	***	-0.202	0.091	*
1996	-0.549	0.075	***	-0.070	0.020	***	-0.240	0.092	**
1997	-0.602	0.075	***	-0.088	0.021	***	-0.232	0.093	*
1998	-0.618	0.077	***	-0.087	0.021	***	-0.190	0.094	*
State Effects		Yes			Yes			Yes	
Constant	7.030	0.070	***	9.416	0.015	***	7.560	0.086	***
Adjusted R ²		0.180			0.148			0.128	
N		95,775			342,698			66,683	

+ p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001

Our main variables of interest are the child support enforcement variables. We find that if an unmarried mother lives in a state that has more laws enforcing child support, she has a higher income. Indeed, in this model, for each additional law enforcing child support, her income rises by 2 percent, holding all else constant. Expenditures on child support collections by the state also have a positive effect. A woman who lives in a state that spends an additional \$100 on child support enforcement will have 4 percent more to spend per year.

The other columns of Table 3 form a robustness check. Child support enforcement should have little or no effect on the incomes of women who are not eligible to receive it. To verify our results, we estimate the effect of child support enforcement on the incomes of married mothers and women who are unmarried and childless. If child support enforcement were found to have a statistically significant effect on the incomes of unmarried and childless women, we could conclude that unmeasured state factors that are related to women's incomes are affecting our measure of child support enforcement within that state. This would imply a bias on the enforcement coefficient.

Examining the results for married mothers and childless women, we see that the control variables all have the expected signs, but the coefficients of the child support enforcement variables, though positive, are close to and not statistically different from zero. This is evidence that our state child support enforcement variables are not capturing other state effects on women's income.

Table 4 estimates the effects of interacting the legislation and expenditure variables, while including in the analysis all the independent variables displayed in Table 3. All results are compared to the omitted category—states with few laws enforcing child support and little administrative expenditure. The first column again indicates the impact of child support legislation and expenditure on the incomes of those potentially eligible for support—single

Table 4:
Interaction Effects of Child Support Enforcement on Total Income

Sample Variables	Single Mothers			Married Mothers			Unmarried Women		
	Coeff.	S.E.	P	Coeff.	S.E.	P	Coeff.	S.E.	P
Low Legislative Index, Low Expenditure	—	—		—	—		—	—	
Low Legislative Index, Medium Expenditure	0.036	0.038		-0.004	0.009		0.018	0.046	
Low Legislative Index, High Expenditure	0.026	0.075		-0.009	0.014		-0.036	0.067	
Medium Legislative Index, Low Expenditure	0.042	0.029		0.003	0.008		0.017	0.042	
Medium Legislative Index, Medium Expenditure	0.142	0.033	***	0.002	0.009		0.011	0.043	
Medium Legislative Index, High Expenditure	0.156	0.041	***	-0.010	0.010		0.035	0.048	
High Legislative Index, Low Expenditure	0.141	0.052	**	0.007	0.018		0.004	0.081	
High Legislative Index, Medium Expenditure	0.183	0.051	***	-0.009	0.014		0.089	0.063	
High Legislative Index, High Expenditure	0.194	0.055	***	-0.001	0.015		0.065	0.067	
Adjusted R ²	0.172			0.147			0.128		

+ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

mothers. The results indicate that there is no significant difference in the incomes of single mothers at any level of administrative expenditure when few laws are in place to enforce child support. When a medium or high number of laws are in place and the expenditure on them is medium or high, then there is a significantly larger impact on single women's incomes than happens with few laws and little expenditure. (A less significant effect is found if a state has strong laws on which little is spent to enforce them.) As might be expected, single mothers' incomes increase the most when they reside in states that both have many laws and spend a large amount to enforce them.

Again as a further robustness check, the interaction model is also estimated on married mothers and single, childless women (Table 4, cols. 2 and 3). Interacting the level of legislation and the amount spent on child support enforcement has no effect on the incomes of these women, compared with the effect of states with few laws and little expenditure.

We have explored the effects of child support enforcement on the incomes of eligible women, but this does not inform us of the role of child support in these income effects. Table 5 models the impact of child support enforcement on the percentage of income that is child support. Examining the independent variables, we find that divorced women are more likely to rely on child support than are separated or never-married women. Child support also forms a larger percentage of a potentially eligible, white woman's income than that of her minority peers. More educated women have a higher percentage of child support in their income stream than do women who have not finished high school, the largest effect being among those who have had some college but who have not yet graduated. Younger women, those with more children, and those whose absent partner is more wealthy are also more likely to rely more heavily on child support income.

The strength of child support legislation has a statistically significant effect on the percent of single mothers' income that is child support. If a potentially eligible woman lives in a state that adds one law to its battery of child support enforcement legislation, the proportion of income that is child support will increase by 10 percent, holding all else equal. The amount that the state spends to enforce these laws appears to have no impact on the percentage of income that is child support. Turning to Table 6, however, we find that when expenditure is interacted with the strength of laws, there is a significant effect. Again, the results are compared to an omitted category, that of few child support enforcement laws interacted with low levels of expenditure. The most statistically significant impact is that of states with many laws and medium to high levels of expenditure. Compared with the omitted category, these states appear to allow women to obtain a larger part of their income through child support. Interestingly, a negative impact occurs when few laws are interacted with medium levels of expenditure. In this situation, potentially eligible women derive less of their income from child support than when the laws are few and the expenditures low, a puzzling anomaly.

