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What Did the "Illegitimacy Bonus" Reward?

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Abstract

Part of the 1996 Personal Responsibility and Work Opportunity Reconciliation Act, the Out-of-Wedlock Birth Reduction Bonus ("Illegitimacy Bonus") awarded $100 million in each of five fiscal years to the five states that achieved the greatest reduction in the non-marital birth ratio, provided abortions per live birth did not increase. Three "states" (Alabama, Michigan, and Washington DC) were awarded Illegitimacy Bonuses at least four times each, claiming nearly 60% of award monies. We estimate demographic contributions to the decline in the non-marital birth ratio in these three states using data from birth records, the 1990 and 2000 Censuses, and (for Alabama) abortion records.

Despite some data limitations, we are able to offer some tentative conclusions. The most important factor in the decline in the non-marital fertility ratio in the three states was a shift in the racial composition of births, especially a decline in the proportion of births to black women, accounting for 1/3 (Michigan), 2/3 (DC) or all (Alabama) of the decline in the non-marital ratio over the periods for which bonuses were awarded. In DC, the decline in the proportion of births to black women appears to have been caused primarily by a decline in the black female population aged 15 to 34, but also by a general decline in fertility rates. Only 10 percent of the decline in the non-marital ratio in DC took place within race-education groups, the change most consistent with the intention of the law. In Michigan, although the non-marital ratio declined on average within populations defined by race or Hispanic identification, it did not decline within groups defined by either race and age or race and education. In Alabama, the non-marital birth ratio barely changed; a slight decline in the non-marital ratio among blacks was essentially offset by increases among whites and Hispanics. The non-marital birth ratio increased substantially within groups defined by race and age or race and education. Finally, abortions per live birth fell substantially in Alabama, though much more rapidly among white women and married women than among black single women (who experienced a slight increase in abortions per pregnancy in the late 1990s). This pattern suggests that abortion may have been used to control non-marital fertility among women at highest risk of welfare use.

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Introduction

Several provisions of the 1996 Personal Responsibility and Work Opportunity

Reconciliation Act (PRWORA) were intended, directly or indirectly, to reduce non-marital

fertility among the populations at highest risk of welfare use. One of these provisions, the

Out-of-Wedlock Birth Reduction Bonus (hereafter "The Illegitimacy Bonus"), awarded

$100 million in each of five fiscal years to the five states that achieved the greatest

reduction in out-of-wedlock births, provided abortions did not increase. The Illegitimacy

Bonus has received little attention from scholars and policy analysts, and there are no

analyses of its effects on fertility or abortion. The absence of research on the Illegitimacy

Bonus is understandable since it was a small component of an enormously complex piece

of legislation that was implemented nationally over a short period (1996 to 1997). Credible

estimation of its impact on fertility and family behaviors is difficult if not impossible

(Moffitt 2003).[1] Therefore, in this paper we pursue the more modest goal of answering the

question of the title: What did the Illegitimacy Bonus Reward?

Twenty-three Illegitimacy Bonuses of approximately $20 to $25 million were

awarded over the five years 1999 to 2003. Table 1 summarizes the awards. Three "states"

(Alabama, Michigan and Washington DC) were awarded 13 of the 23 Illegitimacy

Bonuses, accounting for nearly 60 percent of the bonus funds awarded. Alabama and

Michigan were each awarded the Illegitimacy Bonus four times, and DC won it five times;

no other state received it more than twice.

The bonus legislation was, presumably, intended to reduce the proportion of

unmarried births either by reducing the chance that an unmarried woman has a birth or by

increasing the proportion of women who are married (by increasing the marriage rate or

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[1] There is more hope of estimating the effects of provisions such as the Family Cap that were implemented in different states at widely differing times through administrative "waivers" to AFDC (which PRWORA replaced with TANF, the Transitional Assistance for Needy Families program).

reducing the divorce rate). However, the non-marital birth ratio can also fall because the birth rate for married women increases, or because of changes in the relative size of groups that have different birth and marriage rates. For example, black women tend to have lower marriage rates and higher non-marital fertility rates than white women. A decrease in the share of the population that is black in a state will, all else the same, decrease the non-marital fertility ratio. We believe, therefore, that the demographic explanation most consistent with the legislation having had its intended effect would be a decline within specific populations in the proportion of births that is non-marital (brought about either by an increase within groups in the marriage rate or by a decrease in the birth rate of unmarried women). In contrast, a decrease in the non-marital birth ratio caused by changes in population (or by an increase in the marital birth rate) would not be consistent with the intentions of the law. The Illegitimacy Bonus was, presumably, not intended to reward states for changes in the racial composition of their populations.

In this paper, we examine changes in the non-marital birth ratio between 1994 and 2000 or 2001 for the three states that won the award most often: Washington DC (for changes in the non-martial birth ratio between 1994 and 2001), and Alabama and Michigan (for changes between 1994 and 2000). We describe the demographic changes responsible for the decline in the non-marital birth ratio that resulted in the award of the Illegitimacy Bonuses and assess whether these demographic changes are consistent with the intentions of the legislation. Because the law also stipulated that the abortion/birth ratio could not rise after 1995, we examine (in a more limited way) changes in abortion to investigate whether or not non-marital fertility appeared to be controlled through increased use of abortion among groups at highest risk of welfare use.

The plan of the paper is as follows. After a brief description of the provision and regulations, we review the literature on the Illegitimacy Bonus, focusing particularly on objections to the bonus and states' reactions to it. We next describe the birth and abortion

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data, and then present results and implications. We conclude with a summary and implications for the ongoing debate over marriage provisions in proposals for welfare reform reauthorization.

Fertility-Related Provisions of PRWORA

PRWORA potentially affected non-marital fertility in a number of ways. First, it reduced the lifetime value of welfare benefits by imposing work requirements and limiting federal assistance to adults to five years (half the states adopted shorter time limits). PRWORA also allowed great flexibility in the use of federal and state welfare funds, which permitted states to use TANF or state MOE (Maintenance of Effort) funds to finance programs and services to prevent pregnancy or encourage marriage. Examples of such programs included abstinence education, two-parent family polices, individual responsibility agreements, child support and paternity establishment enforcement, and education and training on statutory rape prevention (Lewin and Associates, 2003). The provision that appeared most directly to address recipients' fertility incentives was The Family Cap, which permits states to cap (reduce or deny) benefits to women who have additional births while on welfare. The Family Cap has been widely studied, and appears to have been ineffectual (see, for example, Joyce, et al. 2004).

Welfare reform re-authorization legislation currently pending in the US House and Senate has also emphasized marriage promotion, and considers the reduction of non-marital fertility an explicit goal (Parke 2003).   The Senate and House bills include $1.5 billion for "healthy marriage" promotion. We hope, therefore, that this paper may inform the ongoing debate over welfare reform reauthorization and specifically help document the demographic changes that took place in states that were awarded the majority of the $500 million Illegitimacy Bonuses.

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Illegitimacy Bonuses were awarded to states with the largest proportionate decreases in the out-of-wedlock birth ratio (the ratio of non-marital to total births to state residents), with a requirement that the abortion "rate" (the *ratio* of abortions to live births in the state) not increase after 1995. For calculation of the abortion "rate," HHS regulations required states that were potentially eligible for the bonus to report either the number of abortions performed in the state, or the number performed in the state on in-state residents.

Literature Review

As noted, few studies have examined the Illegitimacy Bonus. Therefore, in this section we summarize reports, media coverage, congressional testimony, scholarly journal articles, and position papers by concerned organizations. These reports and studies can be grouped broadly into three categories: 1) those that raise objections on moral or ethical grounds; 2) those that criticize the data or measures used to award the bonus, and 3) those that examine state reactions to the bonus, i.e., the effect of the bonus on state and sub-state policies, programs and services (including uses of award monies by winning states). A fourth strand of the literature, which we take up in the final section of this paper, describes the future of the bonus and related provisions in TANF reauthorization proposals.

