

Welfare Waivers and Non-Marital Childbearing

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Abstract

In the late 1980's states began applying to the US Department of Health and Human Services for waivers granting permission to implement state level welfare policies that differed from existing federal policy. An explicit goal of state policymakers was to use policy tools to alter incentives in order to influence unmarried women's fertility decisions. This paper estimates the extent to which welfare waivers may have played a role in lowering the ratio of non-marital births and how this effect differed across age groups and races. The analysis uses aggregate state level data for the years 1984 through 1996 and estimates fixed-effect regression models. Waivers at each level of the process of request, approval, and implementation are found to be consistently negatively correlated with non-marital birth ratios. The family cap waiver is shown to be a useful policy tool for lowering non-marital fertility.

Welfare Waivers and Non-Marital Childbearing

Non-marital childbearing has increased dramatically in the second half of the 20th century. Non-marital births increased from 3.8 percent of all births in 1940 to over 32 percent of all births in 1996. There is a large body of research suggesting a correlation between non-marital childbearing and negative consequences to unmarried teen and post-teen mothers, and their children¹. These potential negative outcomes may serve as motivation for policymakers in their search for policy tools designed to reduce non-marital childbearing.

In the late 1980's states began applying to the US Department of Health and Human Services for waivers granting permission to implement state welfare policies different from existing federal policy. An explicit goal of state policymakers when drafting the waivers was to alter incentives in order to influence unmarried women's fertility decisions. It is the aim of this paper to establish empirically the extent to which welfare waivers played a role in lowering the ratio of non-marital births and how this effect differed across age groups and races. The analysis uses aggregate state level data for the years 1984 through 1996 and estimates fixed effects regression models.

The paper is organized as follows. After a summary of the evolution of non-marital fertility ratios, section 2 outlines several theories of non-marital childbearing. Section 3 provides a description of the various welfare waivers, and section 4 begins with a brief review of the welfare and fertility literature and then suggests hypotheses about the potential effects of welfare waivers on non-marital childbearing. This is followed by a description and analysis of the data. The last section describes the results of the empirical analysis.

1. Trends in non-marital fertility

¹Annie E. Casey Foundation, 1998; Baldwin and Cain, 1980; Bane and Ellwood, 1986; Blank, 1993, 1997(a); Card, 1981; Duncan and Hoffman, 1990(a, b); Foster, Jones and Hoffman, 1998; Furstenberg, Brooks-Gunn and Morgan, 1987; George and Lee, 1997; Geronimus and Korenman, 1992, 1993; Grogger, 1997; Haveman, Wolfe and Peterson, 1997; Hoffman and Foster, 1997(a); Hoffman, Foster and Furstenberg, 1993; Kahn and Anderson, 1992; Maynard, 1997; McLanahan and Sandefur, 1994; Moore, Morrison and Greene, 1997; National Governors' Association, 1996; Wertheimer and Moore, 1998; Wolfe and Hill, 1993.

The non-marital birth ratio is defined as the number of non-marital births divided by the total number of births. As Figure 1 shows, overall U.S. non-marital birth ratios were steadily increasing until 1994 at which point there was a slight decrease². The percent of non-marital births in the U.S. increased from 3.8 to 32.6 between 1940 and 1994 and fell slightly to 32.4 percent in 1996. Figures 2-5 show that both race and maternal age composition of non-marital births have changed substantially over time. For example, the percent of non-marital births to black women aged 15 to 49 out of all single women has fallen 13 points over the period 1984 to 1996, from 46 percent to 33 percent. The percent of non-marital births to teens of all races out of births also fell over this period from 34 percent to 30 percent. More dramatically, non-marital births to black teens as a share of non-marital births to all teens fell from 46 percent in 1984 to 33 percent in 1996. While the share of non-marital births attributable to 20 to 49 year old women of all races increased only five percentage points, the portion of this attributable to black 20 to 49 year old women fell from 45 percent to 33 percent over the 13 year period, and the share attributable to white 20 to 49 year old unmarried women increased from 51 to 63 percent.

Appendix figures 1 to 51 show the evolution of non-marital fertility ratios for the 50 states and D.C. over the 1984-1996 period. All states show an increase over this time period and many (e.g. Arizona, California, Colorado, D.C., Delaware, Oregon, Pennsylvania and Virginia) show a leveling off or a decline near the end of the period. Washington D.C. consistently has the highest teen and post-teen non-marital birth ratio. The greatest increase in non-marital birth ratios over the period occurred in Nevada where the teen ratio increased 83 percent and the post-teen ratio increased 270 percent between 1984 and 1996.

2. Theories of non-marital fertility

There are three necessary conditions for a birth to be non-marital. First, the unmarried woman must get pregnant, second she must not choose to have an abortion, and third she must

² The increase in non-marital births in the 80's and early 90's may be due in part to an increase in births to cohabitating unmarried couples. Bumpass and Lu estimate that among unmarried births in the period 1990 to 1994, 41 percent occurred to cohabitating parents, this is up from 29 percent ten years earlier (Bumpass and Lu, 1998).

not get married before giving birth. Several theories have been put forth attempting to explain why women have non-marital births, each explanation can be linked to at least one of these three conditions.

The opportunity cost argument maintains that women who have children out-of-wedlock do so because the cost, in terms of alternatives given up, is low. Women who have children outside of marriage may believe that the economic opportunities in their futures are bleak; thus they would not be giving up much over their lifetimes if they chose to have a baby out of wedlock instead of furthering their education or pursuing a career (Acs, 1994; An, Haveman and Wolfe, 1993; Anderson, 1989; Billy and Moore, 1992; Duncan and Hoffman, 1990(a), 1990(b); Hogan and Kitagawa, 1985; Wilson, 1987). Duncan and Hoffman find that for black teens, decisions about non-marital births are most influenced by likely future career and marital opportunities.

Related to the opportunity cost argument, the intergenerational welfare dependency argument proposes that young women who come from families that have been dependent on welfare will have a higher likelihood of receiving welfare themselves and of having a child out-of-wedlock (Antel, 1992; Duncan and Hoffman, 1990(a), 1990(b)). The reason for this, it is argued, is that, because she grew up in a family where the parents had few economic opportunities, she will perceive her economic opportunities to be no better than that of her parents. An, Haveman and Wolfe (1993) summarize this argument:

Growing up in a poverty family or one without connections in the labor market, it is speculated, may cause young women to relatively undervalue opportunities in the labor market that may be an alternative to childbearing. The linkage here involves a rational choice among options albeit one based on erroneous or asymmetric information.

Another theory, the utility or income maximizing theory, suggests that a woman, who would be eligible for welfare upon having a child or to an incremental increase in welfare upon having another child, may choose to have a non-marital birth because welfare benefits make this option economically attractive. Rosenzweig's utility maximizing model (summarized by Hoffman and Foster, 1997(b)) maintains that:

Young women are assumed to choose among a set of marriage and fertility alternatives, including, among others, having no birth, a marital birth or a non-marital birth. Utility in each such alternative is taken to be a function of child quality and the income that would be received in that alternative. Because income in the alternative involving a non-marital

birth is modeled as a function of AFDC benefits, the model predicts that higher AFDC benefits will increase the probability that a woman will have a non-marital birth by increasing the maximum utility available in the event of such a birth.

Note that welfare benefits may affect both fertility decisions as well as marital decisions because welfare benefits are more available for single women. Having a child will also entail added costs, but the woman may not hold a realistic notion of these costs; this is especially true in the case of teenage girls. Thus, according to this theory, a woman makes a rational choice between the perceived benefits, both monetary, in the form of welfare payments, and non-monetary, in the form of utility from having a child and the perceived costs (An, Haveman and Wolfe, 1993; Duncan and Hoffman, 1990(a), 1990(b); Lundberg and Plotnick, 1990; Rosenzweig, 1995). Moore, Morrison and Gleib (1995) point out that it is not the welfare benefits in and of themselves that are important in this theory, rather, it is the benefits relative to other income-making alternatives the woman has available to her.

Several researchers have posited that women are more inclined to have non-marital births when their marriage market prospects are limited (Brewster, 1994; Lichter, 1985; South and Lloyd, 1992; Wilson, 1987). Wilson shows that young black women in particular are “facing a shrinking pool” of employed, single young black men from which to find a partner.

A common reason cited for teen pregnancy is that it is a response to a plethora of possible stressful situations in teens’ lives, which lead them to desire the constant and unconditional love of their own baby (Elster, Panzarine and McAnarney, 1980; Moore, Morrison and Gleib, 1995). Pregnancy and birth may offer the young mother attention and respect from the community that she may not have a chance to elicit in other ways (Acs, 1994; Duncan and Hoffman, 1990(a), 1990(b)). Childbearing is seen in many communities as a symbolic passage into adulthood, whether or not it is done out-of-wedlock (Anderson, 1989; Hayward, Grady and Billy, 1992; Hogan and Kitagawa, 1985; South and Lloyd, 1992). The decline in stigma associated with non-marital births, especially in some neighborhoods, has also been noted as increasing the prevalence of non-marital childbearing (Duncan, 1995; Lichter, 1995; Plotnick, 1990), and particularly in poor black communities, the social pressure against abortion remains strong (Anderson, 1989).

It is clear that a combination of many explanations work together to create the environment for a non-marital birth to occur. Both the opportunity cost and the utility maximization arguments explain why an unmarried woman may choose to become pregnant and why she may choose to not abort. However, it is the addition of poor marriage market opportunities argument that explains circumstances under which the third necessary condition for a non-marital birth-that she not marry before the birth-is met.

Our multivariate analysis will include variables meant to capture important points of the arguments outlined above.

3. Welfare waivers

Since 1962 state governments have had the option of applying to the US Department of Health and Human Services (DHHS) for welfare waivers. These waivers granted permission from the federal government for implementation of welfare reform initiatives by the state. States that did not receive waivers were subject to federal government requirements in the administration of welfare programs (predominantly Aid to Families With Dependent Children (AFDC)). It wasn't until the end of the Bush administration that states began applying for waivers in substantial numbers, and waivers have been used extensively during the Clinton administration. The combination of waivers sent in by a state to DHHS was called a demonstration project and could include one or more waivers. Appendix Table 1 shows the request, approval and implementation date for each demonstration project.

Between January 1987 and August 1996 (when the new federal law, Personal Responsibility and Work Opportunity Reconciliation Act, PRWORA, was passed into law) 46 states (including D.C.) received approval to implement at least one demonstration project to amend their Aid to Families with Dependent Children (AFDC) and Job opportunities and Basic

Skills (JOBS) programs.³ Of the states that received approval, 39 actually implemented the demonstration before the new law in August, 1996.⁴

In this paper we classify the various waivers into eight different categories: (1) institution of the family cap; (2) imposition of the minor parent provision; (3) imposition of time limits for welfare receipt; (4) modifications of a number of work requirements; (5) expansion of the income disregard and of asset limits; (6) imposition of the school attendance and performance requirement; (7) expansion of eligibility for AFDC-UP (AFDC program for married couples); and (8) waivers intended to strengthen child support. Figures 6-14 show the increase in number of requests, approvals and implementation of any waiver implemented and of the 8 waiver categories between 1987-1996. In the Appendix Table 2 we define the types of provisions included in each of these waiver aggregations and put them into context vis-à-vis the new 1996 TANF program under PROWRA.

Table 1 presents a correlation matrix of the 8 waiver aggregations. The matrix suggests that there is a great degree of collinearity between the waivers. The waivers that states most often implemented together were the work requirement, expansion of AFDC-UP and the expansion of income disregard and asset limits. This is not surprising as these were the three most popular waiver categories implemented throughout the states. The work requirement and expansion of income disregard and asset limit waivers were correlated at more than .5 with all the other waivers. On the other hand, the family cap waiver was correlated at more than .5 with only two other waivers.

4. Effect of welfare provisions on non-marital fertility

Most of the literature studying the relationship between welfare and non-marital fertility has focused on the level of welfare benefits. Despite strong predictions from theory that higher welfare benefits should increase incentives for non-marital childbearing, there is little consensus in the literature to date about the empirical relationship between welfare and fertility. Many

³ States that either did not apply for approval or did not receive approval on their application were: Alaska, Kentucky, Nevada, New Mexico and Rhode Island.

studies have found no relationship between welfare and non-marital births for at least one age group or race (An, Haveman and Wolfe, 1993; Cutright, 1970; Ellwood and Bane, 1985; Garfinkel et al., 1999 (incorporating fixed effects into the model); Hoffman and Foster, 1997(b) (in a model including fixed effects only for large states); Janowitz, 1976 (for white women); Lundberg and Plotnick, 1995 (for black teens); Moore and Caldwell, 1977; Plotnick, 1990 (for black teens); Robins and Fronstin, 1996 (for white women, including fixed effects in the model); Schultz, 1994 (for black women of all ages and for white women aged 25 to 44); South and Lloyd, 1992; Acs, 1994, 1996 (for all women through age 23)). Several researchers have also found evidence of a significant positive relationship between welfare and non-marital fertility (Duncan and Hoffman, 1990(a), 1990(b) (for black teens); Hoffman and Foster, 1997(b) (in a model including fixed effects for each state); Janowitz, 1976 (for non-white women aged 15 to 29); Lundberg and Plotnick, 1990 and 1995 (for white teens); Murray, 1993 (without inclusion of a “black population density” variable finds a negative relationship for black women); Plotnick, 1990 (for white teens); Robins and Fronstin, 1996 (for black women, including fixed effects in the model); Rosenzweig, 1995 (for all women aged 14-22, including fixed effects in the model). Finally at least two researchers’ results suggest a negative relationship between welfare and non-marital fertility (Schultz, 1994 (for white women aged 15-24); Singh, 1986 (for all teens)). It is not clear why the research to date has yielded such a wide range of findings. Taking into account the many divergent results in the literature, Moffitt (1995) summarizes the research evidence as follows:

A reasonable reading of the evidence is that the welfare system may increase non-marital childbearing, but the magnitude of its effect may not be large relative to the effect of other factors in contributing to recent increases in non-marital childbearing in the U.S.

More recently policymakers have focused on reducing non-marital fertility by changing other provisions in welfare programs. This is illustrated by the move toward welfare waivers. The two waivers that most directly target non-marital fertility are the family cap and the minor

⁴ States that did not implement the waivers prior to August, 1996 were: D.C., Idaho, Kansas, Louisiana, Maine, South Carolina, and Tennessee. These states then either implemented them under the new TANF laws or rewrote them.

parent provision. Under AFDC, benefits increased with the number of children in a family.⁵ The **family cap** reduces or eliminates the increase in benefits for mothers who have an additional child while on welfare. Several studies have tried to indirectly estimate the potential effect of the family cap by exploring the relationship between number of children born to a woman on welfare and state variation in the incremental increase in benefits for additional children.

In a study using NLSY data from 1979 to 1991, Argys, Averett and Rees (forthcoming) try to establish whether family cap policies could have the effect of lowering non-marital birth rates, without increasing abortion. They estimate a bivariate probit model of the determinants of pregnancy while on AFDC and, conditional on pregnancy, the probability that the woman will obtain an abortion. Their results are mixed. When state fixed-effects are omitted, their results show a positive association between the incremental welfare benefits and pregnancy. However, when state fixed-effects are added to their model, the incremental welfare benefit variable becomes insignificant. When they repeat the analysis with state fixed-effects on white women only, they find a positive association between incremental welfare benefits and pregnancy. In their conclusion, they claim: “taken together, these results, at the very least, suggest that there exists the possibility that births to mothers on welfare will fall when a family cap is introduced.”

The conclusion reached by Acs (1994, 1996) differs from that of Argys, Averett and Rees. Acs uses a discrete time hazard model to estimate the probability that a birth occurs at a specific time, given that it has not already occurred. Without controlling for state fixed-effects, he finds that neither the baseline benefit, nor the incremental benefit for additional children influences a mother below age 23 to have a second child. (Unlike Argys et al. he does not consider births of higher order than 2.) He concludes that “while restricting benefits for young mothers who have additional children while on welfare may carry a significant symbolic message-- that long term dependence on public assistance is not an acceptable lifestyle-- it is unlikely to have a substantial affect on women’s childbearing decisions” (Acs, 1994).

⁵ The incremental increase for each additional child, however, varied across states, time, and number of children.

Fairlie and London (1997) find a positive relationship between incremental benefits and the probability of higher order births for both recipients as well as non-recipients. This leads them to believe that much of the positive relationship between incremental benefits and fertility among welfare recipients may be spurious. They conclude that family cap may not be an effective mechanism to reduce non-marital fertility among welfare recipients.

