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DOES WELFARE POLICY AFFECT BIRTH RATES AMONG LOW-SKILLED IMMIGRANTS?

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Abstract:

We analyze whether the differential treatment of immigrant access to social assistance after the changes to welfare policy made in the early 1990s and the welfare reform act of 1996 affects the child-bearing decisions of low-skilled immigrants using a fertility rate data set constructed from the 2000 Decennial Census public use 5% files and the Natality Detail birth certificates files. We find evidence that immigrant fertility, particularly non-martial fertility among low-educated immigrants, declined in response to these policy changes.

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I. Introduction

Welfare reform, formally known as the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), was driven in part by concerns about the behavioral incentives and cost of public welfare programs and sought to promote economic independence and labor force participation. The concerns that led to changes in welfare policy may have been especially relevant to the immigrant population; many immigrants, especially those from recent years, are poor and low skilled, and there is some evidence indicating immigrants were more likely than natives to use welfare benefits prior to reform. Indeed, in 1996, 22 percent of the foreign-born population lived in poverty, compared to 12.9 percent of natives.[1] Recent arrivals demonstrated higher poverty levels than immigrants who arrived in earlier years.[2] New immigrants also earned less money and had lower educational attainment, relative to natives.[3] In 2002, 1 in 4 low-wage workers were immigrants, and 25 percent of low-income children were from immigrant families.[4] Furthermore, the foreign-born population had a higher unemployment rate in 1996 than the native population: 4.9 percent for immigrants and 3.8 percent for natives. Given these statistics, it is not surprising that Borjas and Hilton (1996) find that immigrant families were one and a half times more likely than natives to use welfare (defined as either AFDC, Medicaid, food stamps, energy assistance, housing assistance or WIC) between the years of 1990 and 1993, and that immigrants experienced more frequent and longer spells on welfare,

[1] Current Population Reports, "The Foreign Born Population: 1996"
[2] Fix and Passel (2002?)
[3] Borjas (1995)
[4] Fix and Passel (2002)

relative to natives.[5] This divergence in welfare use between immigrants and natives increased over the decade preceding welfare reform.[6]

In recent times, concerns about the economic and social consequences of immigration have been widespread. In addition to their fiscal impact on the welfare system, fears about the labor market implications of immigration are rife. Because new immigrants tend to be low-skilled and have lower educational attainment, concerns about their impact on wages and jobs are pervasive.[7] Additionally, there exists a concern that immigration contributes to the overpopulation of the United States, causing, among other things, sprawl and congestion, pollution, and a host of other negative consequences to the quality of life of Americans. Exacerbating these concerns is the large influx of low-skill immigrants in recent times. Almost 10 million persons migrated to the United States in the decade before welfare reform, including nearly 7 million immigrants that entered the country between 1990 and 1995, the years immediately preceding PRWORA.[8] This volume of immigration is matched only by that from 1901 to 1910, when almost 9 million immigrants entered the United States. In 1996, the year PRWORA was enacted, a total of 24.6 million immigrants lived in the United States, comprising 9.3 percent of the population; in 1970, only 4.8 % of the population was foreign-born, revealing the rapid acceleration of immigration.[9] By 2002, approximately 1 in 9 people in the United States

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[5] Borjas and Hilton (1996). 21 percent of immigrant households used some form of public assistance in the years prior to reform, as compared to 14 percent of native households.

[6] However, Fix et al (1996), defining welfare as AFDC, SSI, or General Assistance (cash transfers only), find a much smaller difference in welfare use for the same time period: 6.6 percent of immigrants used welfare as compared to 4.9 percent of natives.[6] Furthermore, the authors note that if elderly immigrants and refugees are excluded from the comparison, immigrants and natives demonstrated similar levels of welfare use as natives. Similarly, the census bureau reports that in 1996, 5.8 percent of foreign-born persons received welfare benefits (defined as cash benefits), as compared to 4.5 percent of natives.[6] Recent immigrants tend to exhibit especially high participation rates; those that have resided in the United States longer than 15 years have rates similar to natives.

