Growth and Change in the Composition of Vulnerable Nonresident Fatherhood

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Introduction

More than forty percent of children are born to unmarried parents in relationships that typically break up before their children reach the age of five (McLanahan 2004). Over the last 50 years, individuals with some college, high school graduates, and high school dropouts experienced more significant declines in marriage than college graduates; while marriage rates among nonworking men, fell much more than marriage rates among working men (Blundell et al., 2017). While a long literature documents the decline in marriage among less-educated, inner-city minority males (Wilson, 199?), marriage rates have actually declined more substantially in rural than in urban America (Ziliak, 2018). Besides being the gateway to marriage, men with more education are more likely to work and earn more than men with little education, and women tend to marry men with similar levels of education (Blundell et al., 2017; Ziliak, 2018). Finally, observers predict that marriage rates will continue to decline, exposing more children to family arrangements involving single mothers (Ziliak, 2018) and nonresident fathers.Taken together these relationships suggest a growing number of nonresident fathers with limited ability to support their children financially.

Besides the retreat from marriage, men are also retreating from work. The share of American men ages 25-54 who are either employed or looking for work has fallen from 97 percent in 1960 to 88 percent in 2015 (Ziliak, 2018; Coglianese, 2016). Since 2000, employment has even fallen even among men with four years of college or more (Blundell et al., 2017; Krause & Sawhill, 2017). The employment rate of less-skilled non-white men is lower than rates among groups of other men (Blundell et al., 2017). What is more, black men with college degrees have employment rates that are comparable to white men who dropped out of high school (Blundell et al., 2017). Besides racial minorities, the employment rate of non-metro, men

declined from 92 percent to 50 percent between 1967 and 2016. (Ziliak, 2018; Coglianese, 2016).

Declines in male labor force participation are even more alarming. Labor force participation of workers 16 years old has steadily declined since the turn of the century from just about 67 percent to a low of 63 percent (Breitwieser et al., 2018). However, labor force participation among prime age men (ages 25-54) has declined steadily since 1950 (Coglianese, 2016; Eberstadt, 2016). This decline in prime-age male labor force participation is particularly troubling because workers in these age groups are more productive than younger and older men. As a result, the decline in labor force particpation reduces individual and family well-being, economic growth (Council of Economic Advisors, 2016).

While lower rates of labor force participation have affected all races and ethnicities including white men, participation has declined most steeply and remains lowest for prime-age black men (CEA, 2016). Furtherthere is an 11 percentage point gap between the labor force participation rates of men with a college degree and those with a high school degree or less Labor force declines in nonmetropolitan areas are also startling as only one in two, less-skilled men in rural America works during any point in a year (Zilliak, 2018).

Studies implicate trade, technology, automation, deteriorating health, increases in opioid prescriptions, and declining interest in work among the factors responsible for these securlar declines in male employment and labor force participation (Abraham & Kearney, 2018; Krause & Sawhill, 2017; Krueger, 2017; Winship, 2017). However, trends in real male wages have also likely played some role Council of Economic Advisors, 2016). Since the mid-1970s, the average hourly earnings of adult men have remained stagnant and the earnings of men without four years of college have consistently declined (Semega, Fontenot, & Kollar, M. A., 2017, Donovan &

Bradley, 2017). What is more, the only men who have fully recovered the wages they earned before the 2007-2009 recession are men with a Bachelor's degree or more. Median inflation-adjusted earnings among workers has stalled across all skill levels of men since 2000 and much longer for low and medium skilled men. Men in rural America earned about $1000/week in 1967 and still earn this amount in 2016 (Ziliak, 2018). Earnings of college-educated men in rural areas have not budged in 5 decades.

Finally, gains in educational attainment and human capital have slowed down in metro areas and stalled completely in rural areas. What growth remains in college education among men is concentrated in urban areas; while the fraction of men with a college degree has not changed in rural America since 1985 (Ziliak, 2018). Human capital differences are profound across the country, which means that low wages, and their adverse consequences, are no longer primarily urban phenomena as portrayed in current literature (Ziliak, 2018).

Ironically, these declines in marriage, employment, labor force participation, and earnings among men have occurred over the same period during which policymaker's have become increasing committed to collecting child support from nonresident fathers. Since Congress passed federal child support legislation in 1974, federal, state and local governments have collaborated to ensure that children in single-parent families maintain the same standard living they would have enjoyed had their parents never separated (Mincy, Jethwani, Klempin, 2014; Pirog Ziol-quest, 200x).

These and other trends suggest that growth in nonresident fathers with limited ability to pay child support will occur along with the growth in children living with single mothers. These paired trends will occur because human capital appears to be the gateway to marriage, people

tend to marry partners with similar levels of education, (Blundell et al., 2017; Ziliak, 2018), and unmarried fatherhood is inversely related to men's education and earnings (Smeeding, 2010). Furthermore, along with growth, these economically vulnerable nonresident fathers (Mincy, Jethwani, Klempin, 2014) should become more diverse regarding their race, ethnicity, educational attainment, and metropolitan-area concentration.

Inability to meet child support obligations raises two types of concerns. First, when fathers owe child support directly to custodial mothers, children do not receive the financial support they need. Many studies show that children with limited financial resources are at risk of adverse outcomes including poverty (Bradshaw, 2006; Cancian, Meyer, & Han, 2011; Sorensen, 2000), academic failure (Dahl & Lochner, 2005), and behavioral and cognitive problems (Aughinbaugh & Gittleman, 2003; Blau, 1999; Yeung, Linver, & Brooks–Gunn, 2002). If the custodial mothers have signed over their rights to child support to the government, which is a condition of receiving most public benefits, taxpayers are not reimbursed for the public benifts for which they paid.

Besides the consequences for mothers, children, and taxpayers, inability to pay also has adverse consequences for fathers. Fathers who are unable to meet their child support obligations are subject to sanctions, such asset seizures, as tax refund intercepts, driver's license restrictions, and even incarceration. While such actions can extract payments from fathers who are simply unwilling to pay, they can reduce the earning of fathers who are unwilling to pay, leading to further accumulation of arrears (Holzer, Offner, & Sorensen, 2005; Sorensen, Sousa, & Schaner, 2007; Turetsky, 2007). Noncustodial fathers with high arrears can lose hope of ever repaying the amount owed (Waller & Plotnick, 2001) and are more likely to avoid working in the formal labor market than those fathers with no arrears burden (Bartfeld & Meyer, 2003; Miller &

Mincy, 2012). Moreover, mothers with a large amount of uncollected child support debts owed by noncustodial fathers may not allow their children to visit with those fathers (Turner & Waller, 2017).