New Jersey began experimenting with the family cap waiver earlier than other states. According to the Department of Health and Human Services, they requested approval for the waiver in May, 1992, were granted approval in June, 1992 and implemented the waiver in October, 1992. In a 1994 study, O'Neill analyzed the change in birth rates to unmarried mothers after the waiver was implemented. Two methods of analysis are employed in the paper. First, she compares a randomly assigned treatment group (subject to family cap) with a control group (not subject to family cap) chosen from the state's AFDC caseload. She finds a decline in the birth rate to *all* welfare recipients over the period, but the largest decline was attributed to the treatment group. Second, she does a multivariate analysis of the probability of a birth after the waiver's implementation, by comparing women in the treatment and control groups with the same characteristics. The results show the birth rate to the treatment group is lower than to the control group. Her results from this second exercise support her claim that there is "strong evidence that the family cap provision... generated a significant change in the decision of single mothers to have an additional child." O'Neill also explores whether the family cap posed financial hardship to women who did have another child while on welfare. After looking at the issue from several angles, she concludes that the family cap did not result in serious deprivation to families having an additional child. She recognizes a possible incongruity between her two findings: if the family cap does not result in economic difficulty for those who have an additional child while on welfare, why would it have an impact on non-marital birth rates? She puts forth two hypotheses to rationalize her findings:

The potential benefit reduction may be significant enough to induce families to consider carefully the decision to have another child without first securing the means to support it. It is also possible that beyond the negative monetary incentives, families have been influenced by the moral disapproval that this policy conveys.

The second waiver specifically targeting fertility is the **minor parent provision** that requires an unmarried teen mother to stay in school and live at home or in some other supervised setting in order to receive welfare benefits. It has been argued that the existence of AFDC may allow a teenage girl in a bad home situation to have a child in order to move out on her own supported by welfare (An, Haveman and Wolfe, 1993; Sklar and Berkov, 1974). By no longer allowing teens to move out completely on their own after having the baby, this waiver may discourage them from giving birth. Although teen mothers made up only between 3 and 8 percent of welfare recipients over the 1984-1996 period, research has shown that nearly 80 percent of teen mothers go on welfare at some point in their life and over 75 percent do so in the first five years after the birth of their first child (Wertheimer and Moore, 1998). Thus, this waiver may be highly relevant for teen childbearing decisions.

While the other waivers are not directly designed to alter non-marital fertility behavior, they have the potential to alter incentives in such a way that the ultimate outcome is a decrease in both teen and post-teen non-marital fertility.

As far as teen pregnancy, Blank (1997) proposes that “women with stronger educational aspirations, with a greater sense of future economic opportunities, and who perceive more choices in their lives are less likely to become teenage mothers.” It is quite possible that the waivers could have some affect on each of these goals for teen daughters of welfare mothers. The **school attendance and performance requirement** may serve to heighten interest in school for teens from welfare families, thus improving their grades and perhaps preparing them for a college education. This could prevent teen pregnancy in two ways. First, as a teenager’s interest in school and grades increases the time left for other activities is reduced, including behaviors that may lead to early pregnancy. Second, as a teen’s interest in school and grades increase, the possibility of college and a more successful future becomes more realistic, thus the opportunity cost of having a child increases (Brewster, 1994, Ohannessian and Crockett, 1993). Several studies provide evidence that high levels of school engagement are associated with decreased teen pregnancy (Manlove, 1998; National Governors’ Association, 1996; Ohannessian and Crockett, 1993). These findings support the potential for the school

attendance and performance requirement waiver to decrease non-marital fertility rates among teens from welfare families.

The expected effects of **time limits** for welfare and **work requirements** is more direct. If the amount of time a woman can spend on welfare is finite, she may be more reluctant to have a child out-of-wedlock, because the support will be available for a shorter period of time. If a woman on welfare is forced into JOBS programs (and the exemptions and/or sanctions for noncompliance with JOBS are stricter) then she has less time to take care of her children. She will have to worry about finding and paying for adequate childcare for her children. The direct negative effect on her budget constraint from the loss of welfare payments and/or the increase in childcare payments could serve as a disincentive to non-marital fertility.

The **expanded income disregard and asset limit** are put together in one waiver aggregation. Both waivers increase eligibility for welfare and thus may have a positive effect on non-marital fertility. On the other hand, since a recipient is allowed to earn more money, i.e. to work more hours, without affecting the level of welfare payment received, the waiver increases the benefit of both welfare and working, thus increasing the opportunity cost of subsequent children while on welfare. This argument suggests a negative relationship between this waiver aggregation and non-marital childbearing.

Several waivers attempted to strengthen **child support**. A waiver implemented by some states requires more extensive information and cooperation from the mother with paternity establishment in order to increase child support enforcement. Garfinkel et al. (1999) show that states with better child support enforcement have lower non-marital birth rates, because the costs of non-marital fertility are shifted to men. This finding supports the possibility that the child support waiver aggregation could have the effect of lowering non-marital fertility rates. On the other hand, some states implemented waivers which increase the resources available to the child without increasing the father's obligations or cost. The effect of these type of waivers may be to increase non-marital childbearing. One such waiver increases the pass-through so that more of the child support payment goes to the family; similarly, some states increase the disregard so that

less of the child support payment counts toward reducing AFDC payments.⁶ Another such waiver expands eligibility for the JOBS program to non-custodial parents in an attempt to increase the ability for fathers to pay child support. It is clear that the expected effect of the child support waiver is ambiguous.

Finally there are two waivers that expand the **AFDC-UP** program. Because this makes it easier for married couples to get welfare it may decrease non-marital fertility by reducing a potential disincentive for marriage. Although, receipt of AFDC-UP is generally low, over the 1984-1996 period unemployed parent families made up between 5 and 7 percent of all AFDC families.

Waiver data in this paper

The data in this paper includes welfare waivers implemented through August, 1996 when the new federal welfare bill, PRWORA, was approved. There are three dates of relevance for the welfare waivers. The first is the request date, when the state sent in the demonstration project to the Department of Health and Human Services for approval. The second is the approval date, when DHHS notified the state that the demonstration project was accepted and could be implemented. The third date is the implementation date, which is, to the best knowledge of DHHS, the date when the waivers were instituted statewide or in the entire area intended by the demonstration project. It may seem logical to expect only implementation dates to have a significant effect non-marital fertility because, one may ask how could a policy affect an outcome before the policy is in effect? There has been some speculation that the waivers themselves are endogenous. That is, the policies don't necessarily change public actions and opinions, rather it is the change in the public mood that has already occurred which sets the stage for the waivers to be requested. In this case one could expect the request or approval dates to be correlated with the dependent variable. Another slightly different hypothesis is that the announcement of and discussion about the waivers serve to heighten public stigma, resulting in a decrease in non-marital fertility before implementation of the actual waiver provisions. In her analysis of caseload changes Blank (1997) finds that recipients begin to respond to waivers

⁶ 12 states requested waivers that increase the child support pass-through or disregard. Only three states (Hawaii, Maryland and North Dakota) requested a decrease in the pass-through, but none of those waivers

before even the approval dates. The models for the various race and age groups will be estimated separately with all three dates to test the endogeneity hypothesis.

5. Data description

The analysis in this paper is based on state-level panel data for the years 1984 through 1996. Two age groups are analyzed: teen women, 15 to 19 years of age, and post-teen women, 20 to 49 years of age. There are three race breakdowns: all women (which includes white, black, Asian and other), white women (which includes white Hispanic), and black women (which includes black Hispanic).⁷ Table 2 shows the means for the variables used in our analysis for the six age/race groups.

The dependent variables are log of odds ratio transformations of race and age group specific ratios of non-marital births for each state. The data for the numerator of the ratio, number of single women with births, and the denominator of the ratio, total number of births, come from the Natality volume of *Vital Statistics* (various years). The disturbance term is heteroscedastic. Therefore, the regressions are weighted to account for states with smaller populations which have greater variance in non-marital birth ratios across time, most significantly for the black sample.⁸

The regressions for each race and age group include the following independent variables: (1) the sum of real AFDC and food stamp maximum guarantees for a family of three; (2) state poverty rates; (3) number of AIDS cases reported in each state weighted by the state population; (4) ratio of whites to blacks in the state's population; (5) number of abortion providers in the state per 1000 women of childbearing age⁹; (6) the proportion of the state's population that adheres to a religion defined as "fundamentalist"¹⁰; (7) the high school completion rate among 18-24 year olds not currently enrolled in high school; (8) the proportion

were implemented before August of 1996.

⁷ The proportion of "all" that is non-white and non-black is very small and thus it is impossible to model this left out group.

⁸ The weight is: $[N_i P_i (1 - P_i)]^{-1/2}$

⁹ We also estimated models including abortion cost and a binary equal to one when public funding was available for any abortion and got similar results.

of the population that lives in an urban area; (9) a binary variable which equals one when sexuality and sexually transmitted disease education is required in state public schools; and (10) state and year dummies to account for unobserved heterogeneity across states and time. Several other variables included are targeted to the race- and age-specific nature of the regressions. These include (1) the race specific female unemployment rate; (2) the race specific teen unemployment rate¹¹; (3) race and gender specific wages; and (4) race and age specific marriage market opportunities¹². To capture the probability of growing up in a single- or teen-parent household, the post-teen regressions include the percent of children in single parent homes lagged 24 years, and the teen regressions include the race specific ratio of teen births lagged 17 years. Finally, the teen regressions also include a binary variable that equals one when parental consent is required for an abortion. Note that all dollar amounts have been converted to 1990 constant dollars.

While some of the variables come directly from published data sources, several have been constructed using the March Current Population Survey, population estimates from the Census Bureau, and data from *Vital Statistics*, see Appendix Table 3 for the data sources for each variable.

Several independent variables are constructed to measure state welfare waiver policies. First there are three binary variables used in separate regressions that lump all waivers together. These are: “any waiver requested”, “any waiver approved”, and “any waiver implemented”. These are constructed to be 0 if there was no waiver at all and 1 if there was any waiver; that is, they are not sensitive to scope of the waiver or the time of year of request, approval or implementation. A more detailed set of waiver variables aggregates waivers implemented under

¹⁰ According to Medoff and Skov (1992) the following religions fall under the Fundamentalist umbrella: Southern Baptist, Missouri and Wisconsin Synod; Church of the Nazarene, Christ, Latter Day Saints, God; and Seventh Day Adventists.

¹¹ Data for black teen unemployment is incomplete so total teen unemployment is included in the black specific regression.

¹² This variable is race specific as data shows that there is still only a small percent of racial intermarriages. The marriage market variable= $[\sum_j P_{ja} M_j] / (F_a)$; where P_{ja} is the probability that a woman in age group “a” will marry a man in age group “j”; M_j is the number of single employed men in age group “j” (assumed to be the marriageable pool); and F_a is the number of single women in age group “a”. The probabilities that a women of a certain age-group will marry a man of each age group are constructed from *Vital Statistics, Marriage and Divorce*.

8 headings: family cap; minor parent provision; time limit; work requirement; AFDC-UP; child support; expanded income disregard and asset limit; and school attendance and performance requirement. Two of these, minor parent provision and school attendance and performance requirement, are included only in the teen regressions as theory suggests their effect should be limited to teen fertility. The scope of the waiver as well as the time frame of implementation are taken into account in this coding¹³.

6. Data analysis

As seen in Figures 6-14, prior to 1992 few states had adopted waivers, and, for the most part, states' welfare policies followed the federal policies. Beginning in 1992, as states began experimenting with state-specific demonstration projects, their state policies differed from the federal policies and thus from each other's policies. As a first step in our analysis we use analysis of variance (ANOVA) to test the hypothesis that this increase in cross-state variation in policies is associated with an analogous increase in between-state variation in non-marital fertility ratios. Table 3 shows that, in all cases but one (black teens), the between-state variation in non-marital fertility ratios is greater in the 1992-1996 period than in the 1984-1991 period. Thus, for the most part the hypothesis holds.

Because the number of cross-sectional observations is large (50 states and D.C.) and the time period is relatively short (1984-1996), panel data methods that concentrate on the heterogeneity across units are employed. We estimated a succession of weighted regressions beginning with models excluding welfare waivers both with and without fixed effects. As these results are similar to the results when welfare waivers are included in the models, they are not reported in the paper. Next, three sets of fixed effects regressions were estimated, the first adding the "any waiver requested" variable, the second adding the "any waiver approved" variable and the third adding the "any waiver implemented" variable. Finally the race and age

¹³ For example, if the waiver was implemented in the middle of the year and in a quarter of the state, the variable would be coded $(.5 * .25) = .125$ the first year; the next year, when it was in place for the entire year but still only in a quarter of the state, it would be coded $(1 * .25) = .25$. Finally if the waiver became state-wide in the middle of the following year this would be coded $[(.5 * .25) + (.5 * 1)] = .625$.

group specific regressions were estimated adding the individual waivers implemented. All the regressions are estimated both unlagged, as this is appropriate for marital and abortion decisions, and lagged, to account for the natural nine-month lag associated with childbearing.

7. Regression Results

Table 4 shows the unlagged and lagged results of the three models including the “any waiver requested”, “any waiver approved” and “any waiver implemented” variables. All stages of the process from request of waivers to implementation of waivers are negatively correlated with non-marital birth ratios. Furthermore the variables are always significant except for white teens and post-teens in the unlagged regressions.

It is interesting to note the evolution of the effects of the waivers requested, approved and implemented. In most of the cases the magnitude of the effect increases from “any waiver requested” to “any waiver implemented”. The fact that the “any waiver requested” variable is significant suggests that there is a pre-implementation effect of the waiver, perhaps due to endogeneity of the policies. Another possible explanation for the relatively large pre-implementation effects is that welfare recipients begin responding when they first learn of imminent policy changes, that is before the actual changes takes place. However, our results also imply that there is some independent effect of the policy implementation.

For teens the largest marginal effects (for “any waiver approved and implemented”) occur for white women. These effects are especially large when compared to the mean non-marital birth ratios for white teens. The largest marginal effects for post-teens occur for black women, who have the greatest mean non-marital birth ratios. When this higher mean is taken into account, the percentage changes in ratios for post-teen whites and blacks are similar.

When all waivers are aggregated together into one variable the results suggest significant negative effects for each stage of the process. The next section looks more closely at the effects of implementing specific types of welfare policies.

Table 5a shows the marginal effects of selected demographic and economic variables in the fixed effects model that includes the eight welfare waiver policies, and Table 5b reports the marginal effects of the waiver policy variables. In this model, the maximum AFDC and food

stamp guarantee variable is significant in only three cases: it is positive in the lagged models for white teens and post-teens and in the unlagged models only for white post-teens. The lagged regressions suggest that a one hundred dollar per month increase in combined AFDC and food stamp payments increases the non-marital fertility ratio for white teens by 1.6 percentage points and white post-teens by almost one percentage point. The unlagged regression suggests the effect on white post-teens to be a little smaller at .5 percentage points. As discussed above, there is little consensus about the relationship between welfare and non-marital fertility.

Economic variables seem to affect non-marital fertility ratios, at least for some race and age groups. The female wage rate is negative and significant for all post-teen race breakdowns. For post-teen women a one-dollar increase in the hourly wage is associated with a decrease in the non-marital fertility ratio of between .4 and 1.0 percentage points. This result seems to suggest that, for older women, increased wages increase the opportunity cost of having children, thus resulting in decreased non-marital fertility. This finding is consistent with Schultz (1994) who reports that an increase in women's wages is associated with a decrease in number of children ever born to white and black women. For teens the opportunity cost argument does not seem to hold as wages are positively correlated with non-marital birth ratios and significant for all teens and in the lagged regressions for white teens.

Female unemployment is negative and significant only for black teens and black post-teens in both the lagged and unlagged regressions and for white post-teens in the lagged regressions. The lagged and unlagged regressions yield the same results, a one unit increase in the unemployment rate is associated with a .1 percentage point decrease in the black teen and white post-teens non-marital fertility ratios, and a .2 percentage point decrease in black post-teen non-marital fertility ratios. There are at least two possible arguments concerning the effect of female unemployment on non-marital fertility. One contends that a decrease in unemployment will result in an increase in non-marital fertility because better job prospects for women may increase the ability for single women to support children alone (Duncan, 1985). This first argument would increase the non-marital fertility ratio if only births to single women were increased and births to married women stayed unchanged (or fell). Another argument holds that lower unemployment increases the opportunity cost of having a child both in and out of marriage

(Billy and Moore, 1992.) This may not affect the non-marital fertility ratio if both numerator and denominator fall by the same percent.