Goals, Ethics, Morals

Section 401(a)(3) of the Social Security Act states that the purpose of the bonus is to "prevent and reduce the incidence of out-of-wedlock pregnancies and establish annual numerical goals for preventing and reducing the incidence of these pregnancies…" and to "…encourage the formation and maintenance of two-parent families." To achieve these goals, Congress sought a bonus to "provide greater impetus to State efforts in this area and encourage state creativity in developing effective solutions" (USDHHS 1999).

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The underlying logic of the bonus is simple: if states succeed in reducing non-marital births, poverty and welfare dependency should decrease, and child and family well-being should improve. Opinion pieces leading up to welfare reform demonstrate the wide range of positions and beliefs regarding non-marital childbearing. For example, Charles Murray, who for many years has criticized public assistance programs for promoting illegitimacy and family decline, wrote in an influential OP-ED piece in *Wall St. Journal* that, "… illegitimacy is the single worst social problem of our time – more important than crime, drugs, poverty, illiteracy, welfare, or homelessness because it drives everything else" (Murray 1993).[2]

Putting aside the question of whether illegitimacy causes the ill effects with which is it associated, the proposal to fight illegitimacy through welfare reform would be strengthened by the existence of a causal relationship between welfare and non-marital births. Some leading social scientists have contributed to the long debate over the evidence on this issue (see for example, Murray 1984; Ellwood 1988; Moffitt 1992 and 1998; McLanahan and Sandefur 1994; Ellwood and Jencks 2002). The most recent scientific consensus seems to be that, although there is some evidence of an effect of the availability of welfare benefits on non-marital fertility, the evidence is mixed and the range of estimates is very large (Moffitt 1998 and 2003; Joyce et al. 2003).

Representative of strong adverse reactions to the fertility and marriage provisions in welfare reform was an editorial in *The Journal of Blacks in Higher Education* (1996) that argued that supporters of the Illegitimacy Bonus and related provisions had exaggerated the problem of births to unmarried women and argued, instead that "[t]he driving force behind the nation's Draconian welfare reform has been a widespread belief that throughout the

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[2] Murray's op-ed piece was entered into the Congressional Record as part of Sen. Dole's testimony (p. S15314 of the Congressional Record: 103rd congress) and again in Sen. Murkowski's testimony (CR - Senate - November 01, 1993- Page: S14718).

current welfare system hard working and tax-paying white folks have been underwriting an explosion of illegitimate births among blacks."

A further criticism opposed the use of welfare policy to alter sexual and family behaviors of American society more broadly (Boonstra 2002). Specifically, several critics (Dye and Presser 1999; Maryland Department of Human Resources 1998) questioned the potential use of TANF funds to target behavior among the non-TANF population (or those not at high risk of TANF use). A related charge was that changes in behaviors of non-poor residents might disqualify for the bonus a state that successfully reduced non-marital fertility among its TANF or low-income populations. Provisions that created incentives for states to develop broadly-targeted fertility and marriage initiatives were among the major objections of Democrats to welfare reform (Haskins 2001).

Objections to measures or data

The bonus provided $100 million annually to up to five states or territories that achieved the largest percent reduction in the non-marital birth ratio (non-marital births/all births) without experiencing an increase in the abortion/birth ratio. Commentators (see, for examples, Donovan 1999; Dye and Presser 1999) have criticized these measures because they: 1) are based on an inappropriate period, 2) can be influenced by demographic shifts unrelated to the program's behavioral goals, and 3) are based on a flawed indicator of non-marital fertility control.

Dyer and Presser (1999) argued that the measurement periods were inappropriate for measuring behavioral changes, particularly for the first two bonus years, because awards in the early years (based on changes between 1994 and 1997) would reflect the impact of programs or policies implemented before welfare reform. Donovan (1999) expected any effects of the 1996 law on non-marital births not to appear for at least a year.

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Dye and Presser (1999) further predicted that the bonus would at times reward demographic fluctuations unrelated to declines in non-marital fertility among women at risk of entering poverty or using welfare. Consistent with this prediction, Ron Haskins noted that "the District of Columbia has won the bonus twice, but the most significant factor contributing to this success appears to be that the non-marital birth rate has been declining faster among blacks than any other group, and Washington, D.C., has the highest percentage of blacks nationwide" (quoted by Anderson 2001). As we shall see, something slightly different seems to have occurred in Washington DC. In fact, DC was not awarded a "blackness" bonus, as Haskins suggests, but rather a "whiteness" bonus. The non-marital birth ratio (the basis for awarding the Illegitimacy Bonus) fell in D.C. not because the black non-marital birth rate was falling nationally and DC has a large African American population, but primarily because the number of black births fell in DC, partly as the result of a decline in the black female population aged 15 to 34, and only secondarily because of a slight decline in the non-marital birth ratio among blacks. We describe these changes in more detail below.

Dye and Presser (1999) demonstrated a number of potential flaws in the measures by analyzing data from 1991 to 1995 to simulate bonus winners for 1996 (based on data for 1991 through 1994) and 1997 (based on data 1992 through 1995). The period for which actual bonuses were awarded was 1994 to 2001. Their simulations showed that, had Illegitimacy Bonuses been awarded in 1996, Utah and Virginia would have won bonuses based on declines in their non-marital fertility ratios over 1991-1994; and California, Georgia, Massachusetts, Montana and North Carolina would have won awards in 1997, based on data from 1992-1995.

These simulations indicated to Dye and Presser (1999) that the illegitimacy ratio did not accurately gauge control of non-marital fertility. For example, they found that

Georgia would have been awarded the bonus despite an increase in the absolute number of non-marital births in the state (78,500 for 1992-93 to 78,903 for the period 1994-95); the illegitimacy ratio showed a decline because marital births increased more than non-marital births.[3]

Dye and Presser (1999) also predicted that variation in data quality and collection methods across states would complicate and obscure comparisons of rates across states. For example, at the time of their writing, California's birth certificate did not include a direct question on the marital status of the mother. Further, California did not report the number of abortions obtained in the state to CDC, so CDC estimated California's abortion data. Therefore, other states might have objected to California's bonus because of its unreliable data. More subtly, in Dye and Presser's simulations, the District of Columbia experienced a very slight increase in its illegitimacy ratio and a decline in the ratio of abortions to live births. But, if DC had used California's method of estimating the number of non-marital births from last names of parents and children, then, in their simulations, DC might have been awarded a bonus.

As noted, three states (Alabama, Michigan and DC) won the bonus four or five times each. Clearly, these multiple winners were not rewarded for minor or random fluctuations. By focusing on these multiple winners, we provide a best case for analyzing what, in fact, the bonus rewarded, and determining whether the actual awards seem consistent with the spirit and intention of the legislation.

Abortion stipulation

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[3] As we shall argue below, it is critical to understand the reason for the increases in marital births relative to non-marital births in order to assess whether the measure is a flawed indicator of the control of non-marital fertility.

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In addition to showing a decrease in the non-marital birth ratio, to qualify for the bonus, states needed to show a decline in the ratio of abortions to live births to state residents occurring in the state.