In short, the public commitment to child support has coincided with a secular decline in the earnings, employment and labor force participation rates of men, which are unusually severe among black, less-educated men, who live in non-metropolitan areas. While child support provides a substantial financial boost to families that receive it (Sorenson & Zibman, 2001), many custodial families of children with vulnerable nonresident fathers are gaining little from the increased public commitment to child-support enforcement. The gains in families that do receive support come at the cost of increasing impoverishment of the fathers who provide, despite being unable to meet their own needs. For example, an inability to pay child support lead to arrears, which accumulated to $110 billion between 1975 and 2010 (Miller & Mincy, 2012).

Recent policy and economic trends may be changing the shell game in which poverty shifts between less-educated mothers and fathers of children in the child-support enforcement system. First, most states now use child-support guidelines based upon the income shares model, which relies upon the incomes of both mothers and fathers to determine the nonresident parent's child support order (Venohr, 2013). Other things equal, as compared with the next most widely used model, percentage of income, the income shares model tends to lower the child-support obligations of the parent who has higher income, generally the father. Second, most states also use self-support reserves or low-income guidelines to set the child support obligations of poor and near-poor fathers (Venohr, 2013). Third, the labor market participation rate of prime workers (aged 25 to 54-years-old) has increased to 82 percent, indicating that the labor market has almost fully recovered from its cyclical downturn following the Great Recession (Breitwieser et al., 2018). On the

other hand, the only men who have fully recovered the wages they earned before the 2007-2009 recession are men with a Bachelor's degree or more (Blundell et al., 2017). In short, the general movement of states towards more lenient child support guidelines for low-income fathers while rising labor force participation among less-educated nonresident fathers should increase their ability to pay.

In the face of these dramatic changes, this paper contributes to the recent literature by updating estimates of the size and composition of vulnerable nonresident fathers. The study relies upon NSFG to identify nonresident fathers and their earnings, data from The Fragile Families and Child Well-Being Survey to impute mothers' earnings from data on earnings and demographic characteristics of nonresident fathers, and data from on usual expenditures and taxes Consumer Expenditures Data from the Bureau of Labor Statistics. We use these data to provide crude predictions of whether a nonresident fathers' income net of child support obligations, usual expenditures, and taxes would be negative assuming that he lived in a representative state that used either the income shares model or a percentage of income model. After selecting these fathers, we estimate the size of the population of vulnerable nonresident fathers, assuming all resided in one of four representative states. Finally, we describe the demographic composition of vulnerable nonresident fathers under the preceding assumptions.

The paper proceeds as follows. Section 2 briefly reviews the relevant literature, including. In section 3 of the paper, we present our methods for simulating the child-support obligations of nonresident fathers and their shortcomings. Section 3 presents results; section 4 presents the limitations of our study. Section 5 presents the implications for policy and future research.

Literature Review

Social desirability bias has long hampered efforts to build a knowledge base about nonresident fathers. The American public has become much more accepting of divorce, and nonmarital childbearing as these phenomena have become commonplace. Still, nonresident fathers are less likely to accurately report their status in survey data than single mothers, because most surveys that inquire about parental status also inquire about the financial support fathers do or do not provide for their children living elsewhere (Sorensen, 1997). For this reason, few surveys collect data on nonresident fathers directly and those that do usually undercount nonresident fathers. Instead, a supplement to the Current Population Survey (CPS), a large monthly survey used to estimate primary employment and earning trends in the United States, asks household heads, who are often not fathers, if any children in the household have nonresident fathers. If they do, respondents report if a child support order exists for the child, and if so, whether or not nonresident fathers pay the order in full, partially, or not at all. Since many nonresident fathers have children by more than one mother, the number of nonresident children exceeds the number of nonresident fathers.

The Survey of Income and Program Participation (SIPP) is another household survey providing up to date information on nonresident fathers. However, like the CPS, the SIPP asks householders, who are often not fathers, about whether children in the household have nonresident fathers, and whether these children receive formal child support payments from their fathers. Both the CPS and the SIPP are likely to undercount disadvantaged men because of the survey design. Also, by linking questions about parental status to child-support payments, both are likely to undercount the number of nonresident fathers.

The National Survey of Family Growth (NSFG), by contrast, is an individual survey designed first to gather detailed individual information about fertility and living arrangements for a nationally representative sample of men (and women) between 15 and 44 years old. Because of this priority, male SIPP respondents answer several detailed questions about the residency status and living arrangements of each of their biological children, including whether or not all children were born to the same mother. Fortunately, NSFG respondents also report on their earnings, annual amounts of formal child-support provided to their non-resident children, though this is by no means the primary purpose of the survey.

Because the NSFG relies upon answers from individual respondents who are self-reporting on the number and living arrangements of their children, estimates of the number of nonresident fathers from the NSFG are much larger than estimates derived from the CPS or the SIPP (Stykes, Manning, & Brown (2013). Further, nonresident fathers identified in the NSFG have less education and earnings than nonresident fathers the nonresident fathers identified by the CPS or SIPP. Finally, children of nonresident fathers in the NSFG are much less likely to receive child support than children of nonresident fathers identified by CPS or the SIPP. Though Stykes, Manning, & Brown (2013) regard the NSFG as a more reliable data source for studying nonresident fathers, it still lacks essential information researches need to determine whether fathers can meet their child-support obligations. Most importantly, although respondents to the NSFG report their annual child support payments, they do not report their state of residence. As a result, researchers cannot determine whether reported child support payments fall below the applicable child-support guidelines.

However, no survey data would provide this information. At best, researchers relying upon the CPS or the SIPP would learn whether the householder, often the mother, reported that

the amount of the child support she received met the requirements of the child support order. This report would also be subject to its own kinds of errors. For example, until recently states were allowed/required to pass only the first $50 of the child support payments to custodial mothers who received public benefits, although states are supposed to notify mothers to the amount of support the father paid. As a result, when custodial mothers report the amount of child support they received, they may or may not be accurately reporting whether the amounts "she receives represented the amounts fathers are obligated to pay (Miller, Mincy, 2012; Cancian, Meyer, et al., 2011). Thus, any nationally representative survey available to assess whether nonresident fathers' ability to pay is free from measurement error.