Several researchers have shown the importance of marriage market opportunities on non-marital fertility (Brewster, 1994; South and Lloyd, 1992; South, 1993 and 1996; Wilson, 1987.) In this model specification the marriage market opportunities variable is significant and positive in the lagged regression for all teens, and significant and negative in both lagged and unlagged regressions for white post-teens. There is a lack of consensus in the literature about the expected sign of this variable. Some papers suggest that the more eligible men there are in a state the lower will be the non-marital fertility ratio, because more women will marry (Brewster, 1994; South and Lloyd, 1992 for black women; Wilson, 1987 for black women.) This coincides with the result in this paper for white post-teens. On the other hand, some authors argue that higher mate availability will increase the risk of non-marital fertility because there are more potential partners for each woman (Billy, Brewster and Grady, 1994, Billy and Moore, 1992; South, 1996.) This argument is in line with the lagged regression findings for all teens.

The ratio of whites to blacks in a state is negatively associated with non-marital fertility in every case except for white post-teens, it is significant for all teens in the unlagged regressions and for black post-teens in the lagged regressions. Although not significant in very many cases, the negative correlation is consistent with the existing literature. In his analysis on fertility and welfare, Murray (1993) finds the proportion of blacks to whites in a state to be an important indicator of non-marital fertility. According to his “proximate culture” theory, the greater the proportion of blacks to white, the higher will be the ratio of black non-marital fertility. Billy and Moore (1992) generalize this argument to women of other races and claim that women in an area will be exposed to the norms of the race with the greatest concentration in that area.

The ratio of teen births lagged 17 years is included in the teen regressions to account for the probability of growing up in a household with a teen mother. The variable is positive for all teen race groups and significant for all except white teens in the lagged regressions. A ten percent increase in the probability of growing up in a household headed by a teen mother results in a little over a 1 percentage point increase in the non-marital childbearing ratio for all teens (in both the lagged and unlagged regressions), a little over a 1 percentage point increase for white

teens (in the unlagged regression) and almost a 3 percentage point increase for black teens (in both the lagged and unlagged regressions). This positive relationship is expected because, as described in the section of this paper detailing the consequences of non-marital childbearing, children of teen mothers are more likely to bear children at an early age and out-of-wedlock.

For the post-teen women a similar variable is included in the regressions--the number of children living in single parent homes lagged one generation (24 years)--to capture the probability that the current generation grew up in a single parent household. This marginal effect is positive for all, white, and black women aged 20 to 49, however it is significant only for all and black women. A ten percent increase in the probability of growing up in a single parent household translates to a little less than one percentage point increase in non-marital fertility for white women and almost half a percentage point for black women. This finding is consistent with the theory that females who grow up in single parent homes are more likely themselves to be single parents.

The number of abortion providers per thousand women of childbearing age appears, from this model, to have an important effect on the non-marital birth ratio for post-teen women. The marginal effect is negative for all age and race breakdowns although it is significant only post-teens.¹⁴ Increasing the number of abortion providers by ten percent (for example, from 40 per million women to 44 per million women) results in decreases in the non-marital birth ratio from 1 to 3 percentage points. The negative sign is expected (Billy and Moore, 1992; Fairlie and London, 1997; Moore and Caldwell, 1977), as a greater number of abortion providers could reflect easier access to abortion, thus lowering the cost. It may also reflect more lenient attitudes in the state towards abortion.

The number of AIDS cases reported in a state weighted by the state population is consistently negative; it is significant for all teens in the lagged regression, for all, white and black post-teens in the unlagged regressions and for all post-teens in the lagged regressions. This provides some evidence that the AIDS epidemic may have led to a change in sexual practices of at least some women.

¹⁴ The marginal effects reported in Table 5a are the effects of increasing the proportion of abortion providers in the population from 0 to 1 (i.e., 1000 providers per 1000 women).

Due to expected collinearity between the waivers (as shown in the correlation matrix, Table 1), each of the race and age specific regressions were estimated including only one welfare waiver policy at a time as well as with all 8 waiver policies included. The results of the model with all 8 waivers included are reported in Table 5b, results of the regressions with waivers added individually can be obtained from the authors.

The family cap waiver is hypothesized to have the most direct effect on decreasing non-marital fertility (Table 5b). The coefficients are indeed negative and significant for all race and age groups. For teens, results from the unlagged regressions suggest the magnitude of the effect ranges from decreasing the ratio a little more than 3 percentage point for black teens to decreasing the ratio almost 5 percentage points for all teens. For the lagged regressions the magnitude ranges from a decrease of a little over 2 percentage points for black teens to a decrease of almost 6 percentage points for white teens. For post-teens, the results from the unlagged regressions result in magnitudes which range from 1.4 percentage point decreases for white women to 3.1 percentage point decreases for black women. Finally, the range for the lagged post-teen regressions is 2.4 percentage points for white women to almost 4 percentage points for black women. This waiver, included individually in each regression is also consistently significant and negative for each race and age group.

The minor parent provision waiver might be expected to reduce teenage non-marital fertility by discouraging teens who get pregnant only to get out of a negative home situation. Surprisingly, the effect of the waiver is positive and significant for each race group and model specification. The magnitude of the effect for the unlagged regressions is similar for the three race breakdowns ranging from just below 3 percentage points for black teens to 4 percentage points for white teens. The magnitudes in the lagged regressions are much greater, ranging from 11.5 percentage points for black teens to almost 17 percentage points for white teens. This extremely large magnitude of effect is difficult to explain, especially when compared to the unlagged results. Perhaps an explanation for the positive relationship is that the waiver actually adds a measure of security for a teen mother. She can remain at home if her home situation is adequate, but if her home situation is bad she can move into a supervised group home with other

single teen mothers. When this policy is added individually to each teen regression, it is positive and significant for all three.

The effect of the child support waiver is positive and significant for each race and age group specification except for black teens in the lagged regression. This result differs from Garfinkel et al. (1999) who find that stricter child support enforcement reduces non-marital childbearing. As discussed earlier, however, child support welfare waivers also included provisions that might be expected to increase incentives for non-marital childbearing for women. Unmarried women may feel *more* secure about having children due to both increased efforts by authorities to identify fathers and to make them pay child support, as well as to the increased disregard and/or pass-through. Our results indicate that the positive effect of this waiver on women outweighs the potential negative effect of making non-marital childbearing more costly for men. The waiver included individually in the regressions results in positive and significant effects for every race and age group in both the unlagged and lagged specifications.

The AFDC-UP waiver is negative for all race and age groups. For teens, the marginal effect of the waiver is always significant, but for post-teens it is only significant for the all and black cases in the lagged regressions. The negative sign is expected because making it easier for married couples to receive welfare should, in theory, decrease the incidence of non-marital childbearing. It is puzzling that the effect is on teens rather than on post-teens. When added by itself, the negative effect of this waiver is only significant for all teens in the unlagged regression. The fact that the waiver's effect becomes more significant when added in conjunction with the other 7 waivers than when included in the regressions alone is problematic.

Two of the key waivers in welfare reform, the time limits and the work requirement waivers, have surprisingly little effect (or an inconsistent effect) on non-marital childbearing. The effect of the time limit waiver on non-marital fertility ratios is negative and significant for only 4 out of the 12 regressions. When the waivers are included one at a time, there is also no consistent effect.

The work requirement waiver is never significant when all the waiver variables are included. When this variable is added alone to each regression, the effect is consistently negative for each race and age group and significant in all the unlagged regressions and for all

and black post-teens in the lagged regressions. The negative sign witnessed when this waiver is included alone is consistent with theory. Having to work makes it more difficult to raise a child due both to greater time constraints as well as to the financial and psychological constraint of having to find affordable and reliable childcare. Note, however that states were likely to implement other waivers at the same time, so the significance of this waiver in regressions that do not include other waivers may be due to collinearity.

Finally, expanded income disregard and asset limits waivers and the school attendance and performance requirement waiver are never significant for any race, age group or model specification when the waivers are all included. Adding the waivers one at a time to the regressions results in consistently negative effects for the expanded income disregard and asset limits waivers with significant results only 4 out of 6 cases in the unlagged regressions. As with the previous variable, collinearity may explain this result. The school attendance requirement waiver is never significant when the waiver is included alone.

Conclusion

The purpose of this paper is to analyze the impact of policy tools in influencing unmarried women's decisions to have children. The results show that welfare waivers are negatively correlated with non-marital birth ratios. When separate models are estimated with any waiver requested, any waiver approved and any waiver implemented the coefficients are negative and significant. The magnitude of the coefficients increases from the request stage to the implementation stage.

Our results suggest that the family cap waiver may be an effective policy tool for decreasing non-marital fertility ratios. The waiver aimed most directly at reducing *teen* non-marital fertility, the minor parent provision, shows a consistent positive correlation, this calls into question the use of this policy tool for reducing non-marital teen fertility. Two other waivers, the child support waiver and the waiver expanding AFDC-UP also have consistently significant coefficients. Although the positive correlation between the child support waiver and non-marital birth ratios can be explained in theory, it is not what policymakers desired or anticipated. It is also puzzling that the negative coefficient on the AFDC-UP waiver is, for the most part, limited

to the teen age group. This effect needs further investigation. Of the two waivers central to welfare reform, time limits and work requirements, the first seems to have an impact only for lagged regressions, and the second does not seem to have any effect on non-marital childbearing.

In addition, we find that the probability of growing up in a teen mother household or a single parent household, the number of abortion providers, the female wage rate and the occurrence of AIDS cases all seem to be important determinants of non-marital birth ratios (the last three mostly for post-teens.) However, AFDC payments, the poverty rate and marriage market opportunities do not seem to have a large impact on non-marital childbearing.

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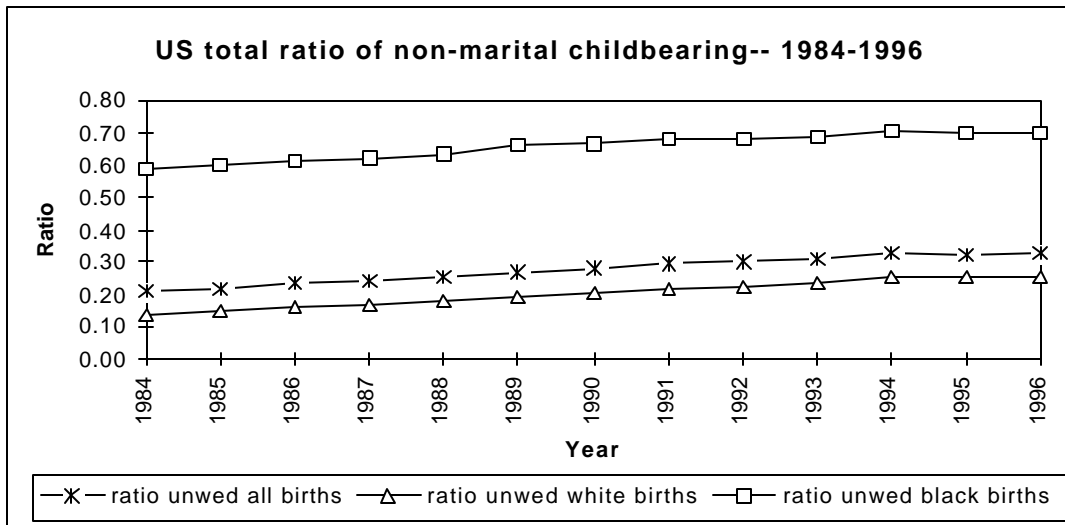


Figure 1

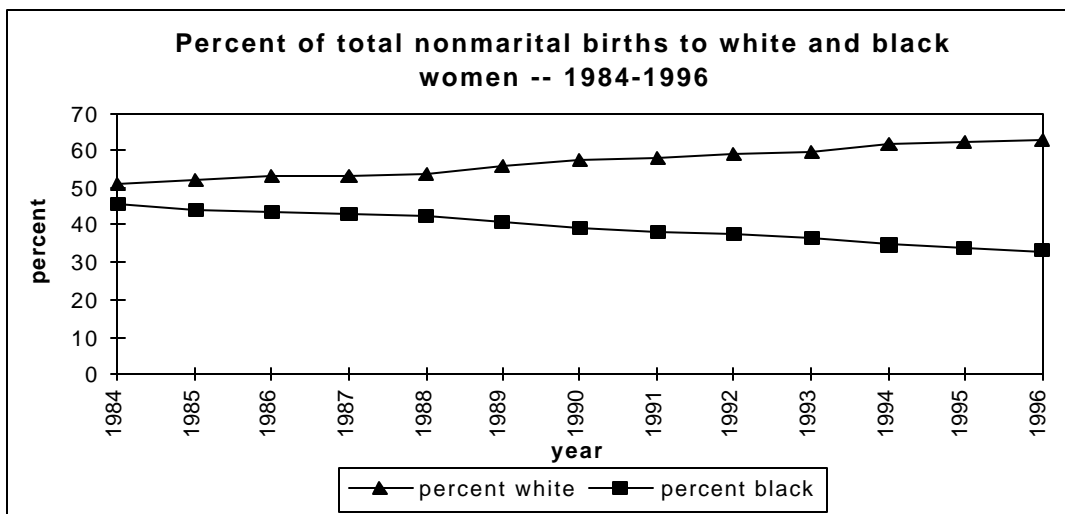


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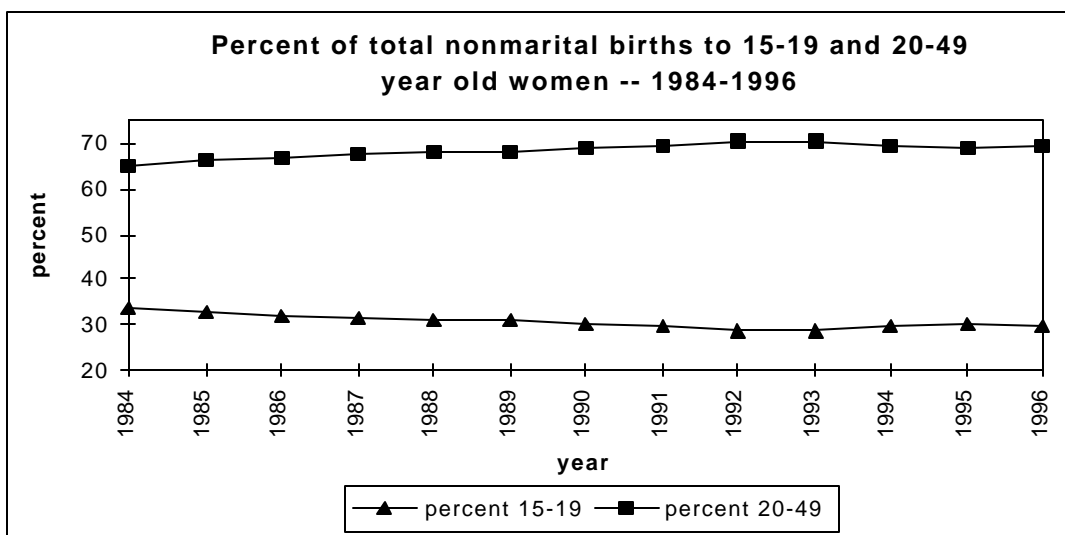


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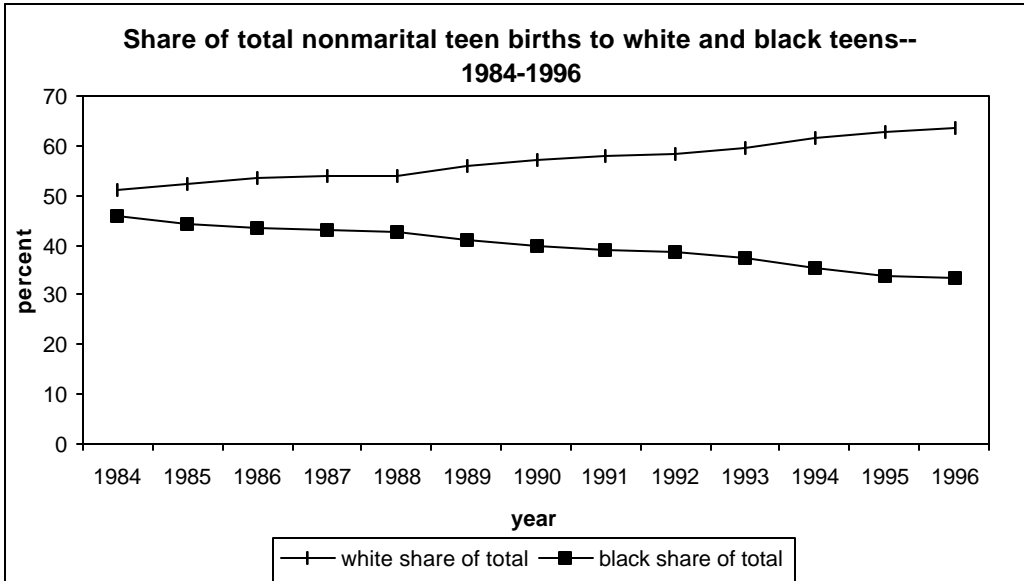