Initially, the legislation required states to submit data on births and abortions occurring in the state. During the call for comments, however, critics noted that counts of abortions performed in a state could be affected by "abortion migrants" from neighboring states, flows of which could be affected greatly by policies of neighboring states. It was then recommended that the rate be defined by abortions to state residents occurring within and outside the state. This was deemed impossible because the federal government could not mandate states to document abortions performed on women from other states. In the final legislation, the preferred abortion rate was defined as the ratio of abortions to state residents to total live births in the state, although states were allowed to report by state of occurrence instead of residency if those were the only data available. HHS also provided guidance for states that wished to change data collection methods.[4, 5]

The Department of Health and Human Services (DHHS) used abortion data that the states routinely submit to the federal government to determine the bonus winners. Dye and Presser (1999) questioned the quality of that data, and noted that the AGI surveys of abortion providers generally record more abortions and are considered more complete and accurate, and that completeness and accuracy vary across states. It has also been noted that

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[4] Comments were submitted suggesting that this flexibility would lead to data shortcomings, and that data collection should be more standardized.

[5] From PRWORWA Final Rule: One commenter objected to the definition of "number of out-of-wedlock births" and "number of total births" because she interpreted the definitions to mean the number of births occurring in the State. The commenter recommended that the number of births be measured according to the state of residence rather than the state of occurrence. *HHS Responded*: We agree that the number of out-of-wedlock and total births will be measured according to state of residence rather than state of occurrence, and the definitions proposed in the NPRM for out-of-wedlock and total births already reflect this. Therefore, no changes were needed in the final rule. We retained the two pertinent definitions proposed in the NPRM as follows:

the bonus creates disincentives for states to increase completeness of abortion reporting or availability, or improve the quality of abortion services (Boonstra 2000; Dye and Presser 1999).

Finally, welfare reform may have raised the abortion rate among at-risk single women (contrary to the law's intention), but increases in abortion rates among at-risk women may have been offset by decreases in the abortion rates among low-risk women (e.g., from increased condom use among college students or fewer abortions to married women). For example, Dye and Presser's simulations showed that Utah would have been one of the bonus winners had bonuses been awarded in 1996 (based on data from 1991 to 1994); yet 40% of the abortions obtained in Utah in 1993-1994 were to married women, a far higher proportion than in any other state. Therefore, the potential for abortions to married women to account for the decline in abortions is greater in Utah than in other states.

Evidence of State Effort to Win the Bonus

Even if measures are flawed and motivations and goals are questionable, one might judge the Illegitimacy Bonus on the basis of the activities and programs it stimulated or funded. Two studies (Lewin Group 2003 and Boonstra 2000) take this approach, and we summarize their findings in this section.

Surveys of officials of state health and social service agencies found that 34 states (including DC) reported taking steps to reduce out-of-wedlock births in response to PRWORA initiatives, though only a few indicated new efforts in direct response to the Illegitimacy Bonus (Boonstra 2000).   The Lewin Group (2003, p. 33) concluded:

"Number of out-of-wedlock births for the State" means the final number of births occurring outside of marriage to residents of the State, as reported in NCHS vital statistics data. "Number of total births for the State" means the final total number of live births to residents of the State, as reported in NCHS vital statistics data.

Based on our discussions with officials within the nine study states, we found that the potential availability of the bonus had little influence on nonmarital birth prevention policies within the states, even among bonus winners. We also found no clear relationship between bonus receipt and amount of effort expended by states, and we found that among the three states receiving the bonus (i.e., Alabama, Arizona and Massachusetts), only Alabama has directed bonus funds toward additional nonmarital birth prevention activities. Finally, we found that most states were critical of the outcome measure used to award the bonus.

The Lewin Group (2003, p. 33) also reported that "among the three bonus states [in their sample], two (Alabama and Arizona) reported making no special effort to win the bonus (prior to first receipt), and each of the six non-bonus states reported that they made no sustained efforts to win the bonus…and the potential receipt of bonus money had little effect on program design, intensity, or implementation of efforts to reduce out-of-wedlock childbearing."

However, according to the Lewin Group report, some state officials indicated that the Illegitimacy Bonus stimulated a discussion of how to use TANF dollars, even if the state did not make an explicit decision to compete for the Bonus. Moreover, after winning the bonus for the first time, several state officials reported feeling motivated to win again (particularly in Alabama). In Michigan, which qualified for the Illegitimacy Bonus for four consecutive years (1999 to 2002), the Engler administration proposed that a substantial portion of the first bonus award of $20 million be dedicated to adolescent pregnancy prevention. A bipartisan committee recommended that $15 million of the $20 million bonus be directed to the Teen Pregnancy Prevention Project (TP3), which targeted communities with high teen birth rates. Smaller portions of the second and third rounds of bonus winnings were also used to support the TP3 project as well as a Paternity Establishment Project (Costello, 2003).

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The Lewin Group (2003) concluded that bonus winning bore little "if any" relation to a state's efforts to reduce non-marital births (p. 42), and reported that only sometimes were bonus winnings directed toward non-marital pregnancy prevention activities. Specifically, they found that, although bonus-winning states made efforts to reduce non-marital births, so too did many states that did not win bonuses. In fact, states that spent the greatest percentage of TANF and MOE (Maintenance of Effort) funds on pregnancy prevention and two-parent family formation activities were generally not bonus winners (Lewin Group, 2003, p. 15). Still, some states were motivated to compete for the bonus, which may have resulted in longer-term increases in funding (and effort) for non-marital birth reduction programs.

Data on Births, Abortions and Populations[6]

Information on births comes from national natality files (NCHS), which record every birth in the United States and makes these data available to the public. For our purposes, there is one major measurement issues of concern with these data, which relates to marital status recording on births certificates in Michigan, one of the three multiple bonus-winning states. In 1994, Michigan implemented a revised imputation of marital status that resulted in a discrete jump in the proportion non-marital. [7]

Abortion data were collected by the authors.[8] We canvassed state health departments between October 2001 and September 2002 in order to obtain induced termination of pregnancy files (ITOP) without personal identifiers. Of the three multiple

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[6] This section is based largely upon Joyce et al. 2003.

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bonus winning states, only Alabama provided detailed characteristics required for our analyses, the most important being age, race, marital status, and completed schooling of the mother, and the month and year of termination. (see Joyce et al. 2003 for details).

The number of abortions reported by state health departments tends to be lower than estimates based on surveys of abortion providers conducted by the Alan Guttmacher Institute. Specifically, the State Health Department count for Alabama in 1996 was about 8.7 percent lower than the count of abortions in the AGI provider survey (Joyce et al. 2004, Table 1). Henshaw (2000) offers various explanations for the differences in total abortions between AGI and state health departments. Most explanations pertain to staff turnover or inexperience as well as provider fear of harassment. However, without additional information, it is not possible to determine whether the discrepancy in the number of abortions between AGI and the state health departments is related to characteristics of the women, and how this might vary over time.

Missing data in abortion records is a minor problem, with the exception of education of mother. For Alabama, the proportion missing for age, race or Hispanic origin, marital status and parity (number of previous births) are, respectively, 1.3%, 1.1%, 1.5% and 0.9%. About 12% of records are missing educational status of mother. In our analyses, we treat missing education as a separate category. In Alabama we have no information on Hispanic identity. We include controls for race (white, black, other, and unknown) and education (categories for: less than HS graduate, HS graduate but no college, any college, unknown) in some regression models.

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[7] Personal communication with Cathy Humphries, Michigan Department of Health. Prior to 1993 there were two items on the birth certificate 1) one parent (assumed unmarried) and 2) both parents. A third item was added for 1993: 3) 1 parent but an acknowledgement of paternity was received; Thus beginning in 1994 a birth was considered delivered by an unmarried women if items (1) or (3) were checked, resulting in reclassification of some "paternity established" births from married to unmarried.
[8] The National Bureau of Economic Research and the Alan Guttmacher Institute collaborated to collect the data, which are abortion certificates, similar to birth certificates, from state vital statistics departments

Results

Figure 1 shows the non-marital birth ratio in the three multiple bonus-winning states (MI, AL and DC). Although the bonuses were awarded on the basis of changes in two-year averages from 1994 to 2001, we show data for the years 1990 to 2001 (labeled years 0 through 11) because we will later introduce population data from the 1990 and 2000 Censuses. The Censuses provide the most accurate population counts when detailed sub-state populations are undergoing rapid change, as they appeared to have done in Washington DC between 1990 and 2000.