[7] Borjas (2004) finds that the increase in labor supply attributed by immigration between 1980 and 2000 cost native men an average of 1,700 dollars in wages per year by 2000. This effect disproportionately affects native black and Hispanic men.

[8] USCIS, Fiscal Year 2002 Yearbook of Immigration Statistics

[9] Current Population Reports, "The Foreign Born Population: 1996"

were immigrants, including 1 in every 5 children.[10] Indeed, the sharp increase in immigration experienced in recent times has brought concerns about immigrants to the forefront of public attention.

In part because these concerns, the restrictions placed on immigrants by welfare reform were more severe than those enacted for natives. In addition to restrictions applicable to all recipients, PRWORA included provisions that further limit immigrant eligibility for welfare benefits. Immigrants arriving in the United States after August 22, 1996 are barred from receiving most federal public assistance, including TANF/AFDC, Medicaid, food stamps, and SSI.[11] Immigrants become eligible for benefits only when they naturalize to become U.S. citizens, the average period of time for which is 8 years.[12] Whether foreign-born persons arriving prior to 1996 were provided with benefits was left up to states, and most states continued offering TANF and Medicaid to this population, although the availability of food stamp benefits and SSI declined. However, many states elected to use state funds to continue providing selected welfare benefits to immigrants arriving after 1996. Figure 1 illustrates the change in benefit availability to immigrants in all 50 states and Washington DC after welfare reform. In total, 23 states elected to extend at least one benefit (TANF, Medicaid, Food Stamps, or SSI) to post-PRWORA immigrants; previously, all 51 states offered benefits. Nineteen states continue to offer TANF and 14 states continue to offer Medicaid; these benefits were both available to immigrants in 50 states prior to welfare reform. Finally, while 10 states continue to offer Food Assistance and 3 states continue to offer SSI after PRWORA, these benefits had previously been offered to immigrants by 17 and 5 states, respectively.

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[10] Fix and Passel (2002)

[11] PRWORA does not restrict refugees from participation in these programs. Illegal immigrants, who have never been eligible for most benefits, remain barred.

[12] Yearbook of Immigration Statistics 2002, U. S. Citizenship and Immigration Services

Recent research suggests that the severity of the restrictions placed on non-citizens by welfare reform has had an impact on immigrant behavior. Fix and Passel (1999) use Census data from 1994 to 1997 to examine trends in immigrant welfare use after PRWORA and conclude that immigrant use of public benefits, as defined by AFDC/TANF, SSI, General Assistance, food stamp, and Medicaid use, fell dramatically after reform from 1994 to 1997 (Figure 2). This fall in immigrant participation in welfare programs was greater than that of their native counterparts.[13] There is also evidence that welfare reform may have altered immigrant behavior by inducing an increase in employment. Kaestner and Kaushal (2001) use CPS data from 1994 to 1999 to examine the effect of welfare reform on the employment, hours of work, and marriage outcomes of immigrants. They find that the 1996 reform did induce immigrants, especially those most recent to the United States, to increase employment and labor force attachment. The authors found no effect on marriage. Borjas (2003) uses CPS data from 1994 to 1999 to examine trends in immigrant health insurance coverage after PRWORA and finds that immigrant labor force participation increased after welfare reform, making immigrants more likely to have access to employer-supplied health insurance. This increase in employer-supplied insurance completely offset the loss of Medicaid benefits to this population. More recent work on this topic by Kaestner and Kaushal use the same data source (CPS) but find results indicating a general loss of health insurance for immigrants.

While previous work has examined the effects of welfare reform on immigrant outcomes such as health insurance coverage, marriage, and employment, to our knowledge no work has

[13] However, Borjas (2002) reports that much of this decline can be attributed to immigrants in California; those living outside of California displayed a similar decline in participation rates to natives.