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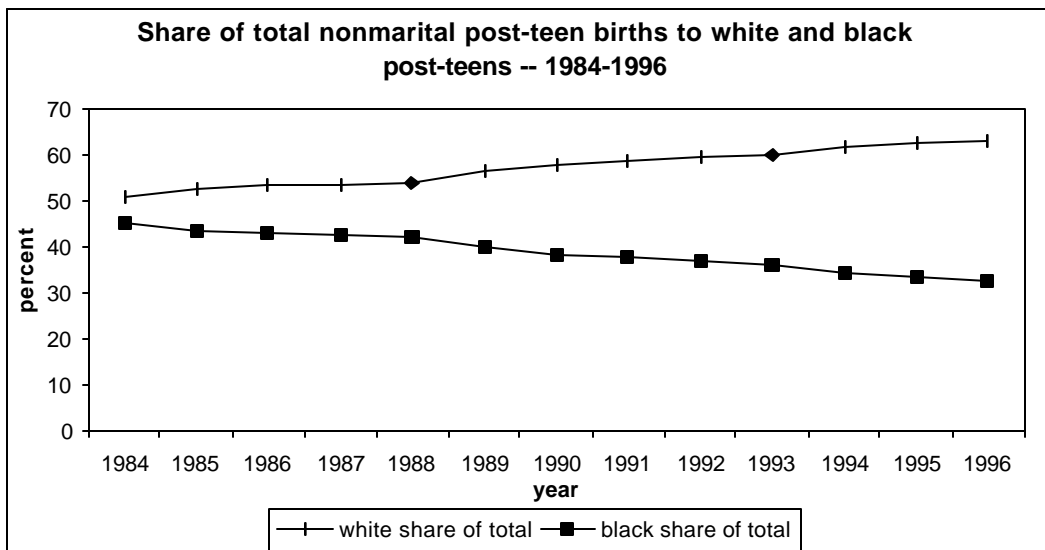


Figure 5

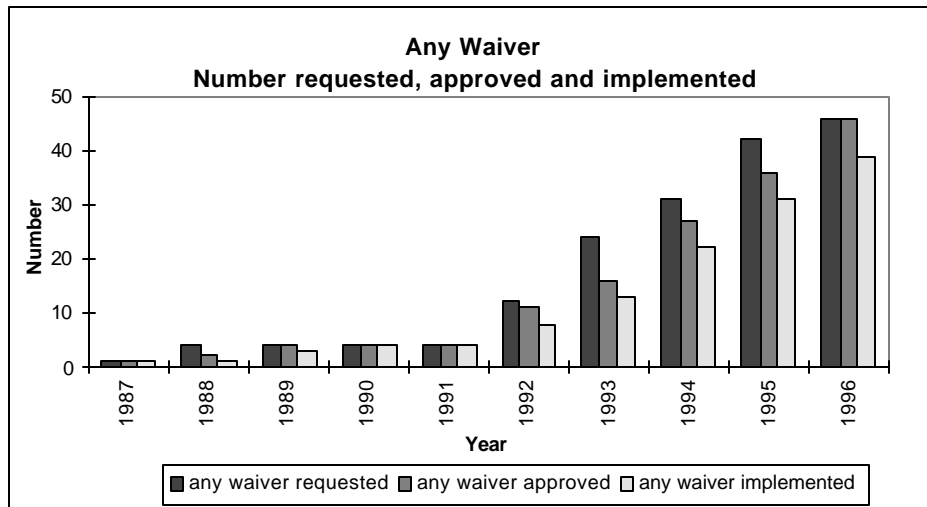


Figure 6

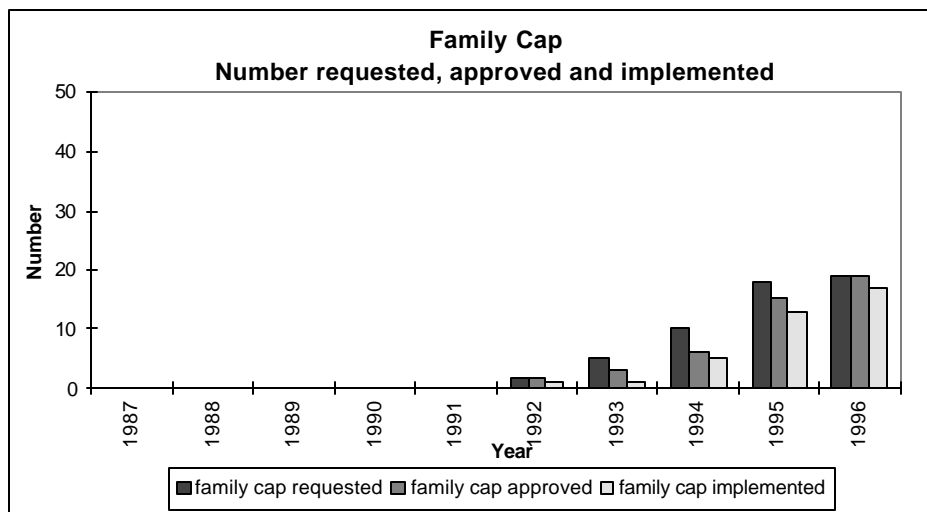


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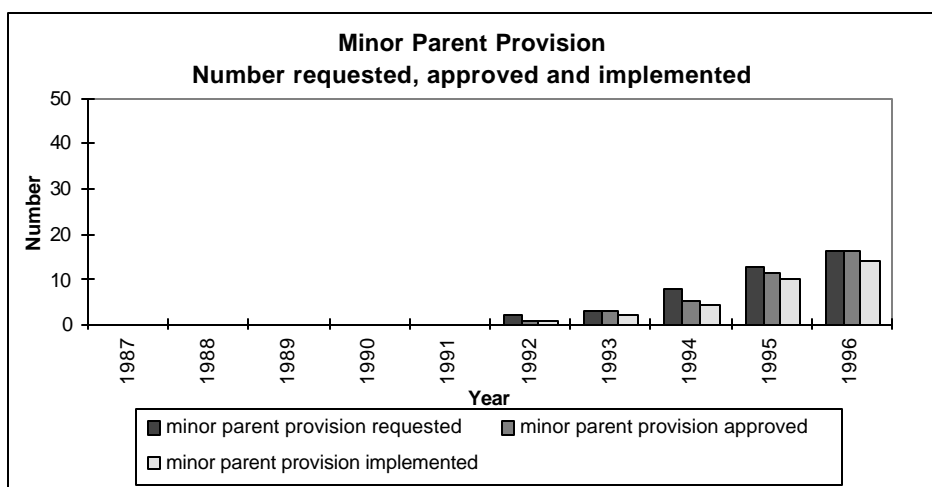


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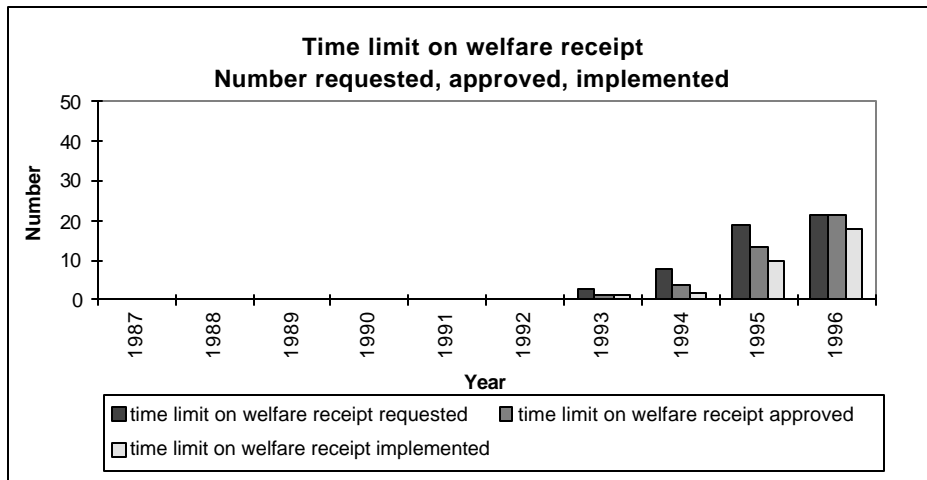


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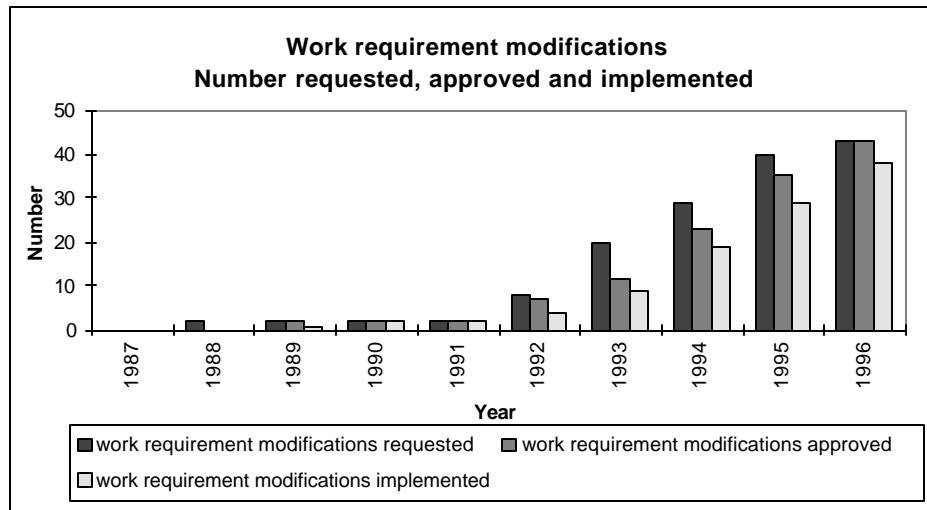


Figure 10

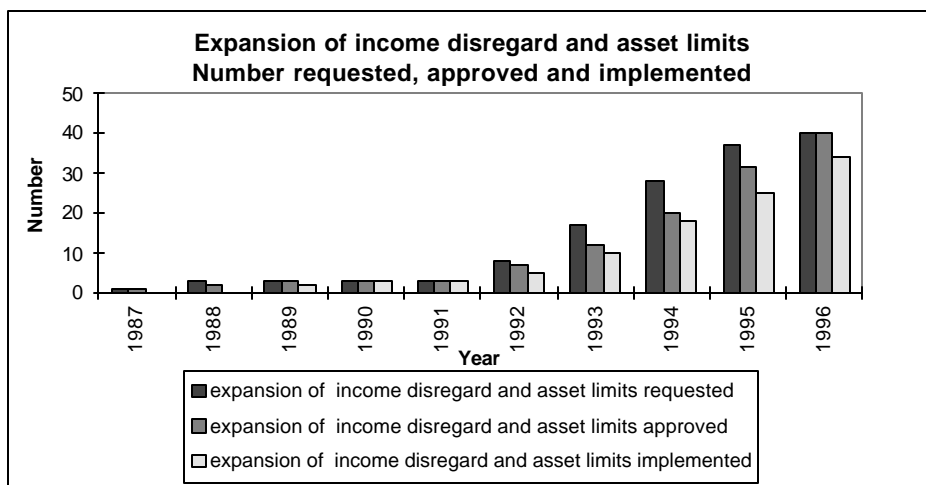


Figure 11

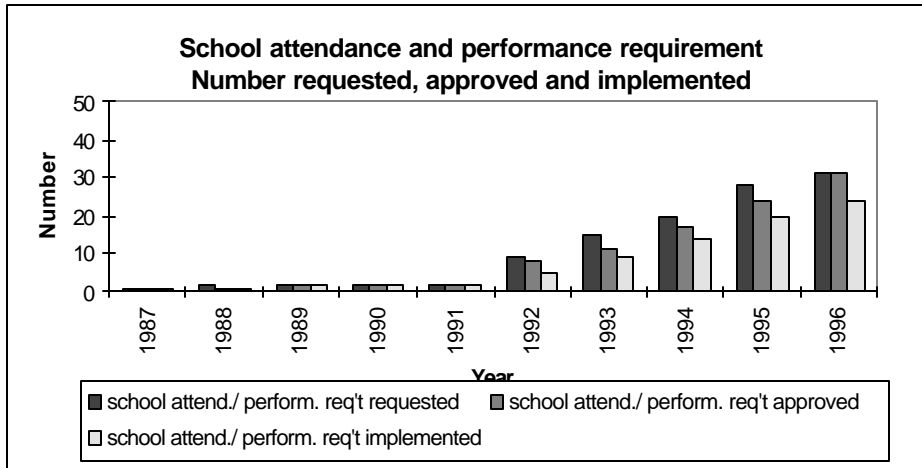


Figure 12

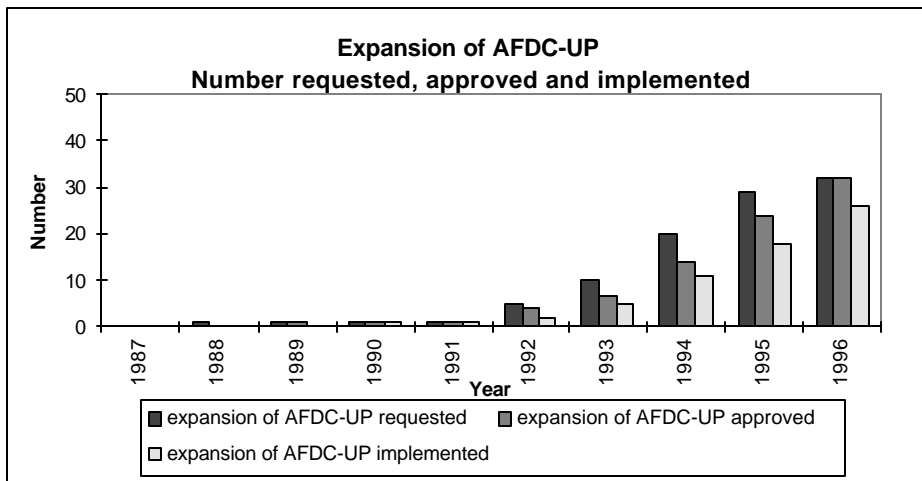


Figure 13

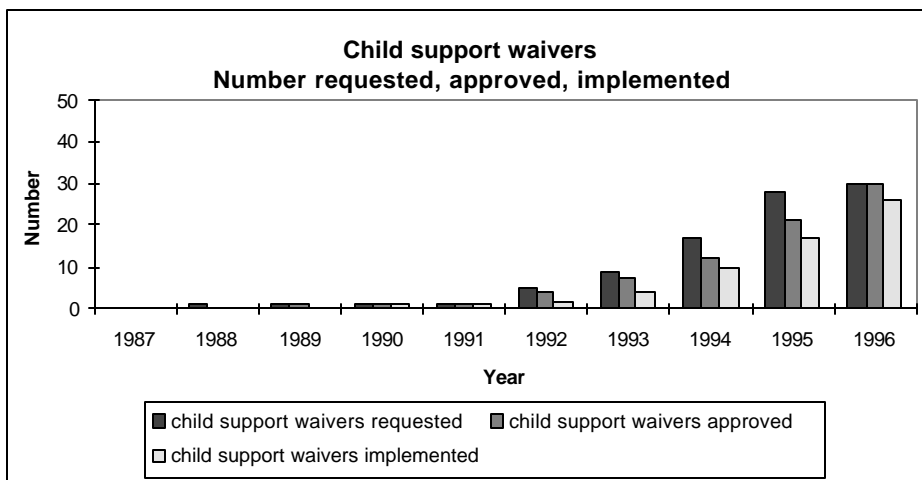


Figure 14

Table 2
Means and standard deviations

	ages 15-19			ages20-49		
	all	white	black	all	white	black
ratio of nonmarital births	0.68 (0.13)	0.58 (0.15)	0.87 (0.14)	0.21 (0.08)	0.14 (0.05)	0.51 (0.15)
number of AIDS cases per 1000 state population	0.13 (0.23)	0.13 (0.23)	0.13 (0.23)	0.13 (0.23)	0.13 (0.23)	0.13 (0.23)
poverty rate	13.6 (4.3)	13.6 (4.3)	13.6 (4.3)	13.6 (4.3)	13.6 (4.3)	13.6 (4.3)
race specific female unemployment rate	6.1 (1.8)	5.2 (1.6)	10.8 (5.1)	6.1 (1.8)	5.2 (1.6)	10.8 (5.1)
unemployment rate among 16-19 year olds	17.1 (5.1)	14.5 (4.2)	17.1 (5.1)	.	.	.
ratio white to blacks	39.3 (68.3)	39.3 (68.3)	39.3 (68.3)	39.3 (68.3)	39.3 (68.3)	39.3 (68.3)
high school completion rate among 18-24 year olds	84.7 (5.7)	84.7 (5.7)	84.7 (5.7)	84.7 (5.7)	84.7 (5.7)	84.7 (5.7)
percent growing up in a teen parent or single parent household	18.0 (4.3)	15.6 (3.5)	29.4 (6.9)	15.6 (5.1)	15.6 (5.1)	15.6 (5.1)
maximum AFDC and food stamp guarantee	639.4 (159.7)	639.4 (159.7)	639.4 (159.7)	639.4 (159.7)	639.4 (159.7)	639.4 (159.7)
dummy for parental consent required for an abortion	0.34 (0.47)	0.34 (0.47)	0.34 (0.47)	.	.	.
proportion urban population	69.7 (14.3)	69.7 (14.3)	69.7 (14.3)	69.7 (14.3)	69.7 (14.3)	69.7 (14.3)
dummy for sex ed required in schools	0.53 (0.50)	0.53 (0.50)	0.53 (0.50)	0.53 (0.50)	0.53 (0.50)	0.53 (0.50)
abortion providers per 1000 women of child bearing age	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)
race and age specific eligible men per single women	1.11 (0.21)	1.17 (0.28)	1.07 (0.72)	0.53 (0.07)	0.57 (0.06)	0.35 (0.19)
race specific female hourly wage	8.36 (1.22)	8.59 (1.42)	7.39 (2.12)	8.36 (1.22)	8.59 (1.42)	7.39 (2.12)
race specific male hourly wage	11.72 (1.53)	12.18 (1.63)	9.42 (4.39)	11.72 (1.53)	12.18 (1.63)	9.42 (4.39)

standard deviations are in parentheses

Table 3
 Analysis of variance of the ratio of nonmarital births pre- and post- 1992:
 total sample, white sample, and black sample