The first point to notice in Figure 1 is that Alabama and Michigan experienced only slight declines in the proportion of births that is non-marital over the period 1994 to 2000. In fact, in Alabama, the ratio is slightly higher in 2000 (and 2001) than in 1994, despite winning bonuses in four out of five years based on data from 1994 to 2000. The ratio is more than four percentage points higher in 2000 than in 1990.

In Michigan, there is more evidence of a downward trend, though the trend appears to end with an upturn in 2000 and 2001.[9]

In contrast, Washington DC experienced a pronounced decline in the non-marital birth ratio over 1994 to 2001, particularly after 1994. Moreover, although the proportion non-marital increased somewhat in DC from 1990 to 1994, by 1996 the ratio in DC was well below the 1990 ratio.

Table 2 summarizes these trends with a simple regression of the proportion non-marital on a time trend from 1994 to 2000 for Alabama and Michigan, and from 1994 to 2001 for DC. These are the data years upon which their Illegitimacy Bonus awards were based (Table 1), four for Alabama and Michigan, and five for DC. The first row of Table

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[9] As noted, the jump in percent single in Michigan in 1994 results from a change the way Michigan imputed marital status from information recorded on birth certificates.

2 indicates that, in Alabama, the proportion non-marital fell by.007 percentage points per year (i.e., the ratio fell .000007 per year) on average from 1994 to 2000. In Michigan, the decline averaged about a quarter of a percentage point per year over that period. DC averaged a remarkable 1.4 percentage point per year decline in the proportion non-marital from 1994-2001, or more than 200 times the rate of decline in Alabama.

However, in DC and Alabama, the decline in the non-marital ratio in the award period is largely explained by a shift in the racial composition of births. Adjusting for race of mother (black, white, Hispanic, or other race), in Alabama the proportion single *increased* by about 0.0264 percentage points per year; in Michigan it declined by 0.18 percentage points per year ("within race"), and in DC, after adjusting for race, the proportion single decreased by nearly one half percentage point per year (0.463). Thus, about 2/3 of the substantial decline in the non-marital ratio in DC is explained by the changing racial composition of births; in Alabama the entire decline is explained by this demographic shift, and in Michigan about a third of the decline is due to changes in racial composition of births.

This point can be seen more directly in Figures 2 through 4, which show the number of births by race and state. In Alabama (Fig. 2), the number of births fell modestly among blacks and whites over the decade, but increased slightly after 1995, and appear to have fallen again in 2001 (a decidedly pro-cyclical pattern). Hispanic births rose steadily, though from a tiny base. In DC (Figure 3) the number of black births began a precipitous decline in 1991, and fell by nearly half over the next decade: births to black women fell from a peak of 9,112 in 1991 to 4,808 in 2001, a decline of 47%. The number of births to whites and Hispanics increased slightly from 1996 onward. But well over half this decline occurred before 1996! The figure for Michigan (Figure 4) resembles that for Alabama in that births to blacks and whites fell modestly in percentage terms (though by a larger absolute number in Michigan), and births to Hispanics rose modestly.

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Since the proportion non-marital is highest among black women in all three states, a decline in the percent of births to black women, all else the same, lowers the proportion non-marital. Figures 5 through 7 show the proportion of births to black, white and Hispanic women respectively in the three states. The proportion black declines noticeably in Alabama and Michigan, and markedly in DC. Only in DC did the proportion of white births increase substantially. The proportion Hispanic rose steadily in the three states, though again from a small base percentage.

Figures 8 through 10 show the percent of births that are non-marital by race of mother in the three states. (These correspond to the "within race" regressions summarized in the second row of Table 2.) In Alabama, the percent single increased substantially among whites and Hispanics (to, roughly, 20% each), and declined slightly among blacks after 1995. Figure 9 for DC indicates (aside from what appears to be an anomaly for whites in 1990) little overall trend over the decade in the percent non-marital for any group, though there is an inverse U-shape pattern for all groups. Still, by 2001 nearly 80% of black births and over 50% of Hispanic births are non-marital. Nonetheless, especially compared to the enormous decline in black births overall in DC in this period, the trend in the percent non-marital within racial/ethnic groups is slight.

The dominant feature in the figures for Michigan (Figure 10) is the break in the series after 1993 caused by the change in marital status recording. After the series break (after 1994), there is very little trend in the proportion non-marital among whites and Hispanics, and a steady decline in percent non-marital from 1994 to 1999 among blacks. The percent non-marital among blacks turns up again in 2000 and 2001.

The figures so far suggest that the decline in the percent of births to black women, especially in Alabama and DC, is a more important contributor to the decline in the percent single than is the reduction in non-marital proportions within race. Logically, the decline in

the number of births to black women could have two sources: lower births per woman or fewer women. We next examine, therefore, whether the decline in the non-marital ratio that resulted from changes in the number of births to specific groups (especially the decline in the number of births to black mothers) resulted from population changes (e.g., a decline in the black population) or changes in birth rates (i.e., births per woman). For population data at the state level for subpopulations possibly undergoing rapid change we must rely on the decennial censuses; therefore, we examine changes between 1990 and 2000.

Figures 11 through 13 show the population of women age 15 to 54 by race for the three bonus winning states. In Alabama (Figure 11) and Michigan (Figure 13), the black, white and Hispanic population all grew steadily. In DC (Figure 12), the Hispanic and "other race" populations grew, but the black female population fell substantially at these ages (about 15%, from 124,173 to 105, 164), while the white population fell slightly. Clearly, the changes in the female black population alone reduced the non-marital birth ratio.

Figure 14 to 16 show female populations by race and age for the three states. Focusing on Figure 15 for DC reveals a striking pattern. The largest decline in the 15 to 54 year old age group was at ages 15 to 34, the ages of peak fertility rates. The number of black 35 to 54 year olds increased slightly, and the number under 35 decreased substantially (by nearly thirty percent, from 70,764 to about 50,595). This change is clearly not the result of population aging alone because, for example, the number of 25 to 34 year olds in 2000 (25,929) is about a fifth smaller than the number of 15 to 24 year olds in 1990 (32,033).

In Alabama (Figure 14), the white population aged 15 to 34 declined, and the black population aged 15 to 24 increased, whiles the black population aged 25 to 34 increased slightly, as did the Hispanic population. Thus, on balance it appears that population changes alone would have raised non-marital ratios in Alabama in the 1990s.

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In Michigan, the white population aged 15 to 35 declined, the black population held about steady at those ages, and the Hispanic population grew. As in Alabama, these population shifts alone would have increased non-marital ratios.

We now turn to a more complete demographic decomposition to determine the influence of these demographic changes on the non-marital ratios.

Decomposition

Births records can yield only limited insights regarding the sources of change in the non-marital ratio. As noted, the analyses described in Table 2 cannot distinguish between changes in births that come about from changes in populations versus those that come about from changes in birth rates. We use census data for 1990 and 2000 and the following demographic decomposition to account more completely for changes in the non-marital ratio over the 1990s:

Let NMRt be the overall non-marital birth ratio for a state in year t.

Let i index each (age X race) group. So,

POPit is population of (age X race) group i in year t

Bit is number of births to the (age X race) group i in year t

Then, we may write

$$NMR_t = \Sigma_i (POP_{it} * B_{it}/POP_{it} * NMR_{it})$$

Where NMR_{it} are the age-race specific non-marital ratio, t= 1990 or 2000 and i indexes the age-race group based on the interaction between the age categories: 15-19, 20-24, 25-34 and 35-54 and race/ethnicity categories: non-Hispanic white, non-Hispanic Black, Hispanic, and "other race." Then we may decompose the change overall into three components.