Prior studies examined nonresident fathers' ability to pay using different approaches. Sorensen (1997) provided the earliest evidence based on nationally representative surveys by focusing on fathers who did and did not pay support. Using the 1987-1988 National Survey of Families and Households (NSFH) and the 1990 Survey of income and Program Participation (SIPP), she found that nonresident fathers were more likely to be poor than resident fathers and that half of all nonresident fathers in 1996 did not pay child support. According to both sources child support payments by nonresident fathers amounted to only 8 percent of personal income before taxes. Based on this finding, Sorensen concluded that nonresident fathers could pay more child support partly because many states, like Wisconsin, explicitly required nonresident fathers to pay 17 percent of income for one child and even higher amounts for two or children. Sorenson estimated that all nonresident fathers would have paid about $32 billion in 2006 if all nonresident fathers paid child support according to the Wisconsin guidelines. However, she showed that nonresident fathers paid $18 billion in that same year. Besides their low incomes and high

poverty rates, many nonresident fathers did not have child support orders, which helped to explain the large discrepancy between payments and ability to pay. was

Sorenson and Zibman (2001) used the 1997 National Survey of America's Families dataset to understand the characteristics of nonresident fathers who are poor and who do not pay child support. They found that poor fathers faced employment and educational barriers similar to those of poor mothers; however, fathers received less means-tested assistance and less education/training services than mothers. They estimated that 2.5 million nonresident father who did not pay child support were poor themselves (accounting for only one-quarter of all nonresident fathers) and 4.5 million nonresident fathers who did not pay were not poor.

Mincy and Sorensen (1998) approached the ability to pay question by exploring how much of the poverty among custodial mothers who did not receive child support might be the result of poverty among nonresident fathers. To address this question they relied upon a special CPS-based data set, called the Transfer Income Microsimulation Model (TRIM 3) designed to align reports of the number of men who said they were nonresident fathers with the number of children mothers reported had nonresident fathers. With these data, they created mirror images of mothers and fathers in the child support enforcement system. Though they we were unable to match mothers and fathers of the same children, they showed that the proportion of mothers who were poor, in part because they did not receive the child support they were owed was about the same as the proportion of fathers who were poor and did not pay. Not surprisingly, poor mothers who did not receive support and poor fathers who did not pay tended to be young, less educated, never married, men and women of color.

Though some nonresident fathers fail to pay support because they are too poor to do so, others provide support even if doing so renders them poor. Still, others manage to provide support and escape poverty. How do child support guidelines and earnings interact to determine who must choose between supporting their children and attending to their own basic need? This question provides an entirely different lens for viewing the ability to pay. For example, Primus (2006) examined the disposable incomes of nonresident fathers, after deducting taxes and child-support payments, according to the guidelines in California, Maryland, and Texas in 2003. He showed that after these expenses, nonresident father's earning between $15,000 and $25,000 had disposable income equal to less than half of their earnings. As a result, the disposable income of nonresident fathers earning $15,000 in each of these states was below the poverty line (i.e., between 75 percent and 99 percent of the poverty line). Fathers earnings $20,000 who lived in California, which had the highest child-support guidelines, also had disposable incomes just 97 percent of the poverty line. However, fathers who lived in Maryland and Texas, with somewhat lower child-support guidelines than California, had disposable incomes above the poverty line (107 percent and 125 percent of the poverty line, respectively).

Wheaton & Sorensen (2010) explored the minimum earnings to be able to pay child support in a somewhat different way. They showed that at most one-quarter of nonresident fathers earning less than $34,000 (in 2009 dollars) paid the full amount of child support due. As earnings fell, this proportion fell as well. So at most, 16 percent of nonresident fathers earning about $14,500, paid the full amount of child support due. At earnings near the poverty guideline for a single-person household ($10,380), no more than five percent of nonresident fathers paid the full amount of child support due. However, many of the nonresident fathers in their study had

no formal child support orders, so these findings likely overestimated the number of fathers who comply with their child support orders.

Mincy, (et al., 2012) combined these two approaches to the study of the ability to pay. Using data from TRIM 3, they found that there were approximately 9.5 million nonresident fathers, but only about 40 percent had child support orders. Further, only 40 percent of nonresident fathers with orders paid all the child support they owed; while only a third of nonresident fathers with earnings up to $40,000 paid all the child support they owed. They also explored, why did so few nonresident fathers, with earnings at or below $40,000 failed to pay all the child support they owed? One possibility was that doing so would drive these fathers into debt. To explore this possibility, they used NSFG data to perform simulations like those reported by Primus (2006). Using the Wisconsin child support guidelines, which depend upon nonresident fathers' income exclusively, they showed that a father making $20,000 a year with a child support obligation (for one child) of $3,400.00, would be $6,354.00 in debt by the end of the year, after meeting ordinary household expenses and paying federal, state and other taxes. A father making $30,000 with a child support order of $5,100.00 would be $1,304.00 in debt by the end of the year. The father who earned $40,000.00 with a child support order of $6,800.00 would have just $3,011.00 remaining at the end of the year. Two nonresident children would raise the annual debts of these nonresident fathers.

Sorenson (1997), Primus (2006) and Mincy et al. (2012) used the child support guidelines in one or more representative states to simulate the child support obligations for all nonresident fathers. Each state adopts guidelines for child support orders using one of three rules, the two most popular of which rely solely on the father's income. To estimate nonresident fathers' ability to pay in states using the third rule, these studies substituted a rule relying only on the father's

income. However, by 2013, all but ten states were using the income shares model, which incorporates the incomes of both mothers and fathers, to set child support orders (Venohr, 2013) and a few additional states have followed since 2013. Given the near-universal adoption of the income shares model, most studies of nonresident fathers' ability-to-pay abandon the percentage of income model rule to produce reliable results? We address this question through our model and our empirical results. In doing so, we provide a way to gauge the effects of changes in child support policy on nonresident fathers' ability to pay.

Data and Methods

To provide conservative estimates of the growth and compositional changes of the population of vulnerable nonresident fathers, we begin by assuming, as did Sorensen (1997), Primus (2006) and Mincy et al., (2012), that all nonresident fathers face guidelines in a single state. We first choose a state with a simple guideline formula, which assumes higher child expenditures (Illinois). Next, we choose a state with a simple guideline formula, which assumes lower child expenditures (Wisconsin). Besides child expenditures, states also vary in assumptions about expenditures that take precedence over parents' basic obligation to support their children. For example, some states (e.g., Wisconsin) use gross income as the basis for calculating child support obligations, while other states (e.g., Illinois) allow parents to deduct federal, state, local, and payroll taxes before calculating the child support obligation. Therefore, our second and more refined estimates of vulnerable nonresident fathers apply the child support guidelines to adjusted gross earnings (e.g., earnings net of federal state and other taxes). Recognizing that child support orders that drive fathers into debt could be counter-productive, all but five states have a special set of guidelines for low-income fathers or a self-support reserve. These policies allow nonresident parents to deduct the cost of rent, food, clothing, and so on

from their gross (or adjusted gross) income. If what remains places the fathers' income near or below the federal poverty standard for a single person household, the state sets the child support obligation at a minimum value, which in some cases is zero. Therefore, our third and still more refined estimate of vulnerable nonresident fathers incorporates a self-support reserve as implemented in one of our two representative states: Wisconsin.