ANOVA: percent explained by between state variation									
all			white			black			
1984-1991	1992-1996	column 2-column1	1984-1991	1992-1996	column5-column 4	1984-1991	1992-1996	column8-column7	
nonmarital birth ratio age 15-19	77.33	90.17	12.84	77.46	89.97	12.51	85.73	73.95	-11.78
nonmarital birth ratio age 20-49	86.42	97.31	10.89	66.25	89.22	22.97	89.17	97.67	8.50

Table 4
 Weighted and weighted lagged regressions --
 Marginal effect of 8 waivers requested, approved and implemented

	ages 15-19					
	all		white		black	
	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged
any waiver requested	-0.011** (-2.04)	-0.011** (-2.03)	-0.010 (-1.55)	-0.014** (-2.08)	-0.011** (-2.28)	-0.013** (-2.43)
any waiver approved	-0.015** (-2.89)	-0.013** (-2.37)	-0.018** (-2.90)	-0.017** (-2.68)	-0.013** (-2.68)	-0.012** (-2.34)
any waiver implemented	-0.017** (-3.24)	-0.011** (-1.99)	-0.017** (-2.85)	-0.014** (-2.11)	-0.015** (-3.03)	-0.012** (-2.24)

	ages 20-49					
	all		white		black	
	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged
any waiver requested	-0.005** (-2.08)	-0.006** (-2.68)	-0.001 (-0.24)	-0.004** (-1.96)	-0.010** (-2.26)	-0.014** (-3.29)
any waiver approved	-0.008** (-3.63)	-0.009** (-3.97)	-0.005** (-2.37)	-0.007** (-3.64)	-0.014** (-3.25)	-0.018** (-4.30)
any waiver implemented	-0.007** (-3.47)	-0.008** (-3.43)	-0.005** (-2.65)	-0.006** (-3.10)	-0.014** (-3.41)	-0.016** (-3.72)

** statistically significant at the 5% level * statistically significant at the 10% level t-statistic in parentheses

Table 5a
 Weighted and weighted lagged regressions--
 Marginal effects of selected demographic variables on age and race specific non-marital fertility ratios
 -- 8 waiver aggregations included

	ages 15-19						ages 20-49					
	all		white		black		all		white		black	
	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged
number of AIDS cases per 1000 state population	-0.018 (-1.24)	-0.030** (-2.02)	-0.002 (-0.13)	-0.007 (-0.39)	-0.004 (-0.34)	-0.013 (-0.99)	-0.019** (-2.45)	-0.018** (-2.18)	-0.021** (-3.03)	-0.009 (-1.20)	-0.029* (-1.85)	-0.024 (-1.53)
poverty rate	0.0004 (0.47)	0.0003 (0.29)	0.001 (1.28)	0.001 (0.51)	0.0001 (0.11)	-0.001 (-0.61)	0.0001 (0.36)	0.0001 (0.35)	0.00002 (0.06)	-0.0003 (-0.89)	0.00004 (0.06)	-0.0003 (-0.44)
race specific female unemployment rate	0.001 (0.36)	0.002 (0.96)	-0.002 (-0.96)	0.0003 (0.15)	-0.001** (-2.35)	-0.001** (-2.21)	-0.001 (-0.87)	-0.001 (-1.47)	-0.001 (-1.30)	-0.001* (-1.67)	-0.002** (-4.96)	-0.002** (-4.64)
ratio white to blacks	-0.001* (-1.77)	-0.001 (-1.49)	-0.0002 (-0.42)	-0.0001 (-0.17)	-0.0004 (-1.31)	-0.0002 (-0.62)	-0.0002 (-1.37)	-0.0002 (-1.20)	0.0001 (0.82)	0.0001 (1.00)	-0.0001 (-0.43)	-0.001* (-1.72)
proportion growing up in a teen parent or single parent household	0.008** (4.09)	0.007** (3.32)	0.009** (3.61)	0.004 (1.43)	0.003** (3.55)	0.003** (3.27)	0.005** (3.12)	0.006** (3.24)	0.002 (1.10)	0.002 (1.15)	0.008** (2.67)	0.008** (2.37)
maximum AFDC and food stamp guarantee (*100)	-0.003 (-0.42)	0.01 (1.28)	0.006 (0.75)	0.016* (1.75)	0.005 (0.72)	0.007 (0.97)	-0.002 (-0.58)	0.004 (1.04)	0.005* (1.87)	0.008** (2.58)	-0.003 (-0.46)	0.003 (0.52)
abortion providers per 1000 women of childbearing age	0.042 (0.13)	-0.089 (-0.26)	0.087 (0.22)	0.016 (0.04)	-0.087 (-0.27)	-0.180 (-0.52)	-0.646** (-4.77)	-0.793** (-5.30)	-0.309** (-2.48)	-0.441** (-3.25)	-0.557** (-2.07)	-0.705** (-2.43)
race and age specific eligible men per single women	0.024 (1.10)	0.043** (1.91)	-0.002 (-0.07)	0.021 (0.79)	0.002 (0.42)	0.005 (0.98)	-0.018 (-0.75)	0.012 (0.46)	-0.082** (-4.95)	-0.070** (-4.01)	0.001 (0.08)	-0.005 (-0.32)
race specific female wage	0.015** (2.57)	0.016** (2.78)	0.001 (1.57)	0.010* (1.62)	-0.002 (-1.14)	0.001 (0.57)	-0.008** (-3.40)	-0.008** (-3.22)	-0.008** (-4.28)	-0.010** (-5.01)	-0.004** (-2.48)	-0.004** (-2.56)
race specific male wage	-0.007* (-1.80)	-0.004 (-1.11)	0.001 (0.17)	0.001 (0.25)	-0.0002 (-0.67)	0.0001 (0.35)	-0.001 (-0.49)	-0.002 (-1.04)	0.002 (1.59)	0.002 (1.35)	-0.0002 (-0.69)	0.00001 (0.05)

Table 5b

Weighted and weighted lagged regressions--
 Marginal effects of welfare waiver aggregations on age and race specific non-marital fertility ratios
 -- 8 waiver aggregations included

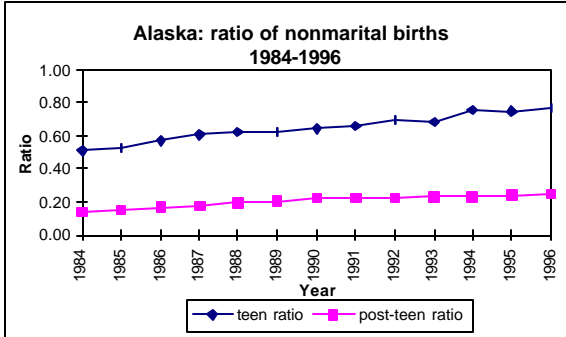
	ages 15-19						ages 20-49					
	all		white		black		all		white		black	
	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged	weighted	weighted and lagged
family cap waiver implemented	-0.048** (-4.91)	-0.052** (-3.55)	-0.045** (-3.89)	-0.058** (-3.28)	-0.032** (-3.28)	-0.024* (-1.63)	-0.025** (-6.25)	-0.032** (-5.55)	-0.014** (-3.94)	-0.024** (-4.60)	-0.031** (-3.84)	-0.038** (-3.38)
minor parent provision waiver implemented	0.039** (2.75)	0.143** (6.06)	0.040** (2.40)	0.167** (5.87)	0.027* (1.92)	0.115** (4.88)	.	.	.	.	.	.
time limit waiver implemented	-0.007 (-0.54)	-0.092** (-3.70)	-0.004 (-0.25)	-0.102** (-3.40)	-0.003 (-0.20)	-0.104** (-4.08)	0.013** (2.43)	0.0001 (0.01)	0.005 (1.05)	-0.010 (-1.06)	0.004 (0.42)	-0.045** (-2.25)
work rqt waivers implemented	-0.002 (-0.15)	0.008 (0.59)	-0.016 (-1.23)	0.001 (0.59)	0.004 (0.33)	0.003 (0.23)	0.002 (0.44)	0.004 (0.63)	-0.002 (-0.59)	0.001 (1.64)	0.002 (0.21)	-0.003 (-0.31)
AFDC-UP waiver implemented	-0.039** (-3.28)	-0.075** (-4.83)	-0.034** (-2.44)	-0.078** (-4.15)	-0.021* (-1.83)	-0.047** (-2.98)	-0.005 (-1.00)	-0.019** (-2.73)	-0.0004 (-0.90)	-0.006 (-0.97)	-0.014 (-1.37)	-0.023* (-1.70)
child support waivers implemented	0.050** (4.29)	0.035** (2.16)	0.063** (4.56)	0.041** (2.08)	0.027** (2.45)	0.008 (0.51)	0.015** (3.57)	0.022** (4.19)	0.015** (3.93)	0.022** (4.68)	0.030** (3.67)	0.040** (3.78)
expanded income disregard and asset limit waivers implemented	-0.015 (-1.16)	-0.001 (-0.03)	-0.010 (-0.65)	0.003 (0.18)	-0.008 (-0.66)	-0.002 (-0.12)	-0.002 (-0.44)	0.011** (2.03)	-0.004 (-0.91)	0.004 (0.86)	-0.007 (-0.67)	0.016 (1.40)
school attendance and performance rqt waiver implemented	0.016* (1.90)	0.018* (1.88)	0.010 (1.02)	0.009 (0.74)	-0.001 (-0.07)	0.008 (0.83)	.	.	.	.	.	.
state and year fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
R ²	95.81	96.18	96.21	96.39	86.81	87.67	96.69	96.58	95.76	95.55	94.60	94.89

** statistically significant at the 5% level * statistically significant at the 10% level t-statistic in parentheses

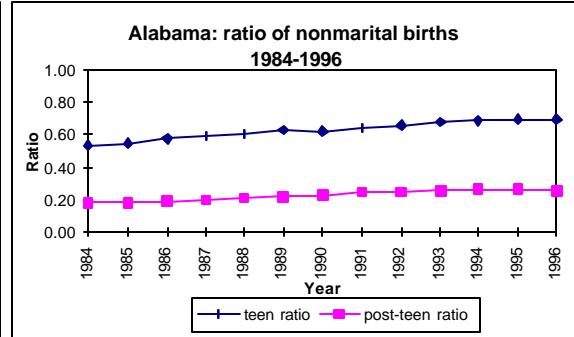
All regressions also include: high school completion by 18-24 year olds; dummy for parental consent requirement for an abortion; dummy for requirement of sex ed. in schools; proportion of urban population; proportion of fundamentalist adherents.

Teen regressions also include teen unemployment.