1. The component due to changes in the age-race-specific NMR.

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To compute this, we hold births, the Bit (=POPit*Bit/POPit), constant at their 1990 values, but allow the NMRit to change to their 2000 levels.

2. The component due to changes in age-race-specific fertility rates.

To compute this, we hold POPit and NMRit constant at their 1990 values, but allow the Bit/POPit to change to 2000 values.

3. The component due to changes in population sizes; i.e., the sizes of the different age-race groups. To compute this we hold Bit/POPit and NMRit constant at 1990 values but allow POP to change to 2000 levels.

We currently lack detailed Census population counts needed to further decompose changes in the non-marital ratio into changes in proportions married and in the marital and non-marital birth rates. For population counts, we used Census Bureau files that adjust for changes ("crosswalked") between 1990 and 2000 in the Census race questions. However, these files provide counts that are disaggregated only by state, race, and age, but not by marital status (or education). We are investigating other possibilities for determining detailed changes in marital status.

Table 3 shows the results of this decomposition of the change from 1990 to 2000 in the non-marital birth ratios for Alabama and DC. We are unable to include Michigan in this analysis because of the break in the series of non-marital ratios created by the change in procedure for imputing marital status from information on births certificates. As can be seen from the first row of the table, despite Alabama's very slight decrease in the proportion non-marital between 1994 and 2000 (and more than $80 million in bonuses awarded in four consecutive years based on data for that period), the proportion non-martial rose by nearly a half percentage point per year for the decade as a whole. For DC, the average annual decline in the proportion non-marital is about one-third as large over the decade 1990 to 2000 as between 1994 and 2001, but still nearly half a percentage point per year. Thus, our discussion will focus mainly on the figures for DC.

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The second row of the table shows what the annual change would have been in the nonmarital ratio if only the age-race specific non-marital ratios changed between 1990 and 2000 (and the birth rates and populations within each age-race group are held constant at their 1990 levels). The number 0.155 indicates that the non-marital birth ratio would have *risen* by 0.155 percentage points per year (or 1.55 percentage points over the decade) based on increases in the within-group ratios alone.

The number of births could change within groups either because the group size changed (population changed) or because birth rates changed for each group. To gauge the importance of each of these factors to the overall change, in the third row we allow only fertility rates (births per woman) to change for each group, but we hold the group-specific populations and non-marital ratios constant at their 1990 levels. This shows that the change in group-specific birth rates and non-marital ratios reduced the overall non-marital ratio by about one quarter of one percentage point per year, or by about 2.5 percentage point over the decade. This accounts for more than half of the overall decline for the decade.

What if population were allowed to change, but the age-race specific birth rates and non-marital ratios were held constant at their 1990 levels? Row 4 shows the results of this exercise. In this case, the non-marital ratio would fall about 0.363 per year, or 3.6 percentage points over the decade. Thus, changes in population (between age-race groups) over the decade alone can account for 4/5 of the decline in the overall non-marital ratio in DC over the 1990s.

What did the Illegitimacy Bonus reward? In Alabama, it rewarded a miniscule decline in the non-marital ratio. However, that ratio did not decline (on average) within race over that period: controlling for race, the ratio increased. In general, Alabama was awarded the bonus because births to blacks fell, and blacks have high non-marital ratios.

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Within the white and Hispanic populations, the non-marital birth ratios rose substantially; within the black population, the non-marital ratio fell slightly.

In DC over the period 1994 to 2001, the decline in the non-marital ratios within race/ethnicity groups did contribute to the overall decline (e.g., Table 2), though most of the decline (two-thirds to 90%) was due to a shift in the population and in births per woman away from groups with relatively high non-marital ratios. If we believe that welfare reform or the Illegitimacy Bonus should be "credited" only for the decline in the non-marital ratio within populations, then Table 2 suggests only a perverse effect of policy (and the figures suggest at most a modest impact in DC and Michigan). If we believe that welfare policy also deserves credit for the shift in births across groups more generally (away from high risk groups such as black women or teenagers), then we should sum the effects of rows 2 and 3 in each column of Table 3 to gauge the impact of policy. In DC this means that about 80% of the decline is accounted for by pure population changes, and the remaining 20% might be attributable to policy. (The analysis of Alabama and Michigan data are less satisfactory, for the reasons already discussed: marital status recording changes in Michigan and substantial increases in the percent non-marital over the 1990s as a whole for Alabama.)

Abortion

A final question has to do with the role of abortion in controlling non-marital fertility in bonus winning states. Due to data availability, our discussion is limited to Alabama, though we hope to add abortion data for Michigan. Figure 17 shows the ratio of abortions to births and the ratio of abortions to "pregnancies" (abortions plus births) for 1994 to 2000. Both series show a substantial decline over the period, as required by the Illegitimacy Bonus. We would like to be able to determine, however, if abortion might have been used to control non-marital fertility among women most likely to be affected by

welfare reform. Since, historically, younger women and black women were more likely to use welfare than others, we examine the trends in abortions and births by race and age. Due to small samples, we do not break out Hispanics from blacks and whites (and we are unable to do so for abortions), nor do we present separate estimates for women of races other than black or white.

Figures 18 and 19 show abortions for single and married women, respectively, by race and age.   These data show a marked, steady decline in abortion among whites over the entire period. For blacks, there is a u-shaped pattern for single women under age 35, and for married women aged 25 to 34. Figures 20 and 21 show the corresponding figures for births. For white women, the number of births to single women rose substantially, so clearly the abortion/pregnancy ratio fell markedly for single white women in this period, suggesting an increased desire to bring non-marital pregnancies to term among whites. Births to married white women fell, and births to black women generally followed the same u-shaped pattern as abortions, so the trend in the abortion to pregnancy ratios is not apparent from these figures. Births to single, black teenagers fell markedly, suggesting an increased propensity to abort pregnancies among this group.

Figure 22 shows the abortion/pregnancy ratios by race and marital status. Again, the number of pregnancies is estimated as the sum of births and abortions. The proportion of pregnancies aborted fell markedly among single white women, and fell somewhat among married white and black women. Initially, the abortion to pregnancy ratio fell among single black women but then it increased after 1997. Finally, Figure 23 shows abortions/pregnancy by race and age for single women. Again, there is a marked decline for white single women of every age. Among single black women, the propensity to abort a pregnancy increased after 1997 for teens and 35 to 54 year olds, and it increased throughout the period for 25 to 34 year olds.

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We also quantified these trends by simple regressions of the abortion/pregnancy ratio on a time trend in Alabama, overall and for various groups; results are summarized in Table 4. As the figures suggested, the ratios fell markedly among whites and black married women. However, the abortion/pregnancy ratio fell much less rapidly among single black women, and increased for some age groups. Although firm conclusions await a more detailed investigation, there a hint in these numbers that some groups of women likely to be affected by welfare reform may have increased their relative propensity to abort pregnancies over the period of welfare reform implementation.

Summary and Discussion

Our results suggest that, despite a goal to reward states in which experienced reductions in the chance that a given woman would have a non-marital birth, the non-marital bonus appears to have rewarded a variety of demographic changes. These changes include the decline in the black population aged 15 to 35 in DC, and the general control of fertility among groups with high rates of non-marital fertility, even when the proportion non-marital rose within these groups. The contribution of welfare reform to these demographic changes, and the contribution of the non-marital bonus in particular, are questionable. For example, teen fertility rates, especially among blacks, began a downward trend in the early 1990s, years before the implementation of welfare reform (see Kaestner, Korenman and O'Neill 2003; Colen et al. 2003.) Because of the high proportion of births to teens that is non-marital, continuation of the decline in teen fertility after 1994 would, all else the same, reduce non-marital fertility ratios, even in the absence of an effect of welfare reform.