Finally, in recent years states have moved to incorporate a variety of individual circumstances of families in child support obligations. For example, states allow parents to adjust child support obligations to account for time the child spends with the nonresident father (shared parenting time), work-related child care expenses, deductions for obligations to other (resident or nonresident) children, coverage of child's health insurance, medical expenses not covered by insurance, and so on (Venhor, 2013). To do this well, states include the special circumstances affecting the child-related expenditures of mothers and father. The results is the income shares model, now used by all but seven states. Our most refined estimate of vulnerable nonresident fathers asks: What would occur if, in the most recent year of our data, our representative states used the income shares model, rather than the percentage of income model? This prediction represents precisely what is occurring in Illinois, which in 2018, just two years beyond data, switched from the percentage of income to the income shares model.

Calculating Child Support Obligations

The percentage of income model applies the child support guideline, based on estimates of the proportion of income two-parent families spend on children, to the basic child support obligation. For example, a common estimate is that two parents with one child spend ($\gamma =$) 17 percent of their income on that child. States using the percentage of income model apply this expenditure factor to the father's income exclusively (F). So, under the percentage of income

model, a nonresident father with one child would have a support obligation of γF. In Wisconsin, these expenditure factors are 17 percent, 25 percent, 29 percent, 31 percent, and 34 percent for 1, 2, 3, 4, and 5 or more children, respectively. In Illinois, these expenditure factors are 20 percent, 28 percent, 32 percent, 40 percent, and 45 percent for 1, 2, 3, 4, and 5 or more children, respectively.

States using the income shares model apply the product of this expenditure factor and the father's share of the combined income of the mother and father [F/(F+M)] to the combined income of the mother and father (F+M). Thus, under the income shares model the father's child support obligation would be γ[F/(F+M)] * (F+M) = γF. In short, if he had a child with the same mother, a father should pay the same amount of child support whether his state used a percentage of income model or an income shares model.

The near-universal adoption of the income shares model is among the most important developments in child-support enforcement policy. Except for allowing fathers to adjust their income for obligations for children with different custodial mothers, few of the special family circumstances recognized in the income shares model are especially relevant for low-income fathers (e.g., shared parenting time and coverage of child's health insurance) or the mothers of their children (out-of-pocket medical expenses and work-related child care expenses). On the other hand, because low-income fathers have high rates of multiple partner fertility, their child support obligations will be lower when states use the income share model (Smeeding, 2010). For this reason, we will incorporate NSFG data on multiple partner fertility in the NSFG in our subsequent estimate of vulnerable nonresident fathers.

To do this, we follow methods developed in prior studies to impute the fathers' income using data on mothers with demographic characteristics matching the characteristics of fathers

(Garfinkel & Ollerich, 1989 and Sinkewicz & Garfinkel, 2009). We alter the imputation procedure in two critical ways. First, in the prior studies, actual responses to questions about earnings and demographic characteristics by mothers used to impute earnings and child support payments by fathers. However, we use actual responses to questions about earnings and demographic characteristics reported by fathers to impute the earnings of mothers. While the outcomes of prior studies provided predictions of hypothetical fathers with characteristics similar to the mothers, assuming assorted mating, our imputations use data that matches fathers and mothers who have a child in common. Thus, we use data from The Fragile Families and Child Well-Being Survey (FFCWS) on fathers who are nonresident at baseline, as well as those who eventually become nonresident fathers by the time the child is nine years old in the first step of our imputation strategy.

We estimate:

1) Yj = $\vec{X}j$FR β + e, where:

Yj, j = 1.. .5n is the observed mother's earnings for the mothers of the first .5N randomly selected children of nonresident fathers in FFCWS;

X_{FR} = [$\vec{X}_{FR}$, $\tilde{X}_{FR}$] is a vector of independent variables, representing the earnings and other nonresident father demographic characteristics, drawn from the FFCWS at baseline, which we use in the model;

$\vec{X}j_{FR}$ = Xj_{FR}, j = 1.. .5N are the values of these variables for the first .5N randomly selected nonresident fathers in the sample;

and $\tilde{X}_{FR}$ = Xj_{FR}, j=.5n+1.. N are the values of these variables for the remainder of the fathers in the sample

We obtain an estimate of β,$\hat{\beta}$, from equation 1 and use it to predict the earnings of the mothers who had children with fathers who were not included in equation (1).

2) $\hat{Y}j = \overleftarrow{X_J}_{FR}\hat{\beta}$.

To assess the quality of our predictions, we test the hypothesis that u = $\widehat{\overline{Y}}$ - $\overline{Y}$ = 0, where $\widehat{\overline{Y}}$ and $\overline{Y}$ are the mean predicted this issue@apply to you easy to that amid usual and mean observed earnings for the j=.5N+1.. N mothers who had children with fathers not included in equation 1. Assuming we cannot reject this hypothesis, we predict the earnings of mothers who had children with nonresident fathers in the NSFG using

3) Yj = Xj NSFG $\hat{\beta}$. This implicitly assumes that the relationship between mothers and fathers earnings remains constant over time.

Gender differences in earnings may arise for reasons other than for productivity (e.g. gender discrimination in the labor market). In such cases, imputed mothers' earnings based upon fathers' characteristics, exclusively, would be biased (Oaxaca & Ransom, 1994). To account for this possibility, we also imputed mothers' earnings based upon data on both mothers and fathers. We use these alternative imputed mothers' earnings to undertake a sensitivity test of our estimates of the percentage of vulnerable nonresident fathers when states use child support guidelines based upon the income shares model.

Non-response rates on personal earnings are high at the lower-end of the earnings distribution. For instance, fathers may not want to report their earnings when the earnings itself is too low. Data sets with such missing mechanism are known as “Not Missing At Random (NMAR).” When the missing data mechanism is NMAR, the risk of selection bias would be very high. Among the three missing data mechanisms[1] outlined by Little

[1] These mechanisms include missing completely at random (MCAR), missing at random (MAR), and not missing at random (NMAR). The missingness is MCAR when the missing values are independent of other observed variables as well as values of missing data itself. The missing

and Rubin (1989), MMAR is the most complicated missing data mechanisms to deal with, because this is the case where the causes of missingness depend on the values of missing data itself (or in other words, the missingness depends on unobserved data). However, a growing number of studies suggest that having a large set of covariates can indirectly predict the probability of missingness under the NMAR mechanism. For example, fathers with lower earnings are less likely to report their earnings, but we have information on fathers' educational attainment, which we can to proxy human capital characteristics that predict fathers' ability to earn more money.

Designating Vulnerable Nonresident Fathers

A vulnerable nonresident father is one with a negative income after deducting child support, taxes, and basic expenses, from his earnings. Our most crude designation uses:

4) $D = E - C(E) - T - P < 0$, where

E represents earnings;

C(E) represents the child support obligation;

T represents federal, state and other taxes; and

P represents expenditures.