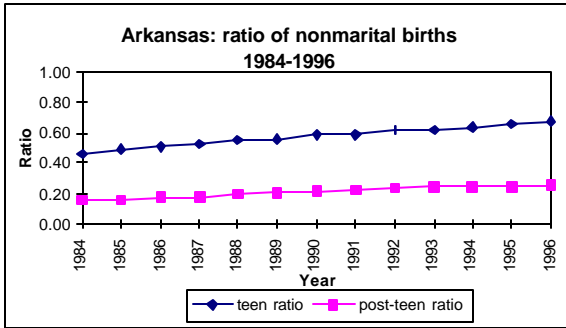
Appendix



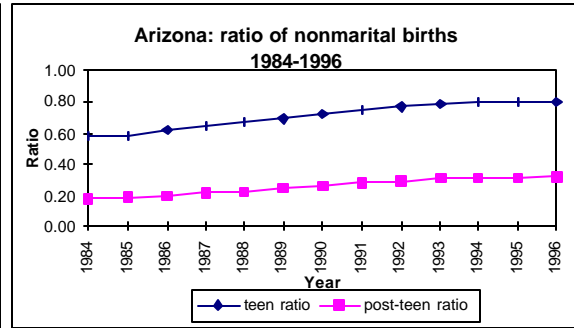
Appendix Figure 1



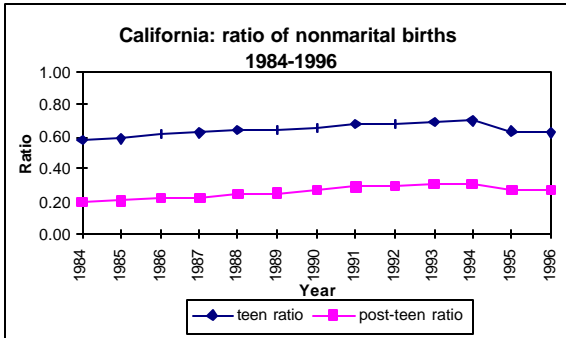
Appendix Figure 2



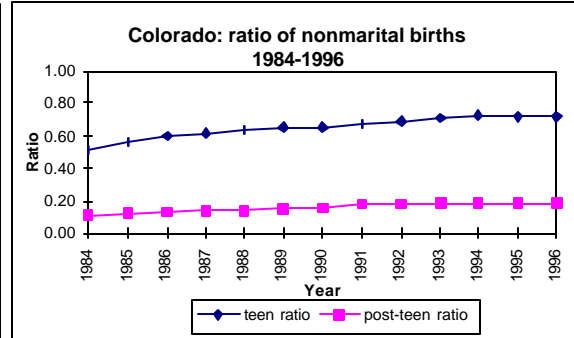
Appendix Figure 3



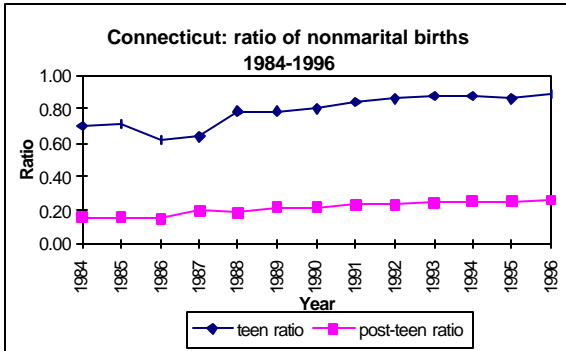
Appendix Figure 4



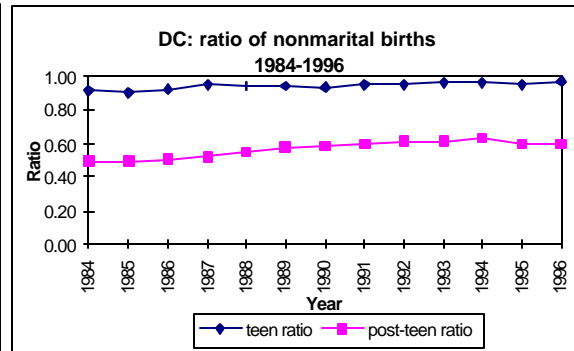
Appendix Figure 5



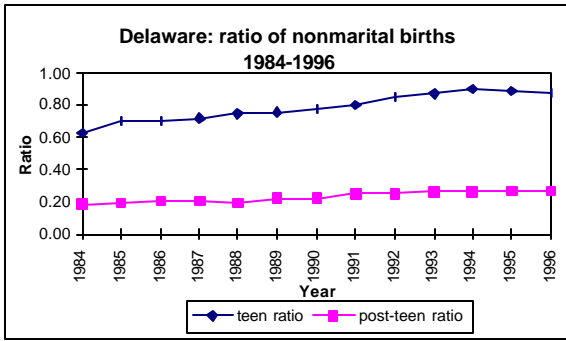
Appendix Figure 6



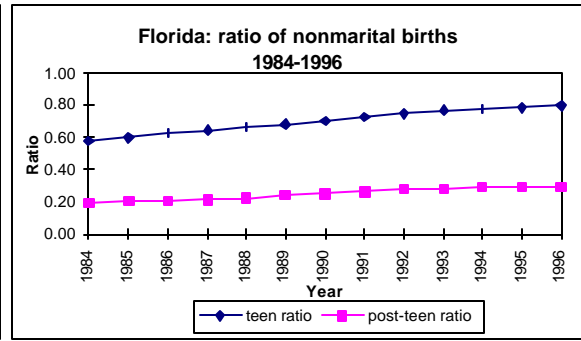
Appendix Figure 7



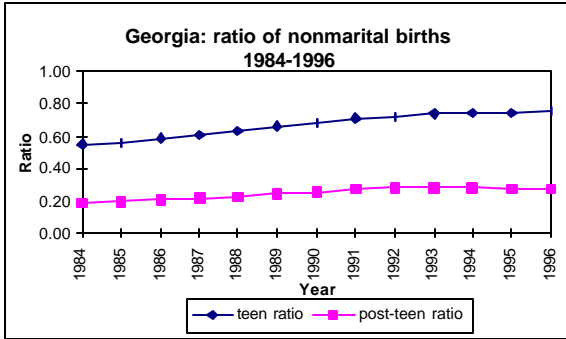
Appendix Figure 8



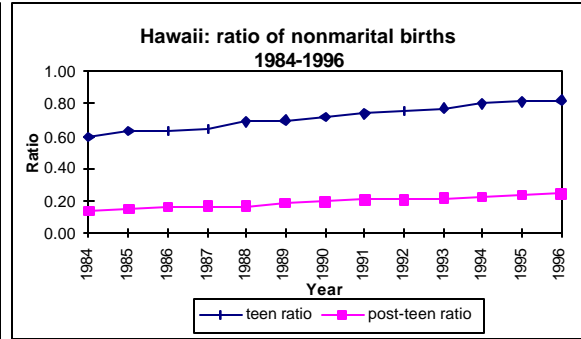
Appendix Figure 9



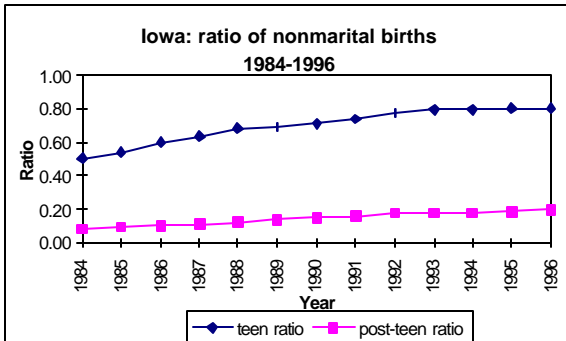
Appendix Figure 10



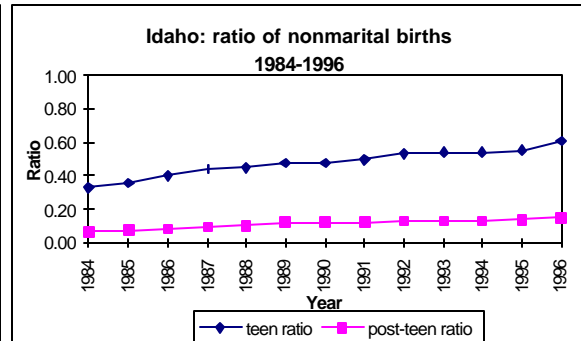
Appendix Figure 11



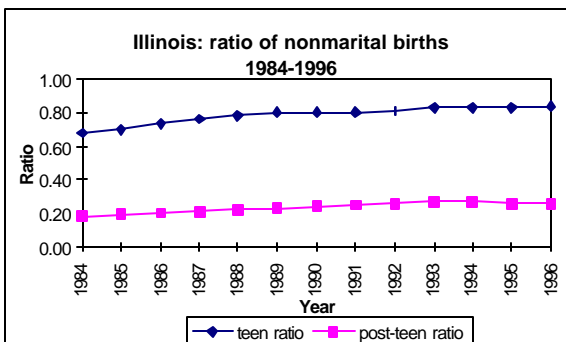
Appendix Figure 12



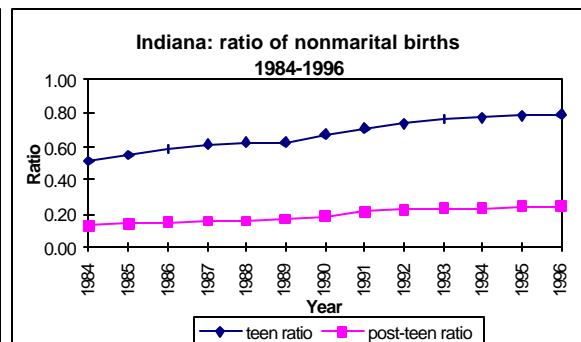
Appendix Figure 13



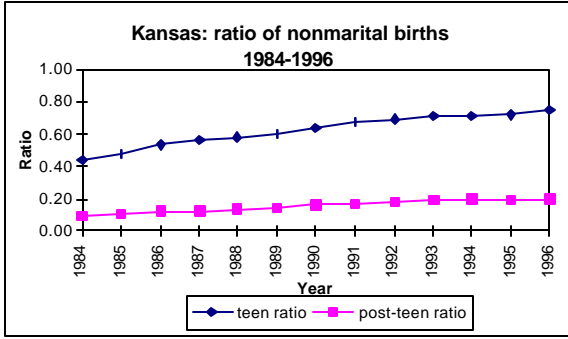
Appendix Figure 14



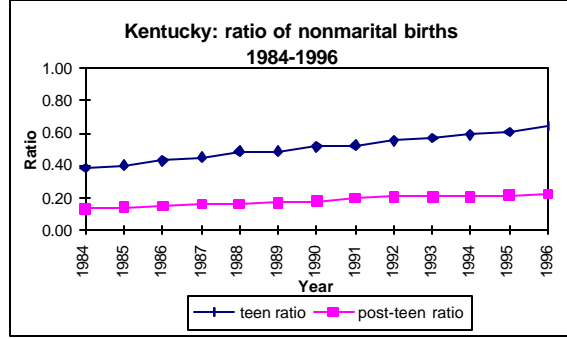
Appendix Figure 15



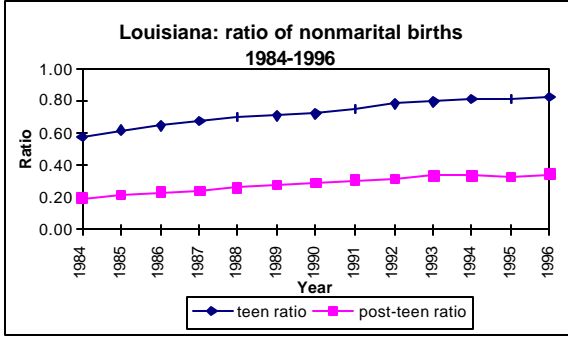
Appendix Figure 16



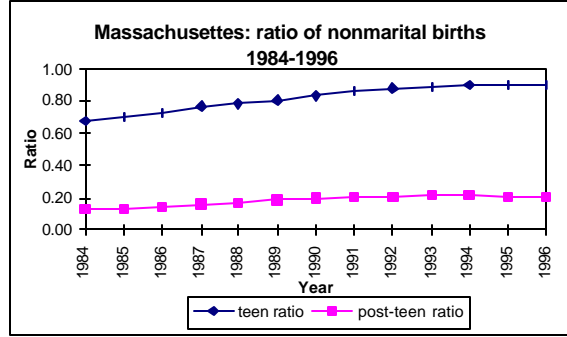
Appendix Figure 17



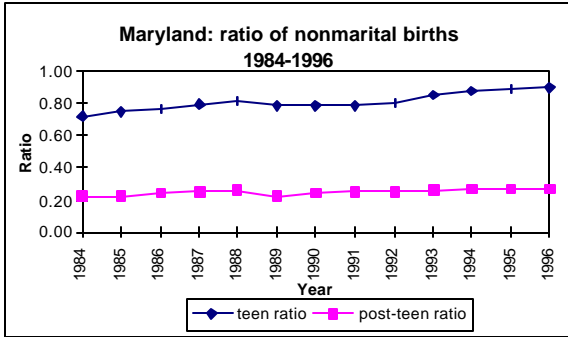
Appendix Figure 18



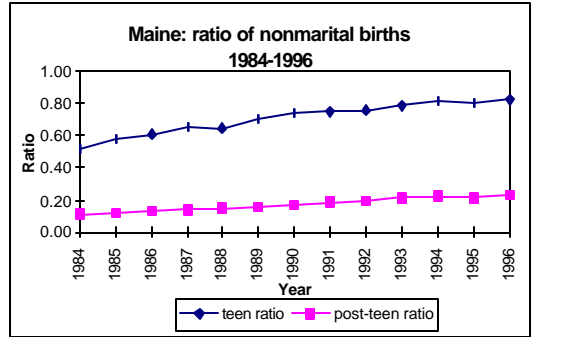
Appendix Figure 19



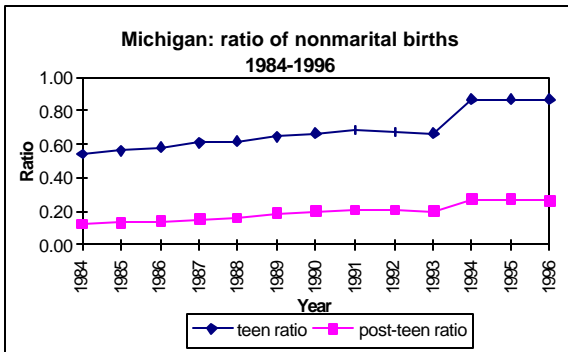
Appendix Figure 20



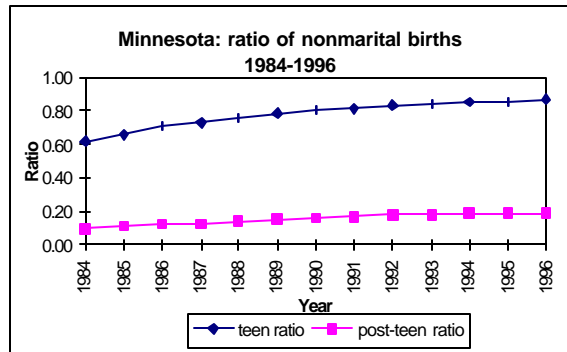
Appendix Figure 21



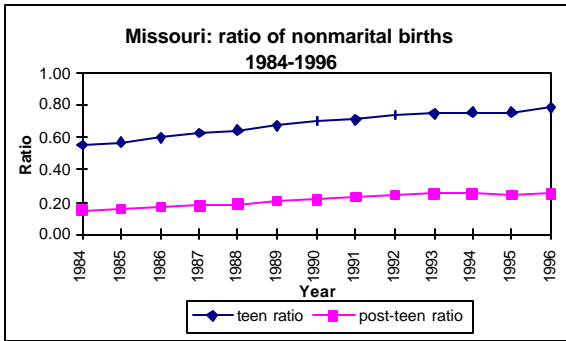
Appendix Figure 22



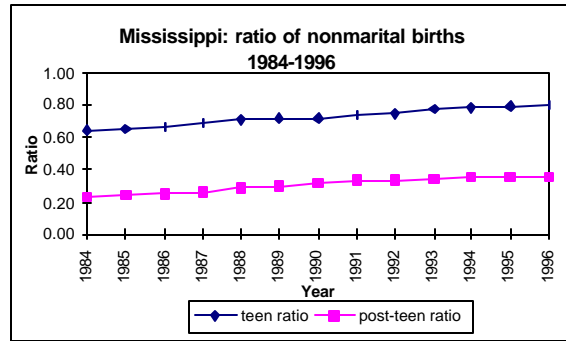
Appendix Figure 23



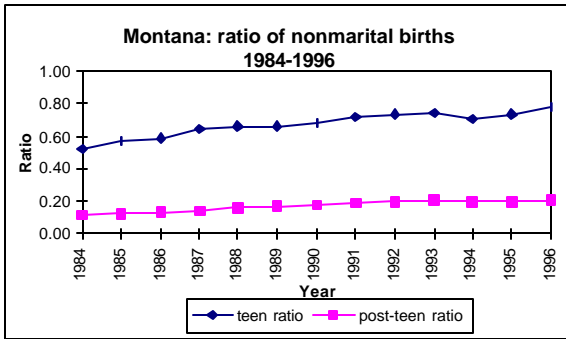
Appendix Figure 24



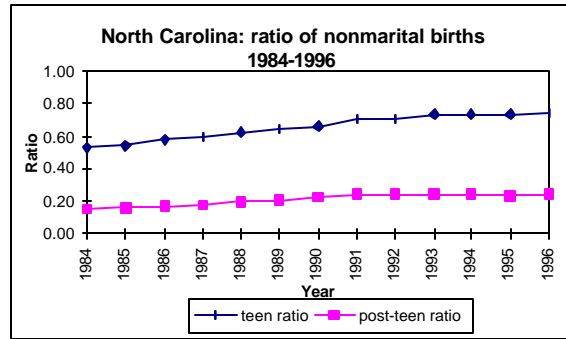
Appendix Figure 25



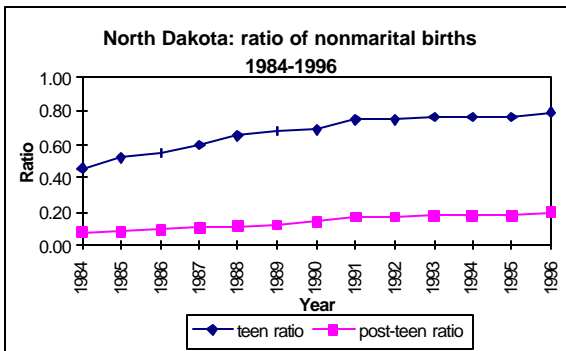
Appendix Figure 26



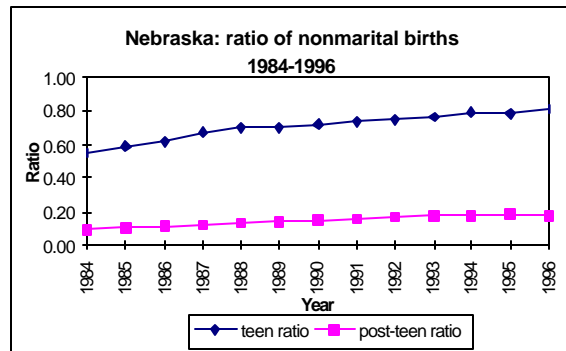
Appendix Figure 27



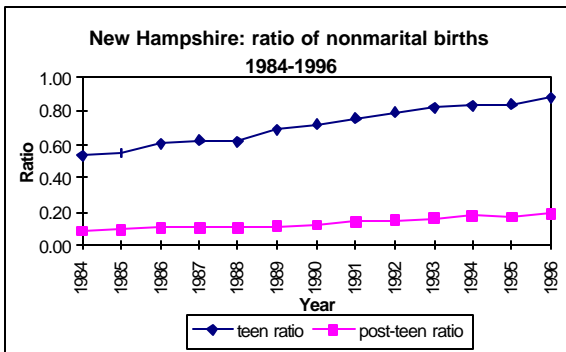
Appendix Figure 28



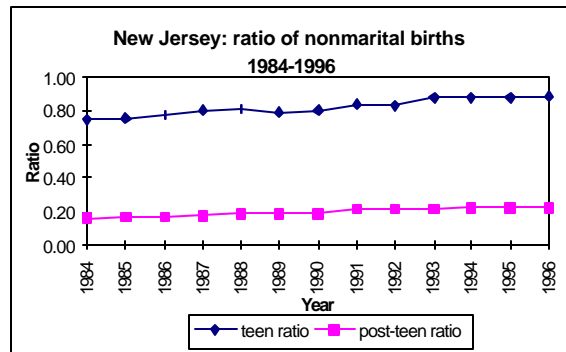
Appendix Figure 29



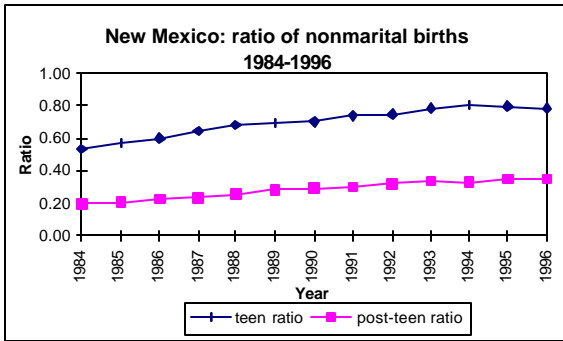
Appendix Figure 30



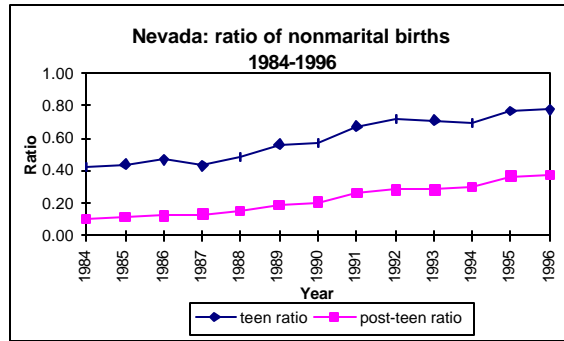
Appendix Figure 31



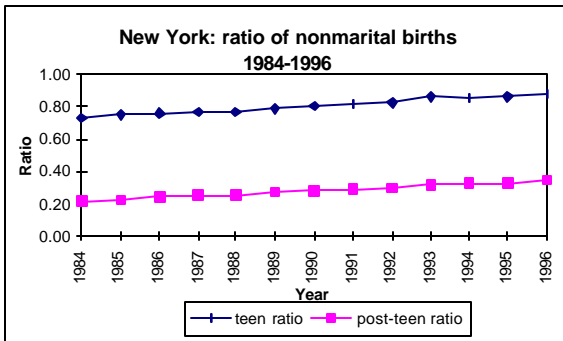
Appendix Figure 32



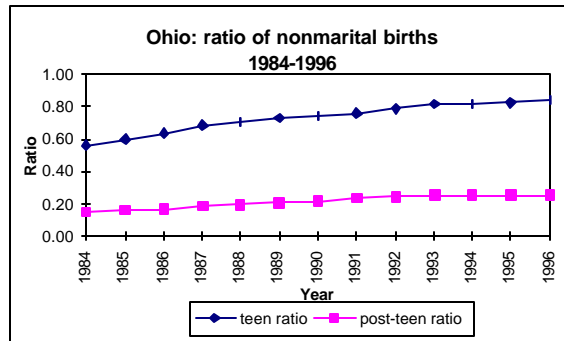
Appendix Figure 33



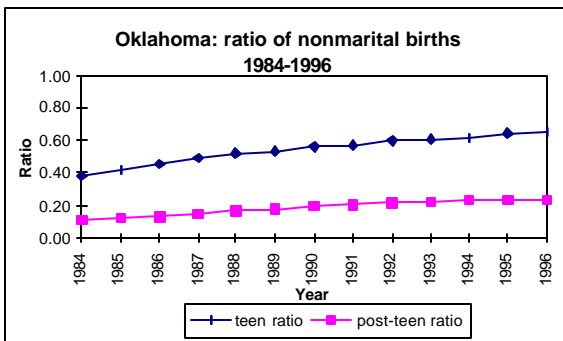
Appendix Figure 34



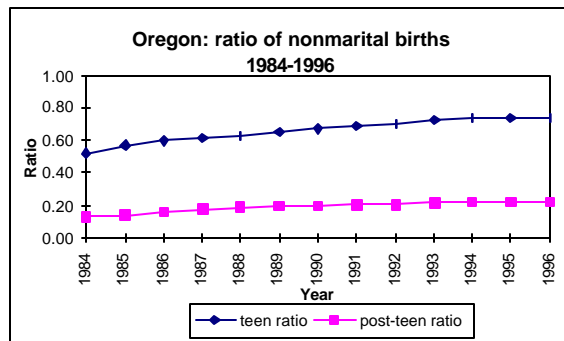
Appendix Figure 35



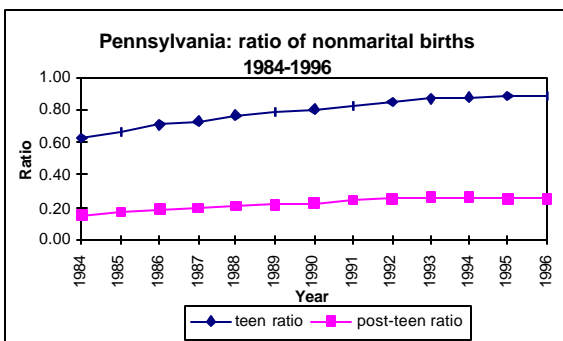
Appendix Figure 36



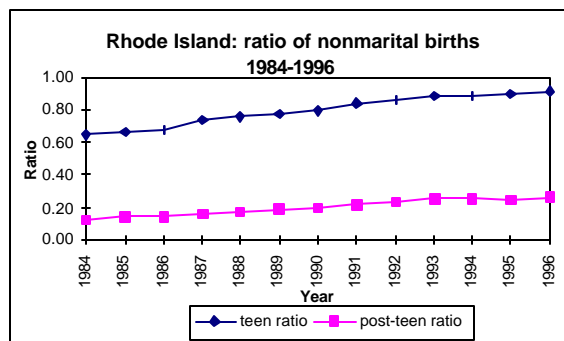
Appendix Figure 37



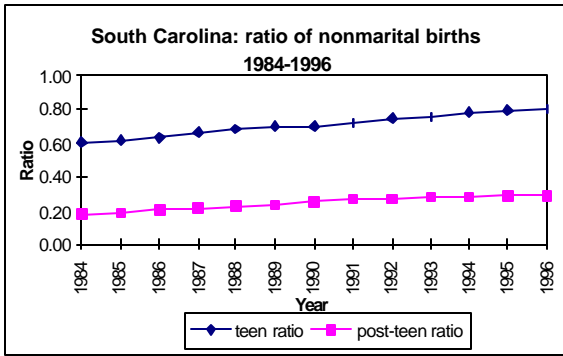
Appendix Figure 38



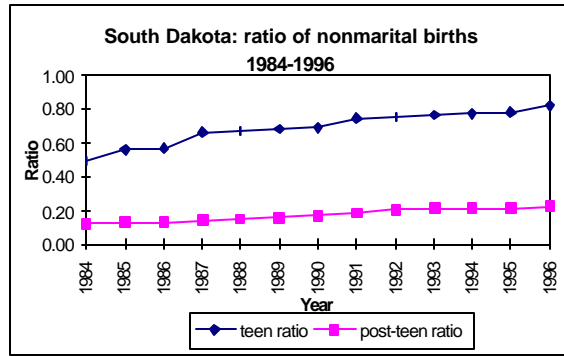
Appendix Figure 39



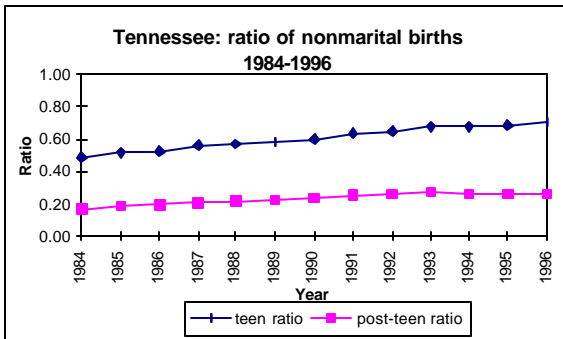
Appendix Figure 40



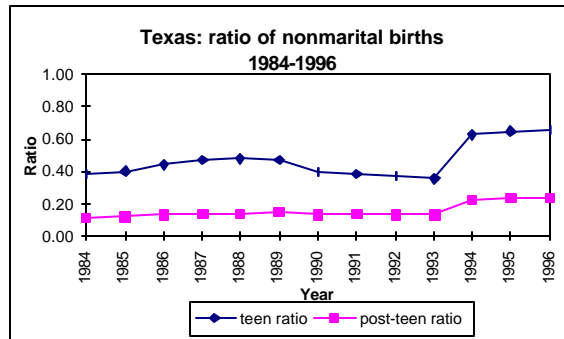