The results of our two-stage model are displayed in Table 7. The first column is used to create an instrument for child support payments, but it is interesting in itself. All of the control variables are statistically significant and are in the expected directions. Those who have never been married receive less child support than those who are divorced, with separated women falling in between. Minorities receive less child support than whites, but more educated mothers are paid more in child support than are less educated women (excepting that those

Table 5:
The Determinants of Percent of Child Support in Total Income, 1978-1998
 (Dependent Variable = log [percent of child support in total income])

Variables	Coeff.	S.E.	P
Marital Status			
Divorced	---	---	
Never Married	-4.075	0.075	***
Separated	-3.013	0.069	***
Race			
White	---	---	
Black	-2.625	0.081	***
Hispanic	-2.180	0.085	***
Other	-2.213	0.161	***
Education			
Below High School	---	---	
High School	0.687	0.088	***
Some College	1.069	0.119	***
College	0.491	0.220	*
Mother's Age			
	-0.024	0.004	***
Number of Children			
	0.414	0.027	***
Central City			
	-0.768	0.061	***
Father's Income (\$1,000)			
	0.120	0.007	**
State Child Support Enforcement			
Legislative Index	0.103	0.033	**
Expenditure (\$100)	0.028	0.043	
Year Effects			
1978	---	---	
1979	0.074	0.180	
1980	-0.244	0.178	
1981	0.046	0.178	
1982	0.082	0.179	
1983	-0.039	0.179	
1984	0.112	0.180	
1985	0.234	0.187	
1986	0.307	0.200	
1987	0.425	0.213	*
1988	0.153	0.222	
1989	0.422	0.224	+
1990	0.424	0.261	+
1991	0.337	0.281	
1992	0.544	0.283	+
1993	0.696	0.285	*
1994	0.580	0.296	*
1995	0.630	0.307	*
1996	0.367	0.312	
1997	0.242	0.314	
1998	0.332	0.319	
State Effects			
Constant	-16.535	0.237	***
Adjusted R ²		0.180	
N		95,775	

+ $p < 0.010$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

who have graduated with a college degree receive less than those who did not complete the degree). Payments also increase with the mother’s age, the number of children and the father’s income. Living in the central city reduces the amount a child support a mother receives.

Table 6:
Interaction Effects of Child Support Enforcement
on Percentage of Child Support in Total Income

Variables	Coeff.	S.E.	P
Low Legislative Index, Low Expenditure	---	---	
Low Legislative Index, Medium Expenditure	-0.380	0.158	*
Low Legislative Index, High Expenditure	0.390	0.314	
Medium Legislative Index, Low Expenditure	0.302	0.121	*
Medium Legislative Index, Medium Expenditure	0.095	0.135	
Medium Legislative Index, High Expenditure	0.243	0.172	
High Legislative Index, Low Expenditure	0.381	0.216	+
High Legislative Index, Medium Expenditure	0.513	0.215	*
High Legislative Index, High Expenditure	0.705	0.228	**
Adjusted R ²	0.180		

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Child support legislation, together with the expenditure to enforce these laws, increases the amount of child support an eligible mother receives. The most effective combination occurs in states where a high number of laws are present and a medium to high amount is spent on enforcement. This interaction creates a reasonably precise instrument as indicated by the F-statistic scores.

The second column of table 7 shows the influence of child support payments on single mothers’ total income. Holding the amount of child support received constant, the control variables are again in the expected direction. (The only exception is the coefficient for African American women that appears to indicate that they have more income than white women.) The principal coefficient of interest, however, is that of child support payments. Our results indicate that for every dollar of child support paid to the mother, her income increases by one dollar and eighty-nine cents.

Theory and previous literature indicate that those women who are not on welfare reduce their labor supply efforts, and therefore their earnings, when they receive more child support. This indicates that each additional dollar received in child support will add less than a dollar to income. A second labor supply effect is created when those who receive child support increase their labor supply and move off welfare. Although such women lose their welfare benefit, their income increases overall because they gain their full child support payment (which was paid to the government previously to offset their welfare benefit) and the increased income from labor. Such women have more than one dollar of income for each additional dollar of child support.