We draw data on earnings and taxes from the NSFG and data on expenditures from the Bureau of Labor Statistics Consumer Expenditure Survey.

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values under MAR mechanism should be the same as MCAR as long as the observed variable is the only reason for the missingness.

We also provide a more refined estimate by allowing nonresident fathers to deduct taxes before determining their child support obligation. This is the actual practice in Illinois, though not Wisconsin.

5) $D = E - C(E - T) - P < 0$.

A third estimate incorporates a self-support reserve if fathers' earnings are between 75 and 135 percent of the poverty line for a single-person family. In this case, our criteria are:

6a) $D = E - Cr(E) - T - P < 0$, for 135 percent (poverty line) $\geq E \geq$ 75 percent (poverty line), otherwise

6b) $D = E - C(E) - T - P < 0$, where

Cr (E) represents the alternative guidelines applicable to low-income obligors.

Finally, we provide a more liberal estimate, which assumes that child support guidelines allow nonresident fathers, who face limitations on the amount they can borrow and attempt to smooth their consumption over time, to accumulate enough savings to cover 2 months of taxes and expenses (Deaton 1991). [2] In this case, vulnerable nonresident fathers will have:

7) $D = E - [C(E) - T - P] - 2 * [(E - T - P)/12] < 0$.

Our income share estimates will follow the same procedures, except that we will replace earnings of the nonresident father with the sum of the father's earnings and the mother's imputed earnings from equations of (2) and (3), and we will be unable to incorporate estimates of mothers' taxes.

[2] We thank Jim Ziliak for this suggestion.

Results

We first identify the demographic characteristics that predict vulnerability (Table 1). Comparing, columns 1 and 2 to columns 3 and 4, it appears that these characteristics changed somewhat over time. Consistent with the findings of prior studies, Black and Latino fathers were overrepresented among nonresident fathers, including those who were vulnerable (70 percent) and those were not (75 percent) in 2006-2010. However, these two demographic groups became a smaller share of nonresident fathers (68 percent) in 2013-2015. Educational attainment reduces the likelihood of economic vulnerability, although having some college education was less protective of economic vulnerability in 2013-2015 than it was in 2006-2010. Unemployment, part-time employment, and having earnings below $20,000 per year all increased the risk of economic vulnerability.

Comparing columns 1 and 3 suggest that there have been some changes in the composition of vulnerable nonresident fathers over time. Consistent with the evidence that only workers with a Bachelor's degree or more have fully recovered their earnings since the recession, the share of vulnerable nonresident fathers with some postsecondary schooling rose between from 18 percent as to 25 percent between 2006-2010 and 2013-2015. As the economy continued to grow through 2013-2015, the share of vulnerable nonresident fathers who were unemployed and those who worked part-time also increased. Thus, nonresident fathers who experienced longer-term effects of the Great Recession were more likely to become economically vulnerable over time. Paradoxically, the share of vulnerable nonresident fathers with earnings in the range of the median ($40,001-$75,000), grew as the economic recovery continued. Not surprisingly, the share of vulnerable nonresident fathers who paid child support on a regular basis declined from 76 percent to 70 percent as the economy recovered.

Table 2 reports our estimates of vulnerable nonresident fathers. According to the first row, if all nonresident fathers lived in a state, like Wisconsin, with low child expenditures, in 2006-2010, more than half (56 percent) would be in debt after paying their child-support obligations, taxes and meeting usual expenses. Despite the economic recovery that continued through 2015, the proportion of nonresident fathers who are vulnerable continues to grow by an additional 10 percentage points by 2013-2015. As our model suggests, without incorporating the effects of multiple partner fertility on nonresident fathers' child-support obligations, the proportion of nonresident fathers would be unchanged if the state used the income shares model. The second row shows that if all nonresident fathers lived in a high child-expenditures state, like Illinois, nearly 60 percent would be vulnerable nonresident fathers. This proportion would continue to rise until reaching 71 percent in 2013-2015.

Allowing nonresident fathers to deduct federal, state, local, and other taxes before meeting their child-support obligations reduces the proportion of vulnerable nonresident fathers by about five percentage points so that half of the nonresident fathers in Wisconsin would be vulnerable and 53 percent would be vulnerable in Illinois (rows 3 and 4). Again, however, the proportion of vulnerable nonresident fathers rises by about 10 percentage points through 2013-2015.

Once we incorporate the self-support reserve into nonresident fathers' child-support obligations (rows 5 and 6), the proportion of vulnerable nonresident fathers falls as expected, by larger or smaller amounts depending upon whether the state uses higher or lower child expenditures, and interestingly upon whether the state employees the percentage of income or the income shares model. For example, in 2013-2015 the proportion of vulnerable nonresident fathers falls by eight percentage points in our low

child expenditures state (Wisconsin), whether the state employed the percentage of income model (65.9 percent -58.1 percent) or the income shares model (65.9 percent. -57.5 percent). By contrast, the decline in the proportion of vulnerable nonresident fathers falls by 12 percentage points when our high-child expenditures state (Illinois) incorporates a self-support reserve in it percentage of income model (71 percent -59.5 percent), and by 13 (71 percent -58.1 percent) percentage points when the state incorporate the self-support reserve in a shared income model.

This result is consistent with findings from prior studies (Primus, 2006; Wheaton & Sorenson, 2010; and Mincy et al., 2012). Unlike, custodial mothers, nonresident fathers receive very little tax relief from the EITC, the child tax credit and other federal provisions designed to assist low-income working parents. Therefore, taxes can still drive nonresident fathers into poverty. In the face of such complacency at the federal level, nearly all states have had to incorporate a specific provision designed to ensure that low-income nonresident fathers can meet their necessary expenses. Doing so, of course, shifts the burden of caring for poor children from nonresident fathers to taxpayers, at the state level, and single mothers.

Allowing a reserve of income to meet two months of taxes and expenditures substantially increases the proportion of nonresident fathers who are economically vulnerable (rows 7 and 8). By this criterion, which no state uses, 79 percent of nonresident fathers would have been economically vulnerable in 2006-2010 in our low-child expenditures state (Wisconsin). This proportion would have fallen to 72 percent in 2011-2013, presumably because of the economic recovery, but interestingly, it would have risen to 79 percent after that, using either the percentage of income or the income shares formulae. A similar pattern would have occurred if all states followed the guidelines in our high-child expenditures state (Illinois), with the proportion

of vulnerable nonresident fathers dropping from 81 percent to 76 percent between 2006-2010 and 2011-2013, and returning to 81 percent after that.