What have we learned from our experience with the Illegitimacy Bonus, and for marriage promotion through welfare reform more generally? A natural place to begin to look for an answer is with the recent debates over TANF reauthorization. Although it is

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clear that the Illegitimacy Bonus will not be re-authorized in anything resembling its

current form, discouraging non-marital childbearing and promoting marriage remain

prominent in the reauthorization debate. For example, despite little evidence from

evaluations of an effect of welfare reform on fertility and marriage, in their congressional

testimonies, Robert Rector (2001), Ron Haskins (2001, 2002), and Isabel Sawhill (2002),

all credited PRWORA with some limited success in achieving marital and fertility goals.[10]

In their view, the legislation brought greater national attention to problems associated with

illegitimacy; it demonstrated that federal and state governments could assume

responsibility for devising policies to fight illegitimacy and promote marriage (or at least

take responsibility for eliminating anti-family biases in existing legislation); and it created

opportunities for private groups and faith-based organizations to help strengthen families.

Although there is little evidence for effects of specific provisions, the whole of welfare

reform may have accomplished more the sum of its parts.[11] As a result, there is interest in

continuing to use welfare reform for marriage promotion. For example, Charles Murray

(2001) has argued "…that reducing illegitimacy must be restored to the central position it

held during the deliberations that led to the passage of the 1996 welfare reform legislation."

And even though some supporters argue that it is too early or too difficult to conclude that

welfare reform deserves credit for family change (Haskins 2002), there is considerable

support for direct funding of marriage promotion. It is unfortunate that there is little

evidence from earlier reform efforts to guide the formulation of these policies.   It comes as

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[10] "Changes in such behaviors as divorce and out-of-wedlock childbearing are likely to respond only slowly to a shift in the policy environment and it would be premature to attribute all or even most of these changes to the 1996 law. But it would also be wrong, in my view, to say that it has not had an effect simply because evaluations of some of the specific provisions such as family caps or the illegitimacy bonus or abstinence education programs have not shown clear impacts (Sawhill 2002)."

[11] "After several generations of unrelenting growth, all the measures of illegitimacy leveled off in the mid-1990s …and have remained stable for five years. In addition, the non-marital birth rate measure for blacks is actually declining, and recent data show that the percentage of children in two-parent families, an explicit goal of the 1996 reforms, is increasing. Finally, the teen birth rate has declined every year since 1991" (Haskins 2001).

no surprise, therefore, that current TANF reauthorization proposals recommended significant funding for measurement and evaluation of marriage promotion activities. [12, 13]

On May 16, 2002, the House passed H.R. 4737, which would eliminate the $100 million annual Illegitimacy Bonus and instead fund a "Healthy Marriage Promotion Grant" (Section 103), a Department of Health and Human Services program of competitive grants for state efforts to encourage marriage (Parke, 2003). The Senate version, the Personal Responsibility and Individual Development for Everyone Act of 2003, which passed out of the Finance Committee Sept. 10, 2003, is similar. Both versions stipulate that state marriage education programs be voluntary, with the Senate version requiring the addition of domestic violence prevention specialists (Brown 2000). The legislation would allocate $500 million for demonstration and pilot programs that will include rigorous evaluation of marriage promotion activities; however, $1 billion may be spent on activities for which there is, to date, only limited evidence of effectiveness (Haskins, 2003).

In reacting to the Bush Administration's proposals to promote marriage through welfare reform, Michael Laracy (2002) of Brookings noted "clearly, the Administration's focus has merit in terms of child well-being. But, marrying will not magically raise a family out of poverty when the parents often have no skills, no jobs, and terrible housing and may struggle with depression, substance abuse, or domestic violence." Along these lines, some have proposed replacing the Illegitimacy Bonus with a Child Poverty Reduction Bonus. For

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[12] "Given the evidence five years later, it would be a stretch to claim that these innovative policies on family formation have caused big changes in the mating or marriage behaviors of young, low-income Americans…. While these felicitous outcomes are likely due in part to welfare reform, caution is required until these trends continue and even intensify." (Haskins 2002)

[13] "The federal government's primary roles at this point should be to gather better data and encourage states to launch demonstration programs, as they did with welfare recipients in the decade before TANF…Following the precedent set by the many years of high quality experimentation with welfare-to-work programs, the marriage programs should be carefully evaluated to determine whether they produce their intended effects…If we follow this strategy, five years from now this Committee will have the advantage of good research information that will help members decide

example, in September of 2001, Congresswoman Mink (D) of Hawaii proposed H.R. 3113,

TANF Reauthorization Act in which the Illegitimacy Bonus would be replaced with "a

$150,000,000 annual bonus to reward states that significantly reduce the amount and depth

of child poverty. [Sec. 103]" [14] Of course, a "poverty reduction bonus" shares some

undesirable features with the Illegitimacy Bonus, particularly, that child poverty rates could

fall or rise through no effort by the state. Especially perverse is the (likely) situation in

which states are awarded poverty reduction bonuses when child poverty rates fall as the

result of an improving regional economy, but similar states where child poverty rates rise

due to a regional economic downturn receive no additional funds.

Conclusion

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whether these programs hold promise and should be continued" (Haskins 2003 Reauthorization
Testimony).
[14] The National Association of Social Workers also advocated shifting the goals of TANF to poverty
reduction (2001) and has opposed government promotion of marriage (Brown 2000).

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Table 1: Bonus winning states and award amounts

Award year	Data Years	Winning States	Each state's award amount
1999	1994-97	AL, CA, DC MA, MI	$20 million
2000	1995-98	AL, AZ, DC, IL, MI	$20 million
2001	1996-99	AL, MI, DC	$25 million
2002*	1997-00	AL, CO, DC, MI, TX	$19.8 million
2003	1998-01	CO DC, MD, TX, WY	$20 million

Source: DHHS. TANF Report to Congress, 2003.

*In 2002, Virgin Islands was awarded a bonus of approximately $900,000. Consequently, award amounts were reduced by nearly $200,000 for the other five states awarded bonuses that year.

Table 2: Regression Estimates of the Trend in the Non-Marital Birth Ratio (in %) for
AL, DC, MI 1994 to 2000 or 2001 [1]

Coefficient x 100 (t-stat) from Linear Probability Models

Dependent Variable = Unmarried Birth

	Alabama	D.C.	Michigan
Birth years	1994 to 2000	1994 to 2001	1994 to 2000
Model / Controls [2]			
1. Trend only	-0.007 (1.7)	-1.432 (17.7)	-0.254 (10.5)
2. Trend + race (3)	0.026 (0.8)	-0.463 (6.9)	-0.180 (8.2)
3. Trend + race (3) + age (4)	0.238 (8.4)	-0.350 (5.5)	0.069 (3.6)
4. Trend + race (3) + ed (4)	0.239 (8.2)	-0.151 (2.4)	0.002 (5.1)
5. Trend + race (3) + ed (4) + age (4)	0.302 (10.8)	-0.158 (2.5)	0.111 (5.9)
Number of births	428,266	65,359	941,085

Data: NCHS birth records.

1. Michigan and Alabama were awarded the out-of-wedlock birth reduction bonus
four years, and D.C. was awarded it five years. The bonuses for Alabama and
Michigan were based on births from 1994 to 2000. The bonuses for DC were based
on births from 1994 to 2001. See text for details.

2. Controls: linear trend (1994 to 2000 for AL and MI, 1994 to 2001 for DC), race
(Hispanic, non-Hispanic white, non-Hispanic black, other non-Hispanic); education
(less than HS graduate, HS graduate, beyond HS graduate; missing); age (<18, 18-
19, 20-24, 25-34, 35-54). Sample is restricted to mothers between the ages of 15
and 54.