Table 7:
The Effect of Child Support Payment on Mother's Total Income, 1978-1998

Dependent Variables	First Stage (Tobit) Child Support Payment			Second Stage (OLS) Total Income		
	Coeff.	S.E.	P	Coeff.	S.E.	P
Predicted Child Support Amount	—	—		1.89	0.16	***
Marital Status						
Divorced	—	—		—	—	
Never Married	-4236	89	***	-1323	443	**
Separated	-2593	75	***	-1986	321	***
Race						
White	—	—		—	—	
Black	-3123	95	***	868	331	**
Hispanic	-2452	98	***	-1203	287	***
Other	-2190	190	***	795	361	*
Education						
Below High School	—	—		—	—	
High School	1261	104	***	1551	175	***
Some College	1784	137	***	3346	248	***
College	1667	247	***	8896	410	***
Mother's Age	11	5	*	212	7	***
Number of Children	672	30	***	-846	80	***
Central City	-748	69	***	455	135	***
Father's Income (\$1,000)	131	8	***	322	20	***
State Child Support Enforcement						
Low Legislative Index, Low Expenditure	—	—		—	—	
Low Legislative Index, Medium Expenditure	-311	175	+	—	—	
Low Legislative Index, High Expenditure	610	343	+	—	—	
Medium Legislative Index, Low Expenditure	389	136	**	—	—	
Medium Legislative Index, Medium Expenditure	89	153		—	—	
Medium Legislative Index, High Expenditure	209	191		—	—	
High Legislative Index, Low Expenditure	383	240		—	—	
High Legislative Index, Medium Expenditure	458	235	*	—	—	
High Legislative Index, High Expenditure	525	250	*	—	—	
State Unemployment Rate	-29	27		-24	41	
Year Effects		Yes			Yes	
State Effects		Yes			Yes	
Constant	-7203	328	***	3914	460	***
Partial F of Instruments		2.92	**		—	
R ² (Pseudo for Tobit; Adjust for OLS)		0.031			0.310	
N		95,775			95,775	

+ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Women who remain on welfare will only receive an additional dollar of child support if their current child support is less than \$50.¹² Given this, an additional dollar of child support received does not affect the welfare benefit and she gains one more dollar of income for each additional dollar of child support. If she is remaining on welfare, any labor supply effects will be very small indeed.

Our results imply that the dominant effect of additional child support is to encourage women on welfare to leave the assistance rolls, given that additional child support appears to increase women's income substantially. A second possibility, which reinforces this result, is that child support enforcement is increasing the support paid to those on welfare who originally received less than \$50 support.

Summary and Conclusion

Public enforcement of private child support obligations has been strengthened substantially in the United States during the past quarter-century. The objectives were to increase the economic well-being of single mothers and their children and to reduce their dependence on welfare. By transferring income from fathers to mothers, enforcement also alters behavioral incentives of parents. Economic theory suggests that enforcement will decrease the labor supply of mothers who are not potential welfare recipients, increase the labor supply of mothers who are potential welfare recipients, increase the labor supply of fathers, decrease nonmarital births, and increase or decrease divorce and remarriage of both parents.

Our review of existing literature on behavioral effects indicates that more stringent child support enforcement has increased child support payments and decreased welfare caseloads. Moreover, stronger enforcement increases the labor supply of mothers who would otherwise have been on welfare, increases slightly or has no effect on the labor supply of nonresident fathers, decreases divorce and nonmarital births, and decreases remarriages of both mothers and fathers.

Finally, our first empirical estimates indicate that stronger child support enforcement increases the incomes of single mothers and their dependent children by approximately two dollars for each dollar of child support received by single mothers. Given that our data are unable to capture the effects of child support on remarriage, this implies that the welfare participation behavioral incentives for mothers generated by child support receipt outweigh the labor supply effects of women who are not potential welfare recipients. That child support enforcement affects the incomes only of mothers eligible for support and has no effect on the incomes of ineligible mothers suggests that our results are robust. The robustness tests reinforce confidence in the estimated effects of child support enforcement on the incomes of eligible mothers.

This analysis suggests that child support enforcement, in terms of breadth of legislation and administrative expenditures, has an impact on the income of eligible women. In other words, we can increase the income of single mothers effectively through legislative action. This influence is still more powerful when many laws are well enforced through high levels of expenditures. The mere existence of laws is less effective. Similar results on the interaction of laws and expenditures were found by Freeman and Waldfogel (forthcoming).

¹² For the majority of the years in our analysis the AFDC rules were in effect, rules that allowed a women to keep the first fifty dollars of any child support payment made.

Given the high poverty levels of single mothers, the ability to raise their income is important. However, research tells us little about their reliance on child support as a form of income. The results reported here indicate that as child support enforcement rises, not only their incomes but also the proportion of income that comes from child support payments increases. As the percentage of income that is child support is increased, we can assume that single mothers depend on it more as integral part of their income stream.

**Appendix 1:
The Effect of Demographic Factors on Ever Married Black Men's Income**

Variables	Coeff.	S.E.	P
Marital Status			
Married	—	—	
Divorced	-4438	1430	**
Separated	-7310	2068	***
Education			
Below High School	—	—	
High School	8880	1495	***
Some College	15836	1598	***
College	27687	1815	***
Age	1960	382	***
Age Squared	-21	4	***
Central City	-4923	1106	***
Region			
South	—	—	
North East	-460	1703	
North Central	995	1754	
West	2347	1835	
State Unemployment Rate	-1731	573	**
State Median Wage Rate	2494	869	**
Constant	-31902	9658	***
N		1826	
Adjusted R²		0.187	

Source: 1998 March CPS.
* $p < .05$; ** $p < .01$; *** $p < .001$.

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