Finally, when states use the income shares model to set child support guidelines, our results our more sensitive to the method we use to impute mothers' earnings under some criteria for designating vulnerable nonresident fathers than others. According to last column of table 2, the proportion of vulnerable nonresident fathers increases by 1.1 to 5.6 percentage points when we use both mothers and fathers earnings in FFCWS to impute mothers' earnings. Interestingly, increases in the percentage of vulnerable nonresident fathers are larger in the low child expenditures state (Wisconsin). Increases were also larger when we used more criteria for designating vulnerable nonresident fathers that were based on fewer deductions (i.e., the Simple criteria) or larger expenditures (i.e., the Two Month-Savings criteria).

Has Vulnerable Nonresident Fatherhood Become More Common?

Besides the growth in vulnerable nonresident fathers, we also expected demographic and economic changes to produce greater diversity among vulnerable nonresident fathers. We address this question in Table 3, which assumes that all states used the income shares formula to set child support orders in 2013-2015. Unless otherwise indicated, we use our most conservative criteria based upon adjusted gross income in our low-child expenditure state (Wisconsin) to describe these results.

Like previous estimates (Mincy, et al. 2012), black men were still the largest share of vulnerable nonresident fathers in 2013-2015 (Table 3). Nevertheless, the proportion of vulnerable nonresident fathers who were white men has increased, perhaps substantially. Black men represented about 40 percent of vulnerable nonresident fathers; while White and Hispanic men represented just over a quarter in this population. Using

the guidelines in our high-child expenditure state (Illinois) increased the proportion of vulnerable nonresident fathers who were Black and reduced the proportion who were Hispanic (columns 2 and 4).

Younger men (less than 34 years old) represented just over 40 percent of vulnerable nonresident fathers; while men who were less than 25 years old represented about 10 percent by themselves. There were probably two influences operating here. On the one hand, because of their age, younger men had fewer children than older men. On the other hand, because they had lower earnings, employment rates, and labor force participation rates than older men, younger men were less able than older men to meet their child support obligations.

Upon reflection, nothing was surprising about the distribution of vulnerable nonresident fathers by educational attainment. High school graduates represented about half of the vulnerable nonresident fathers, while men who completed less than high school represented about two-fifths of this population. That men who completed some college represented nearly a quarter of vulnerable nonresident fathers should be a matter of concern, given rising rates of enrollment in post-secondary education, but low rates of persistence and college graduation (Holzer, 200x).

Similarly, that men earning up to $20,000 annually represented between 45 and 55 percent of vulnerable nonresident fathers is not surprising. That nonresident fathers earning between $20,000 and $40,000 represented over a third of vulnerable nonresident fathers should raise some concern. This result is consistent with prior findings that among nonresident fathers earning up to $40,000, only those with one nonresident child would escape poverty after paying taxes, meeting their basic expenses and child support obligations (Mincy, Jethwani, and Klempin, 2014).

Interestingly, the proportion of vulnerable nonresident fathers with a married or cohabiting partner was approximately 10 percentage points higher than the proportion of vulnerable nonresident fathers who were single. As we would suspect, using our more liberal criteria for vulnerable nonresident fathers, which was based upon two-months reserves, would capture nonresident fathers with higher earnings and income. Because these nonresident fathers were more likely to have a partner than their lower income counterparts, our more liberal criteria of vulnerable nonresident fathers showed that roughly 60 percent of vulnerable nonresident fathers were married or cohabiting with a female partner; while just over 40 percent were single.

Vulnerable nonresident fathers had substantial responsibilities to support children. Almost half (46 percent) of vulnerable nonresident fathers had at least two nonresident children who they should have been supporting; while about 40 percent of vulnerable nonresident fathers were also living with a child (of their own or their partners). On the other hand, only 40 percent of vulnerable nonresident fathers by our more liberal definition had at least two nonresident children; while 44 percent were living with at least one child. Thus, nonresident fathers who were better off had fewer nonresident children to support. These fathers may also have been contributing more financial support to resident children.

Finally, most vulnerable nonresident fathers should have been unable to meet their child support obligations. Our findings were consistent with this hypothesis. Whether we used our more liberal or conservative criteria, roughly 70 percent of vulnerable nonresident fathers reported complying with child support once-in-a-while or not at all during the past 12 months.

Predictors of Vulnerable Nonresident Fatherhood.

Besides the composition of vulnerable nonresident fathers, it is also helpful to know which characteristics select men into vulnerable nonresident fatherhood. We examine this question using Table 4, which, again, assumes that all states used the income shares formula to set child support orders in 2013-2015. Unless otherwise indicated, we use our most conservative criteria based upon adjusted gross income in our low-child expenditure state (Wisconsin) to describe these results.

.Surprisingly, the proportion of black nonresident fathers who were vulnerable (64 percent) is just 10 percentage points higher than the proportion of white nonresident fathers who were vulnerable; while the proportion of Hispanic nonresident fathers (73 percent) who were vulnerable was about 20 percentage points higher than the proportion of white nonresident fathers. Interestingly, the proportion of nonresident fathers in the Other-race/ethnicity group category was about the same as the proportion of black nonresident fathers who were vulnerable. That the proportion of nonresident fathers who were vulnerable was so similar across race/ethnic groups is another indication vulnerable nonresident fatherhood is quite common.

Interestingly, the proportion of nonresident fathers who were vulnerable rises only slightly with age; while this proportion fell substantially with educational attainment. Thus, 70 percent of nonresident fathers were failed to complete high school were vulnerable, while only 36 percent of nonresident fathers who were college graduates were vulnerable. Nearly three-quarters of unemployed nonresident fathers were economically vulnerable, while fewer than 60 percent of employed fathers were economically vulnerable. Thus, ongoing efforts to identify effective employment training programs for use by child support enforcement agencies appears to be warranted.

However, the proportion of nonresident fathers who were vulnerable also varied substantially with earnings. Fully 82 percent of nonresident fathers who earned no more than $20,000 were economically vulnerable, while this proportion dropped by 20 percentage points for nonresident fathers earning up to $40,000, annually. Notably, almost no nonresident father in the lowest earning category had two months of reserves, after paying taxes, child-support obligations, and meeting basic expenses (columns 3 and 4) and only half of nonresident fathers earning between $20,001 and $40,000 had two months reserves, after meeting these expenses.

The proportion of married or cohabiting nonresident fathers who were economically vulnerable (56 percent) was about 15 percentage points lower than the proportion of single nonresident fathers who were economically vulnerable (68.1 percent). Seventy-one percent of nonresident fathers with at least two nonresident children to support were economically vulnerable, and 55 percent of nonresident fathers living with at least one child were also economically vulnerable. Thus, if they supported their nonresident children, paid taxes and met their expenses, the majority of nonresident fathers living in unions, with or without children, could contribute little to their new families. Notably, whether or not they were single, roughly 80 percent of nonresident fathers would have less than two months reserves, after paying taxes, child support and meeting basic expenses. Finally, almost two-thirds of nonresident fathers who rarely complied with their child support orders were economically vulnerable, and almost 60 percent of those who complied regularly were also economically vulnerable after doing so. [3]

[3] The results were consistent when we used when we use both mothers and fathers earnings in FFCWS to impute mothers' earnings.