Table 3: Decomposition of the Change in the Non-marital Birth ratio 1990 to2000,

Alabama and Washington DC

Birth Records and Census Population Counts

NMR_t = (unmarried births/all births) for an (age X race) group, year t

	Change per year, 1990 to 2000 in non-marital birth ratio (t-stat)	
	DC	AL
1. Actual change per year (%)	-0.452 (11.0)	0.427 (26.5)
Change if….		
2. only (age X race) group-specific nonmarital ratio change; population and births per woman of each group are held constant at 1990 levels.	0.155 (4.4)	0.577 (35.5)
3. only (age X race) group-specific births/woman change; population and NMR of each group are held constant at their 1990 levels.	-0.274 (7.5)	-0.301 (19.0)
4. only (age X race) group-specific populations change; NMRs and births per woman of each group are held constant at their 1990 levels.	-0.363 (10.0)	0.176 (10.7)

Population counts are adjusted for changes in race questions between 1990 and 2000 Censuses. They are not adjusted for under-enumeration.

Table 4: Trends in Abortion/Pregnancy Ratio for Alabama, 1994 to 2000

Coefficient of Linear Trend

	All	White	Black
All	-.0051	-.0067	-.0024
Single women	-0.0078	-0.0189	-0.0011
15-19	-0.0060	-0.0179	0.0003
20-24	-0.0129	-0.0235	-0.0063
25-34	-0.0041	-0.0145	0.0027
35-54	-0.0105	-0.0214	-0.0049
Married women	-0.0018	-0.0017	-0.0031
15-19	-0.0007	-0.0008	-0.0004
20-24	-0.0022	-0.0019	-0.0052
25-35	-0.0016	-0.0017	-0.0019
35-54	-0.0041	-0.0038	-0.0045

All effects are significant at conventional levels.

The sample is restricted to Alabama residents who are black or white, married or single, and with non-missing age from 15 to 54.

Figure 1

Percent Single Births By Bonus State 1990 to 2001
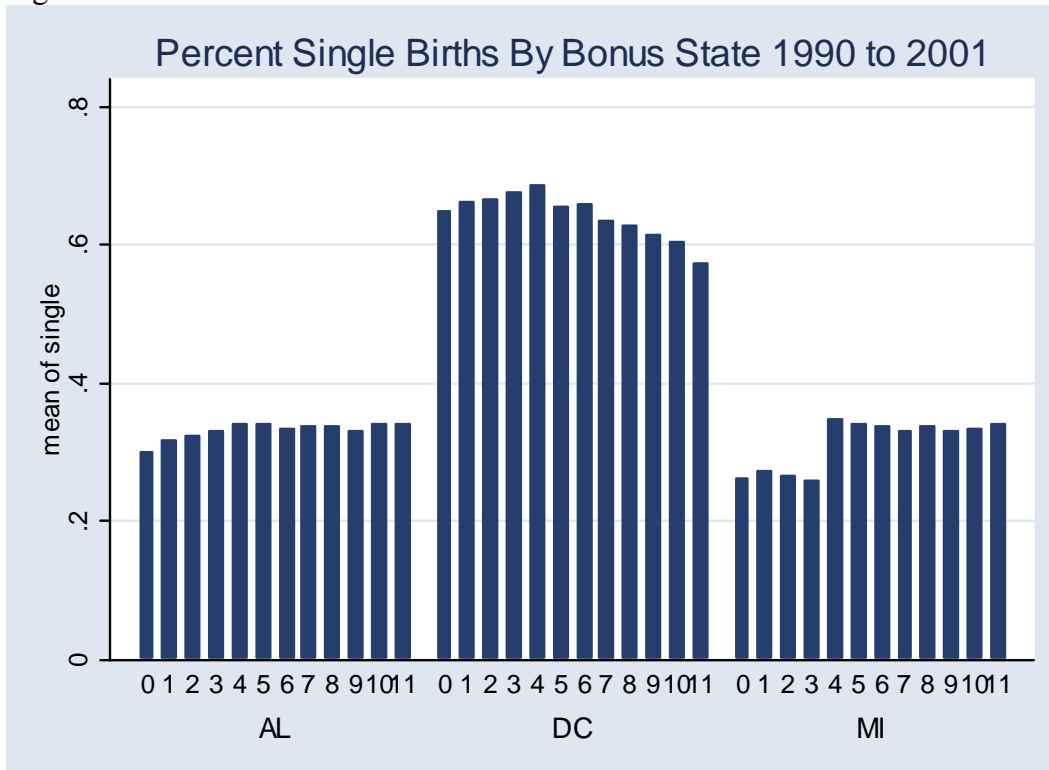
Note: figure is correct; label of vertical axis will be fixed.

Figure 2

Note: figure is correct; vertical axis will be correctly labeled.

Figure 3

Number of Births by Race 1990 to 2001 DC
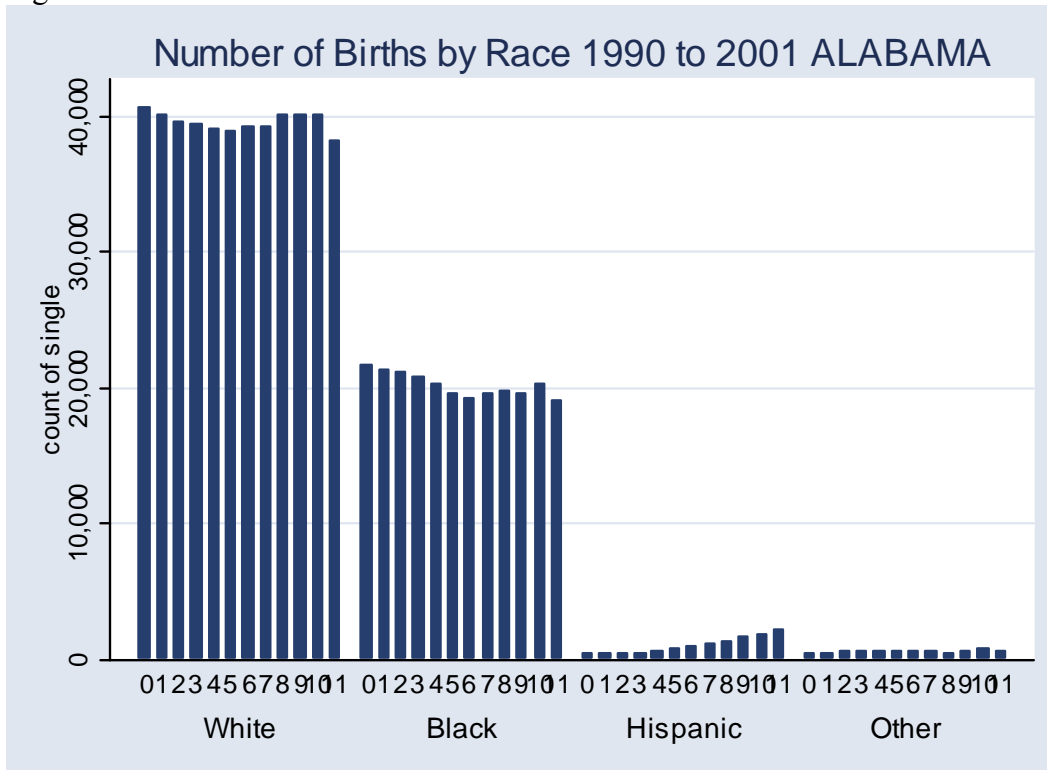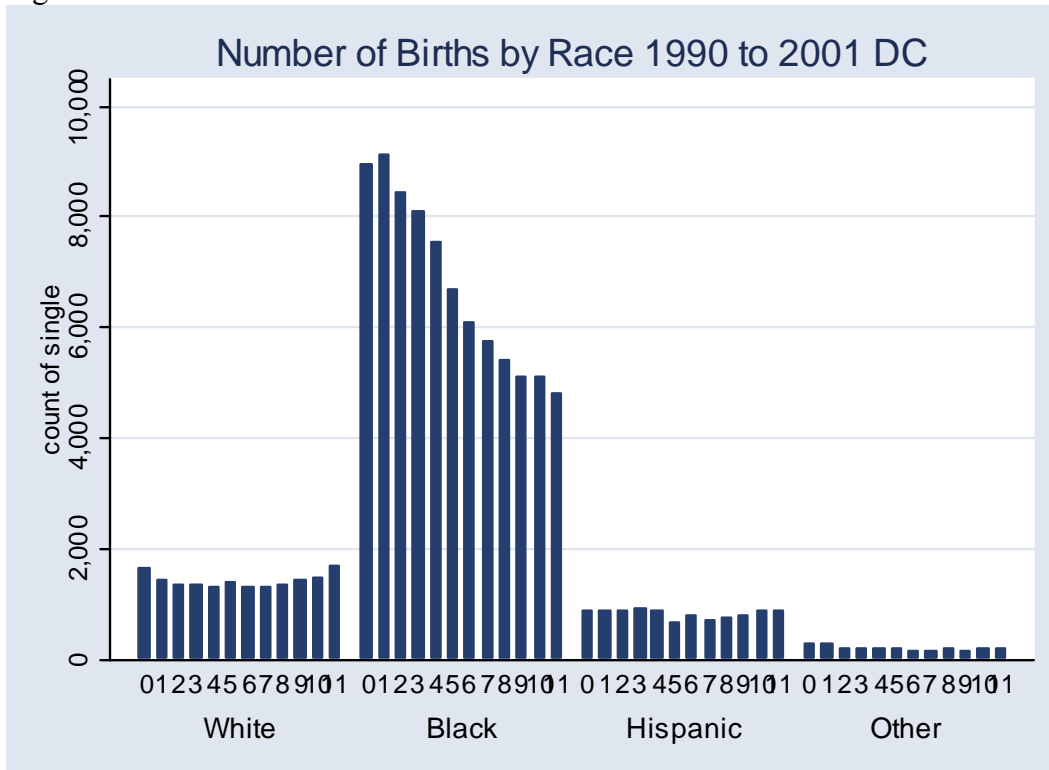
Figure 4