Appendix Figure 41



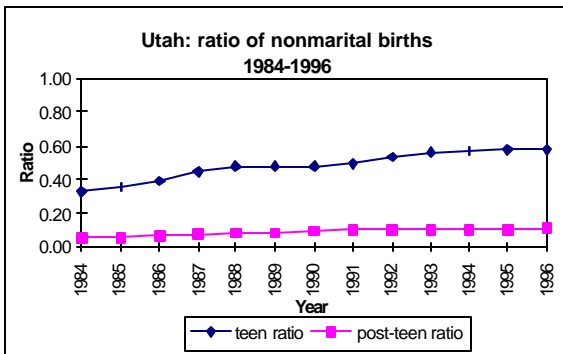
Appendix Figure 42



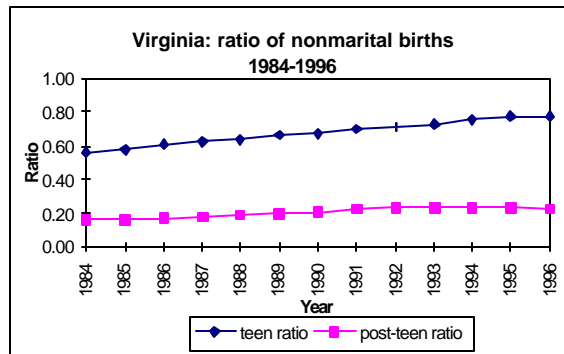
Appendix Figure 43



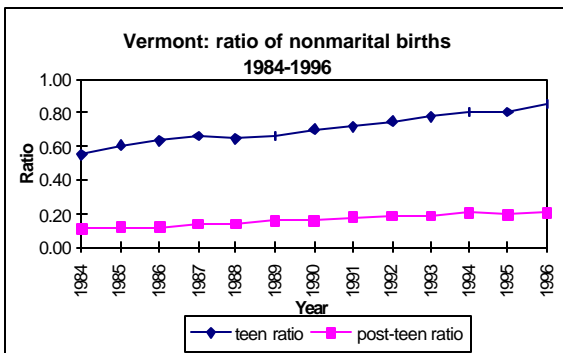
Appendix Figure 44



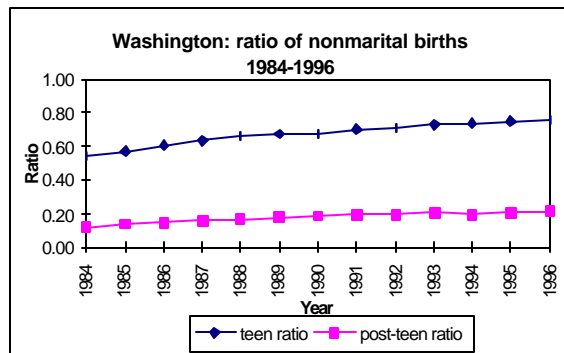
Appendix Figure 45



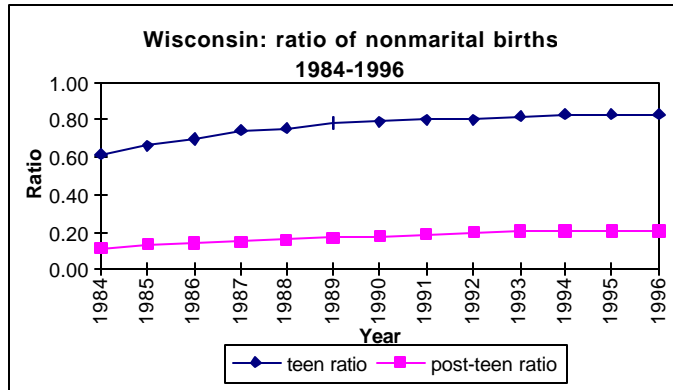
Appendix Figure 46



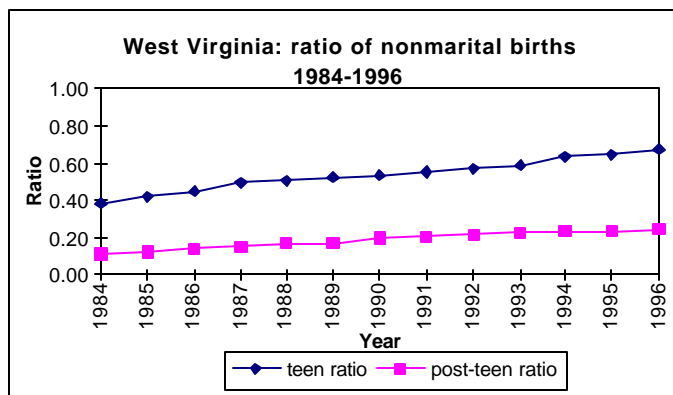
Appendix Figure 47



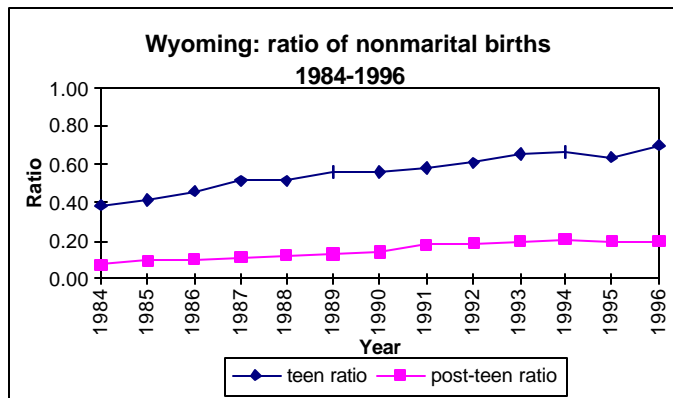
Appendix Figure 48



Appendix Figure 49



Appendix Figure 50



Appendix Figure 51

Appendix Table 1
 State demonstration projects- request, approval and implementation dates

State	Demonstration	Request date	Approval date	Implementation date
Alabama	Avenues to Self-Sufficiency through Education and Training Services (ASSETS)	Jun-88	Oct-89	May-90
Alaska	none			
Arizona	Employing and Moving People of Welfare Encouraging Responsibility (EMPOWER)	Aug-94	May-95	Nov-95
Arkansas	Reduction in AFDC Birthrates Project	Jan-93	Apr-94	Jul-94
California (1)	Work Pays Demonstration Project (WPDP)	Sep-93	Mar-94	Apr-94
California (2)	AFDC/FS compatibility Demonstration Project	May-94	Apr-95	?
California (3)	School Attendance Demonstration Project	Dec-94	Dec-95	Dec-95
Colorado	Colorado Personal Responsibility and Education Program (CPREP)	Jun-93	Jan-94	Jun-94
Connecticut (1)	A Fair Chance (AFC)	Jul-94	Sep-94	Sep-94
Connecticut (2)	Reach Jobs First (includes AFC and more)	Aug-95	Dec-95	Jan-96
DC	Project on Work Employment and Responsibility	Aug-96	Aug-96	TANF
Delaware	A Better Chance (ABC)	Jan-95	May-95	Oct-95
Florida (1)	Family Transition Program (FTP)	Sep-93	Jan-94	Feb-94
Florida (2)	Family Responsibility Act	Oct-95	Jun-96	TANF
Georgia (1)	Preschool Immunization Project (PIP)	N/A	Nov-92	Jan-93
Georgia (2)	Personal Accountability and Responsibility Project (PAR)	May-93	Nov-93	Jan-94
Georgia (3)	Work for Welfare	Jul-94	Oct-95	Jul-96
Hawaii (1)	Creating Work Opportunities for JOBS Families	Nov-93	Jun-94	Jan-95
Hawaii (2)	Pursuit of New Opportunities	May-96	Aug-96	Dec-96
Idaho	Temporary Assistance for Families in Idaho	Aug-96	Aug-96	never
Illinois (1)	A Fresh Start Initiative/Work Pays Project	Aug-93	Nov-93	Nov-93
Illinois (2)	Work and Responsibility	Jul-95	Sep-95	Oct-95
Illinois (3)	School Attendance	Jul-95	Sep-95	never
Illinois (4)	Six Month Paternity Establishment	Jul-95	Jun-96	Jul-96
Indiana	Indiana Manpower Placement and Comprehensive Training Program (IMPACT)	Jun-94	Dec-94	Apr-95
Iowa	Iowa Family Investment Plan (IFIP)	Apr-93	Aug-93	Oct-93
Kansas	Actively Creating Tomorrow	Jul-96	Aug-96	never
Louisiana	Individual Responsibility Project	Sep-95	Feb-96	never