Conclusion

Rising fertility rates and instability in the relationships among nonmarital parents is increasing the proportion of men who were nonresident fathers, especially among those with less than four years of college. As nonmarital childbearing becomes more common, contemporary men were less likely to under-report their nonresident fathers status than previous cohorts. These trends are making individual surveys of fertility, such as the National Survey of Family Growth (NSFG), more important and more reliable sources of information about nonresident fathers. At the same time, the general movement of states towards more lenient child support guidelines for low-income fathers and rising employment among less-educated men fathers should increase their ability to pay. In the face of these divergent trends, this study examines growth and change in the size and composition of fathers choosing between meeting their own basic needs and their full child support obligations.

Using data from the NSFG, the Consumer Expenditure Survey, and the Fragile Families and Child Well-being Survey, we select nonresident fathers who with negative disposable incomes after paying their child support obligations, taxes and necessary expenses under alternative, representative child support regimes. We find little change in the age, race, and ethnic composition of vulnerable nonresident fatherhood, but some college education appears to be less of a protective factor. We also find that the proportion of nonresident fathers who are vulnerable after meeting these basic expenses appears to be growing since the Great Recession. While many states are allowing nonresident fathers to deduct taxes before determining their child support obligations and most states now count mother's and father's earnings when determining those obligations, self-support reserves have the most significant impact on reducing economic vulnerability. Though most states have such reserves, this shifts the burden of providing for low-

income children from the nonresident fathers to taxpayers, at the state level, and single mothers. If nonmarital childbearing and instability continue to increase, greater action by the federal government to provide tax relief to low-wage nonresident parents, as the EITC assists low-wage custodial parents, seems warranted.

Table 1. Weighted descriptive statistics

	NSFG							
	2006-2010				2013-2015			
	Vulnerable Fathers		Non-vulnerable		Vulnerable Fathers		Non-vulnerable	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Race/Ethnicity								
Non-Hispanic White	0.24		0.21		0.25		0.26	
Non-Hispanic Black	0.50		0.58		0.45		0.46	
Hispanic	0.20		0.17		0.25		0.22	
Others	0.06		0.05		0.05		0.06	
Age	33.80	(0.47)	34.50	(0.48)	34.54	(0.54)	33.63	(1.00)
Educational Attainment								
High School Dropouts	0.23		0.07		0.17		0.14	
High School Graduate	0.49		0.43		0.46		0.43	
Some College	0.18		0.33		0.25		0.29	
College Graduate	0.10		0.17		0.12		0.14	
Work Status								
Unemployed	0.19		0.13		0.28		0.18	
Part-time (less than 35h)	0.03		0.03		0.02		0.08	
Full-time (more than 35h)	0.78		0.84		0.70		0.74	
# of Noncustodial Children	1.91	(0.06)	1.41	(0.06)	1.72	(0.08)	1.28	(0.06)
Married/Living w/ Partner	0.55		0.66		0.58		0.62	
Earnings								
0-$10,000	0.18		0.04		0.19		0.09	
$10,001-$20,000	0.26		0.13		0.29		0.18	
$20,001-$40,000	0.40		0.44		0.33		0.39	
$40,001-$75,000	0.07		0.39		0.14		0.33	
$75,000 or more	0.09		0.01		0.05		0.01	
Child Support Compliance in Last 12 Month								
on a regular bases	0.76		0.80		0.71		0.73	
once in a while	0.08		0.09		0.14		0.14	
did not contributed	0.16		0.11		0.15		0.13	
Number of Observations	758		499		144		299	
Populations Size	5,702,538		4,553,384		3,590,628		1,856,120	

Authors' Calculations Based Upon NSFG

Table 2: Percent of Nonresident Fathers with Negative Disposable Incomes by NSFG Wave (Weighted Data) and Child Support Guideline Type

	Child Support Guidelines				
	Percentage of Income			Income Shares	Sensitivity Test
	2006-2010	2011-2013	2013-2015	2013-2015	2013-2015
Simple					
Wisconsin	55.6	60.8	65.9	65.9	70.4
Illinois	58.6	65.2	71.0	71.0	74.1
Adjusted Gross Earnings					
Wisconsin	50.1	61.4	59.7	60.7	62.1
Illinois	53.3	65.3	61.3	61.5	63.8
Self-Support Reserve					
Wisconsin	50.1	61.2	58.1	57.5	58.6
Illinois	53.0	63.4	59.5	58.1	60.1
Two-Months Reserve					
Wisconsin	79.0	72.0	79.4	79.0	84.6
Illinois	81.1	75.6	81.1	80.8	81.5

Authors' Calculations Based Upon NSFG, BLS Consumer Expenditure Survey

Table 3 Distribution of Economically Vulnerable Nonresident Fathers by Demographic Characteristics

	Income Share 2013 - 2015			
	Adjusted Gross Income		Two-month Reserve	
	Wisconsin %	Illinois %	Wisconsin %	Illinois %
Race/Ethnicity				
Non-Hispanic White	26.8	26.9	26.1	26.3
Non-Hispanic Black	39.1	39.4	44.9	44.4
Hispanic	28.7	28.3	23.8	24.2
Others	5.4	5.4	5.2	5.1
Age				
Less than 25	9.4	9.4	10.2	10.2
26 – 34	31.5	31.4	32.2	32.9
More than 34	59.1	59.2	57.6	56.9
Educational Attainment				
High School Dropouts	18.3	18.0	16.2	16.2
High School Graduate	50.1	50.0	47.1	46.9
Some College	23.9	23.6	24.1	24.5
College Graduate	7.7	8.4	12.6	12.4
Work Status				
Unemployed	29.7	29.8	24.5	24.8
Employed	70.3	70.2	75.5	75.2
Earnings				
0-$20,000	55.1	54.8	45.8	44.8
$20,001-$40,000	36.0	35.6	34.9	35.5
$40,001 or more	8.9	9.6	19.3	19.7
Married/Living w/ Partner				
Not married or living with partner	45.5	46.2	40.1	40.2
Married or living with partner	54.5	53.8	59.9	59.8
Having at least two nonresident children				
Yes	44.7	45.5	40.0	39.8
No	55.2	54.5	60.0	60.2
Having at least one resident child				
Yes	39.6	39.1	44.4	43.9
No	60.4	60.9	55.6	56.1
Child Support Compliance in Last 12 Month				
on a regular bases	31.5	31.2	28.6	28.7
once in a while or did not contributed	68.5	68.8	71.4	71.3

Authors' Calculations Based Upon NSFG, BLS Consumer Expenditure Survey

Table 4 Proportion of Nonresident Fathers Who are Economically Vulnerable by Demographic Characteristics.