Note: figure is correct; vertical axis will be correctly labeled.

Figure 5

Percent Black Births By Bonus State 1990 to 2001

Figure 6

Percent White By Bonus State 1990 to 2001

Figure 7

Percent Hispanic By Bonus State 1990 to 2001

Figure 8

Percent Single Births 1990 to 2001 ALABAMA

7Figure 9

Percent Single Births 1990 to 2001 DC

Figure 10

Figure 11

Women 15 - 54 in AL by Race 1990 and 2000

Figure 12

Women 15-54 in DC By Race 1990 and 2000

Figure 13

Thous. Women 15-54 in MI 1990 and 2000

Figure 14

Women in AL by Race & Age 1990 and 2000

Figure 15

DC Women By Race and Age 1990 and 2000

Figure 16

Thous. Women 15-54 in MI by Race and Age 1990 and 2000

Figure 17

Abortions per Birth or Pregnancy: Alabama 1994 to 2000

Figure 18

Abortions in AL 1994 to 2000 By Race and Age

Single Women

Figure 19

Abortions in AL 1994 to 2000 By Race and Age

Figure 20

BIrths in AL 1994 to 2000 By Race and Age

Single Women

Figure 21

BIrths in AL 1994 to 2000 By Race and Age

Married Women

Figure 22

Abortions/Pregnancy by Race and Marital Status
Alabama 1994 to 2000

Figure 23

Abortions/Pregnancy by Race and Age
Alabama Single Women 1994 to 2000

Appendix: Additional figures and data

Non-Marital Birth Ratio by Race 1990-2002
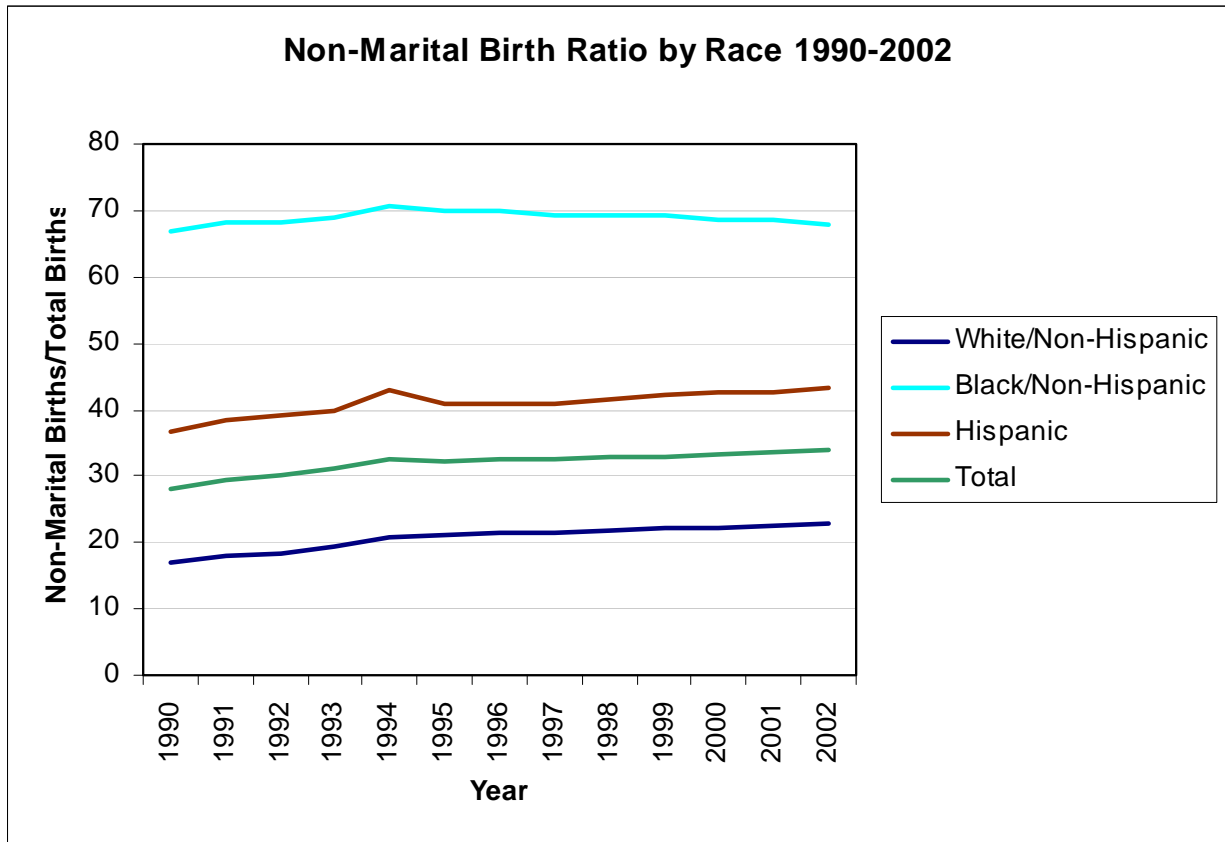
Live births to black women in DC, 1990 to 2001

Year	Number of births	Index 1991=1.0
1990	8,961	0.98
1991	9,112	1.00
1992	8,460	0.93
1993	8,086	0.89
1994	7,547	0.83
1995	6,685	0.73
1996	6,115	0.67
1997	5,726	0.63
1998	5,409	0.59
1999	5,113	0.56
2000	5,106	0.56
2001	4,808	0.53