Massachusetts	Welfare reform '95	Mar-95	Aug-95	Nov-95
Maryland (1)	Primary Prevention Initiative	Apr-92	Jun-92	Jul-92
Maryland (2)	Family Investment Program	Mar-94	Aug-95	Oct-96
Maine	Welfare to Work	Sep-95	Jun-96	never
Michigan (1)	To Strengthen Michigan Families (TSMF)	Jun-92	Aug-92	Oct-92
Michigan (2)	To Strengthen Michigan Families (TSMF) (amendment)	Mar-94	Oct-94	Oct-94
Minnesota (1)	Minnesota Family Investment Plan (MFIP)	Mar-93	Mar-94	Apr-94
Minnesota (1)	Minnesota Family Investment Plan (MFIP)	Mar-96	Aug-96	under TANF
Minnesota (2)	AFDC Barrier Removal	Apr-96	Aug-96	under TANF
Minnesota (3)	Work First	Apr-96	Aug-96	Nov-96
Mississippi	Mississippi New Direction	Feb-95	Sep-95	Oct-95
Missouri (1)	People Attaining Self-Sufficiency (PASS)	Jan-92	Jan-92	never
Missouri (2)	Missouri Families Mutual Responsibility	Jan-95	Apr-95	Jun-95
Montana	Achieving Independence for Montanans (AIM)	Apr-94	Apr-95	Feb-96
Nebraska	Welfare Reform Demonstration Project	Oct-94	Feb-95	Oct-95
New Jersey	Family Development Program (FDP)	May-92	Jul-92	Oct-92
New York (1)	Child Assistance Program (CAP)	Jun-88	Oct-88	Apr-89
New York (1)	Child Assistance Program (CAP) (extension of first CAP)	Jun-88	Apr-94	Apr-94
New York (2)	Jobs First	Jun-94	Oct-94	never
North Carolina (1)	Work First Program	Sep-95	Feb-96	Jul-96
North Carolina (2)	Cabarrus County Work Over Welfare Project	?	Mar-96	?
North Dakota (1)	Early Intervention Program	Aug-93	Apr-94	Apr-95
North Dakota (2)	Training, Education, Employment and Management (TEEM)	Sep-94	Sep-95	Jul-97
New Hampshire	New Hampshire Employment Program	Sep-95	Jun-96	Jul-96
Ohio (1)	Learning, Earning and Parenting (LEAP)	Feb-88	Jun-89	Sep-89
Ohio (2)	Ohio- A State of Opportunity	May-94	Mar-95	Sep-95 and Jan-96
Ohio (3)	Ohio First	Oct-95	Mar-96	Jul-96
Oklahoma (1)	Learnfare Project	Dec-92	Jan-94	Feb-94
Oklahoma (2)	Mutual Agreement-A Plan for Success (MAAPS)	Feb-94	Mar-95	Apr-96
Oregon (1)	JOBS Waiver Project	May-92	Jul-92	Feb-93
Oregon (2)	JOBS Plus	Oct-93	Sep-94	Jan-95

Oregon (3)	Oregon options	Jul-95	Mar-96	Apr-96
Pennsylvania	Pathways to Independence	Feb-94	Nov-94	never
South Carolina (1)	Self-Sufficiency and Parental Responsibility Program	Jun-94	Jan-95	never
South Carolina (2)	Family Independence Act	Jun-95	May-96	Oct-96
South Dakota	Strengthening South Dakota Families	Aug-93	Mar-94	Jun-94
Tennessee	Families First	May-96	Jul-96	under TANF
Texas (1)	Promoting Child Health in Texas	N/A	Jul-95	Oct-95
Texas (2)	Achieving Change for Texans	Oct-95	Mar-96	Apr-96
Utah	Single Parent Employment Demonstration Project (SPED)	Aug-92	Oct-92	Jan-93
Vermont	Welfare Restructuring Project	Oct-92	Apr-93	Jul-94
Virginia (1)	Virginia Incentives to Advanced Learning (VITAL)	Jul-92	Sep-92	Sep-92
Virginia (2)	Welfare Reform Project	Jul-93	Nov-93	Jul-94
Virginia (3)	Virginia Independence Program (VIP)	Dec-94	Jul-95	Jul-95
Washington	Success Through Employment Program (STEP)	Feb-95	Sep-95	Jan-96
Wisconsin (1)	Learnfare	Jan-87	Jul-87	Oct-87
Wisconsin (2)	Modified Earned Income Disregard Project	Jan-87	Oct-87	Feb-89
Wisconsin (3)	Parental and Family Responsibility Project (PFR)	Mar-92	Apr-92	Jul-94
Wisconsin (4)	Two-Tier Benefit Project	May-92	Jul-92	Jul-94
Wisconsin (5)	Special Resource Account Project	Nov-92	Jan-93	Jul-94
Wisconsin (6)	Vehicle Asset Limit Project	Nov-92	Jan-93	Jul-94
Wisconsin (7)	Work Not Welfare Demonstration (WNW)	Jul-93	Nov-93	Jan-95
Wisconsin (8)	AFDC Benefit Cap (ABC)	Feb-94	Jun-94	Jan-96
Wisconsin (9)	Pay for Performance	Apr-95	Aug-95	Mar-96
West Virginia	Joint Opportunities for Independence (JOIN)	Apr-95	Aug-95	Feb-96
Wyoming (1)	New Opportunities/New Responsibilities	May-93	Sep-93	Sep-93
Wyoming (2)	New Opportunities/New Responsibilities (statewide extension)	May-96	Jun-96	Sep-96

Sources:

1. US DHHS. Office of the Assistant Secretary for Planning and Evaluation. June 1997. "Setting the Baseline: A Report on State Welfare Waivers."
2. TANF and Waiver programs by state, from the Hudson Organization website: <http://www.hudson.org/wpc/charts/>
3. Information from Carl Koerper at US Department of Health and Human Services.

Appendix Table 2

Welfare Waiver Aggregation Definitions

Family cap: This waiver allowed states to reduce or eliminate the marginal increase in AFDC benefits that recipients could receive upon the birth of another child while on welfare. Under TANF, states are given complete flexibility to impose any sort of family cap, states are not required to base levels of assistance on family size.

Minor parent provision: This waiver required teen parents to stay in school and to live at home or in an adult supervised setting in order to be eligible for cash assistance. TANF makes a minor parent's assistance contingent upon school attendance.

Time limit for welfare receipt: States implementing this waiver set time limits, after which recipients could no longer receive AFDC benefits (Arizona, Indiana, Texas and Washington reduced, but did not discontinue benefits for recipients who reached the time limit.) There was a wide range of time limits implemented, the strictest were Connecticut, with a 21-month time limit and Tennessee, with an 18-month time limit within 5 years. The most lenient were Hawaii, with a 60-month time limit and exemption for a child under 6 and Illinois, with a 24-month time limit and an exemption for a child under age 13. Under TANF, states can use federal funds to provide assistance for a maximum of 60 months, (states can impose shorter time limits.)

Work requirement modifications:

-Work requirement time limits: This waiver imposed mandatory work requirements on families who reached the time limit, but did not cut off aid for participants who complied with the work requirements. The work time limits varied widely from 2 months in 5 years in Massachusetts to 36 months in 5 years in Oklahoma. The number of hours a month recipients were required to work also varied from 20 hours a month in Georgia to 160 hours a month in Indiana. Under TANF, states must require adults receiving assistance to work after at most 24 months (states can impose shorter time limits.)

-Change JOBS exemptions criteria: Under federal law, states could require recipients to participate in the federal JOBS program which provided education, training and work experience activities. This waiver made JOBS work activities mandatory for more AFDC recipients. The most commonly requested change in the exemptions was to decrease the age of children that exempts parents from participating (from age 3 when the state provided child care and age 6 when it did not). Many states required part-time participation with children as young as 3 months and Nebraska required full time participation with children only 6 months old. Under TANF, single parents of children under six who cannot find child care are exempt, states also have the option of exempting parents with children under age one regardless of child care availability.

-Change sanctions for noncompliance with JOBS requirements: To decrease noncompliance in JOBS, this waiver allowed states to increase sanctions for noncompliance,

examples of these sanctions include: termination of AFDC benefits and extension of sanctions duration. TANF gives states flexibility in the amount and length of sanctions for noncompliance.

-Extend job search: Under the JOBS program states allowed up to 8 weeks per year to search for a job. This waiver allowed states to increase the number of weeks during which a recipient could be assigned to job search. Under TANF, at most 6 weeks of job search can be counted toward participation in JOBS.

Expansion of income disregard and of asset limits:

-Expand income disregard: Under AFDC rules, states were required to disregard a portion of a recipient's income when determining benefits amounts. The amount of the disregard is decreased after the first four months and again after the eighth month. This waiver sought to promote work by increasing the amount of income disregarded. In some states the waiver removed the phase-out of the disregard over time, other states disregarded all earned income up to the poverty line. Under TANF states have complete freedom to adopt more or less generous disregards than they had under the AFDC program. Most states eliminated the disregard phase-out period.

-Increase asset limits: Waivers allowed for the increase in asset limits for welfare recipients in several ways. The first, increased resource limit, allowed states to increase the federal limit of \$1000 in countable assets which recipients could hold and still be eligible for welfare. The second, increased vehicle asset limit, authorized states to increase the value of recipients' cars, from \$1500, which could be excluded from the asset limit. The third, disregard resources in special accounts, allowed states implementing the waiver to disregard assets held in special "individual development accounts". Under TANF there are no federal rules regarding asset limits, most states increased asset limits in at least one of the three ways mentioned above.

School attendance and performance requirement: Some states asked for waivers that experimented with educational mandates. These included: requiring children under 18 to attend school regularly and requiring parents to attend children's school conferences. Families not meeting the requirements could be sanctioned by a reduction in cash benefits. Some states gave incentives to the family if a child completed high school or received a GED. Under TANF states can continue to have rules that ensure that children of recipients attend school and that parents remained involved by, for example, participating in parent-teacher conferences.

Expand eligibility for AFDC-UP:

-Eliminate 100 hr. rule: Under AFDC two parent families were eligible for welfare benefits if the principle earner in the family was unemployed, that is worked less than 100 hours a month. Because this strict policy might have encouraged two-parent families to break up or to not form, many states included in their demonstration projects a request to waive this federal rule.

-Eliminate labor force attachment: Another eligibility requirement under federal law for two-parent families to participate in AFDC-UP was that the principle earner demonstrate previous labor force attachment and that the principle earner be unemployed for at least 30 days before receipt of aid. This waiver allowed states to not implement this policy. Under the

TANF, imposition of extra eligibility restrictions on two-parent families is left to the discretion of the states.

Waivers intended to increase child support payments:

-*JOBS for non-custodial parents*: In order to increase child support payments some states asked for waivers that permitted non-custodial parents to participate in JOBS in order to find employment, and thus be able to meet their child support obligations.

-*Strengthen child support*: According to the policy under AFDC, recipients were required to assign all child support collections to the welfare agency. The agency in turn gave the family the first \$50 of child support, called a “pass-through”, this amount was disregarded when determining the family’s AFDC eligibility. States submitted waivers requesting a variety of changes to the pass-through and the disregard. Some states increased the pass-through and/or the disregard and some eliminated the pass-through and/or disregard. Another change some states asked for was to allow families on welfare to earn back the benefits denied them by the family cap waiver through child support payments. Finally some states strengthened child support by requiring more information and cooperation from mothers for paternity establishment, if the mother did not cooperate she could be sanctioned. Under the new TANF laws, recipients are still required to assign child support collections to the welfare agency, but the \$50 pass-through has been repealed. Mothers who do not cooperate with paternity establishment will have their monthly assistance reduced by at least 25 percent.

Sources:

1. US DHHS. Office of the Assistant Secretary for Planning and Evaluation. June 1997. “Setting the Baseline: A Report on State Welfare Waivers.”
2. TANF and Waiver programs by state, from the Hudson Organization website:
<http://www.hudson.org/wpc/charts/>
3. Gallagher, J., M. Gallagher, K. Perese, S. Schreiber, K. Watson. 1998. “One Year After Federal Welfare Reform: A Description of State TANF Decisions as of October 1997.” Washington D.C.: Urban Institute. website: <http://newfederalism.urban.org/html/papers.htm>

Appendix Table 3
Data dictionary

Description of variable	Source
ratio of nonmarital births (all, white and black teens and post-teens)	Data for numerator and denominator from National Center for Health Statistics. <i>Vital Statistics of the United States 1984-1992</i> , Volume 1, Natality. US Department of Health and Human Services. 1993-1996 data from Stephanie Ventura.
number of aids cases weighted by the state population	Center for Disease Control and Prevention. 1984-1996. Morbidity and Mortality Weekly Report, Summary of Notifiable Diseases. USDHHS. State populations from Census Bureau
poverty rate	www.census.gov/hhes/poverty/histpov/hstpov21.html
female unemployment (all, white and black)	Bureau of Labor Statistics. (1985-1998). Geographic Profile of Employment and Unemployment.
unemployment 16-19 year olds (all and white)	Bureau of Labor Statistics. [1985; 1986; 1987; 1988; 1989; 1990; 1991; 1992; 1993; 1994; 1995; 1997; 1998] Geographic Profile of Employment and Unemployment.
ratio of whites to blacks	calculated using: www.census.gov/population/estimates/state/stintasr and www.census.gov/population/estimates/state/sasrh
high school completion among 18-24 year olds 3 yr moving average	1984-1989 from: Oct. CPS & 1990-1996 from: US Department of Education. National Center for Education Statistics. Dropout Rates in the US. 1990-1996 calculated from CPS.
proportion of children under 18 living with one parent lagged 24 years	Calculated using data from: <i>US Census of the Population</i> : 1960, 1970 and 1980. Volume 1, Characteristics of the Population. Part 1 US Summary.
proportion of teen births to all births lagged 17 yrs. (all, white and black)	calculated as number of births to teens/all births from the CPS
real maximum AFDC payment+cash value of food stamp for family of 3	Green Book and CPI
parental consent required and enforced	NARAL. 1989-1998. <i>Who Decides? A State by State Review of Abortion Rights in America</i> . and Merz, J., C. Jackson and J. Klerman. "A Review of Abortion Policy: Legality, Medicaid Funding, and Parental Involvement, 1967-1994." RAND/RP-565.
number of providers per thousand females aged 15-44 in each state.	Data provided by Stanley Henshaw, AGI, from AGI publications. Population data from Census Bureau.
ratio single employed men (men from each age group weighted by marriage data) to single women (all, white and black teen and post-teen)	proportion single to total men and women from March CPS applied to census population projections; weight for proportion of men in each age group which women in age group marry from <i>Vital Statistics</i> , Marriage & Divorce, 1987.
sex education required in school	Kenney, Asta. 1989. <i>Sex Education and AIDS Education in the Schools</i> . AGI; NARAL. 1995. <i>Sexuality Education in America: A State-by-State Review</i> . and NARAL. 1998. <i>Fact Sheet: "State Sexuality and STD/HIV Education Regulations"</i> .
median real wage female (all, white and black)	calculated as three year moving average from March CPS
median real wage male (all, white and black)	calculated as three year moving average from March CPS
percent "fundamentalist" in the state	1980 & 1990 data from: <i>Churches and Church Membership in the US</i> . Glenmary Research Center, GA., other years interpolated;
proportion of state living in urban area	years 1980 and 1990 from US Census, other years interpolated
waiver information	from DHHS