	Income Share 2013 - 2015			
	Adjusted Gross Income		Two-month Reserve	
	Wisconsin %	Illinois %	Wisconsin %	Illinois %
Race/Ethnicity				
Non-Hispanic White	52.4	53.5	76.2	77.2
Non-Hispanic Black	63.7	64.9	83.8	86.5
Hispanic	72.7	72.7	77.7	81.0
Others	62.7	62.7	87.3	87.3
Age				
Less than 25	58.5	59.1	82.0	84.3
26 – 34	57.1	57.7	78.1	81.5
More than 34	63.1	64.1	78.9	79.8
Educational Attainment				
High School Dropouts	69.0	69.0	79.4	80.8
High School Graduate	67.5	68.2	81.8	83.3
Some College	55.6	55.6	80.8	84.1
College Graduate	36.3	40.4	67.0	67.7
Work Status				
Unemployed	73.8	74.9	79.9	81.4
Work (both Part and Full-Time)	56.4	57.2	76.4	78.9
Earnings				
0-$20,000	81.8	82.4	99.7	99.7
$20,001-$40,000	62.5	62.7	88.9	92.4
$40,001 or more	22.2	24.4	46.6	48.8
Married/Living w/ Partner				
Not married or living with partner	55.6	55.7	78.9	80.6
Married or living with partner	68.1	70.0	79.1	81.1
Having at least two nonresident children				
Yes	71.0	73.2	83.4	84.7
No	54.3	54.3	76.3	78.4
Having at least one resident child				
Yes	54.8	54.9	78.2	79.1
No	65.3	66.7	79.6	82.1
Child Support Compliance in Last 12 Month				
on a regular bases	58.3	59.4	79.4	81.1
once in a while or did not contributed	66.5	66.7	77.9	80.0

Authors' Calculations Based Upon NSFG, BLS Consumer Expenditure Survey

References

Aughinbaugh, A., & Gittleman, M. (2003). Does money matter? A comparison of the effect of income on child development in the United States and Great Britain. Journal of Human Resources, 38(2), 416–440.

Bartfeld, J., & Meyer, D. R. (2003). Child support compliance among discretionary and nondiscretionary obligors. Social Service Review, 77(3), 347–372.

Blau, D. M. (1999). The effect of income on child development. The Review of Economics and Statistics, 81(2), 261–276.

Bradshaw, J. (2006). Child support and child poverty. Benefits, 14(3), 199–208.

Cancian, M., Meyer, D. R., & Han, E. (2011). Child support: Responsible fatherhood and the quid pro quo. The Annals of the American Academy of Political and Social Science, 635(1), 140-162.

Dahl, G. B., & Lochner, L. (2005). The impact of family income on child achievement. National Bureau of Economic Research.

Deaton Angus, S. (1991). Saving and Liquidity Constraints. Ecomometrica, 59(5), 221-248.

Garfinkel, I., & Oellerich, D. (1989). Noncustodial fathers' ability to pay child support. Demography, 26(2), 219-233.

Holzer, H. J., Offner, P., & Sorensen, E. (2005). Declining employment among young black less-educated men: The role of incarceration and child support. Journal of Policy Analysis and Management, 24(2), 329–350.

Sinkewicz, M., & Garfinkel, I. (2009). Unwed fathers' ability to pay child support: New estimates accounting for multiple-partner fertility. Demography, 46(2), 247-263.

McLanahan, S. (2004). Diverging destinies: How children are faring under the second demographic transition. Demography, 41(4), 607-627.

Miller, D. P., & Mincy, R. B. (2012). Falling further behind? Child support arrears and fathers' labor force participation. Social Service Review, 86(4), 604-635.

Mincy, R. B., Jethwani, M., & Klempin, S. (2014). Failing our fathers: Confronting the crisis of economically vulnerable nonresident fathers. Oxford University Press.

Mincy, R. B., Klempin, S., Jethwani-Keyser, M., & Seith, D. (2012). Creating an Effective Work Incentive for Low-Income Non-Custodial Parents: Lessons from the New York State Experience.

Mincy, R. B., & Sorensen, E. J. (1998). Deadbeats and turnips in child support reform. Journal of Policy Analysis and Management: The Journal of the Association for Public Policy Analysis and Management, 17(1), 44-51.

Oaxaca, R. L., & Ransom, M. R. (1994). On discrimination and the decomposition of wage differentials. Journal of econometrics, 61(1), 5-21.

Primus, W. (2006). Improving public policies to increase the income and employment of low-income nonresident fathers. Black males left behind, 211-48.

Smeeding, T. M., Garfinkel, I., & Mincy, R. B. (2011). Young disadvantaged men: Fathers, families, poverty, and policy.

Sorensen, E. (1997). A national profile of nonresident fathers and their ability to pay child support. Journal of Marriage and the Family, 785-797.

Sorensen, E. (2000). Child support offers some protection against poverty.

Sorensen, E., Sousa, L., & Schaner, S. (2007). Assessing child support arrears in nine large states and the nation. Washington, DC: Urban Institute. Retrieved from http://tpcprod.urban.org/UploadedPDF/1001242_child_support_arrears.pdf

Sorensen, E., & Zibman, C. (2001). Getting to know poor fathers who do not pay child support. Social Service Review, 75(3), 420-434.

Stykes, J. B., Manning, W. D., & Brown, S. L. (2013). Nonresident fathers and formal child support: Evidence from the CPS, the NSFG, and the SIPP. Demographic Research, 29, 1299-1330.

Turetsky, V. (2007). Staying in jobs and out of the underground: Child support policies that encourage legitimate work. Child Support Series Policy Brief No, 2.

Turner, K. J., & Waller, M. R. (2017). Indebted Relationships: Child Support Arrears and Nonresident Fathers' Involvement With Children. Journal of Marriage and Family, 79(1), 24–43.

Venohr, J. C., & Griffith, T. E. (2005). Child support guidelines: Issues and reviews. *Family Court Review*, *43*(3), 415-428.

Waller, M. R., & Plotnick, R. (2001). Effective child support policy for low-income families: Evidence from street level research. Journal of Policy Analysis and Management, 89–110.

Wheaton, L., & Sorensen, E. (2010). Extending the EITC to noncustodial parents: Potential impacts and design considerations. Journal of Policy Analysis and Management, 29(4), 749-768.

Yeung, W. J., Linver, M. R., & Brooks–Gunn, J. (2002). How money matters for young children's development: Parental investment and family processes. Child Development, 73(6), 1861–1879.