Furthermore, as Borjas and Hilton (1996) note, immigrants may also be disproportionately affected by welfare reform because they tend remain on welfare for long periods of time, relative to their native counterparts. However, Kaestner and Kaushal (2001) argue that, because foreign-born women may have inferior opportunities available to them relative to natives, the changes implemented by PRWORA will have a less severe effect on immigrants.

looked at the effects of welfare reform on immigrant fertility. The 1996 welfare reform act did not explicitly address the fertility of immigrants, but did tackle the family formation and fertility behavior of welfare recipients in general. PRWORA legislation states: "it is the sense of the Congress that prevention of out-of-wedlock pregnancy and reduction in out-of-wedlock birth are very important Government interests…."[14] Indeed, several provisions of welfare reform, such as the imposition family caps and the extension of cash grants to states with low non-marital fertility, specifically seek to influence the fertility decisions of recipients. The goal of this paper is to determine whether PRWORA resulted in changes in the fertility decisions of immigrants, and if so, what the nature of these changes are. This research is important for a number of reasons. For one, the high levels of immigrant fertility exhibited in resent times has been a cause of concern for some because it may contribute to the economic and social problems discussed above.[15] That immigrant women exhibit a higher level of fertility than their native counterparts is well-documented; in 1994, two years prior to welfare reform, immigrant women had a fertility rate of 93 births per 1000 women, as compared to 62 births per 1000 women for natives.[16] Approximately 15 percent of all births in 1994 were attributed to foreign-born women. In comparison, in 1970, only 5 percent of births were so attributed. [17] By 2000, births to immigrant women comprised 20 percent of all births in the United States. This research is also important to understand how well one of the goals of welfare reform, reducing non-marital fertility, has worked. If immigrant non-marital fertility decreased as a result of PRWORA, one of the goals of welfare reform has been fulfilled. If instead, welfare reform caused a decrease in all immigrant fertility, regardless of marital status, welfare reform may have served to arrest the growth of an

[14] H.R. 3734 PRWORA 1996
[15]
[16] DeVita (1996)
[17] Dianne Schmidley, author of Profile of the Foreign-Born Population in the United States: 2000

important population of future Americans. Furthermore, if no change in immigrant fertility is found, welfare reform may have served only to reduce resources to an already needy population, affecting access to needed assistance and outcomes such as child health. As the debate over welfare reauthorization continues, evidence is needed on whether the intended effects of the immigrant provisions took place.

The paper proceeds as follows: Section II presents the motivation for this research, and Section III presents the methods used in the paper. Section IV describes the data used and Section V presents the results. Section VI discusses the caveats and tests the robustness of this analysis. Section VII presents an additional analysis using a separate data set, and Section VIII concludes.

II. Motivation

As stated, to our knowledge no work has been done on the effects of welfare reform on immigrant fertility. Extensive literature on the impact of various welfare policies on the fertility decisions of women in general does exist (Grogger et al. (2002) provide a comprehensive account of this literature), but the results of these studies is inconclusive.[18] Although the existing literature indicates that the overall effect of welfare reform on fertility decisions is minimal, the result may be different when looking at immigrants separately. Even if PRWORA did not target immigrant fertility explicitly, we predict that welfare reform may have affected the fertility

[18] Joyce, Kaestner, and Korenman (2003) use birth record data between 1990 and 1999 from the National Center for Health Statistics to examine the effects of welfare reform on the non-marital fertility of women who are likely to use welfare and find no consistent results. Kaestner and Kaushal (2001), using CPS data between 1995 and 1999, find little evidence to support the claim that family caps or time limits have impacted the fertility of recipients. Kearney (2002), Dyer and Farlie (2001), and Levine (2002) all find no support that family caps have reduced recipient fertility. However, some studies have indicated that welfare reform may have had a negative effect on fertility. Notably, Horvath and Peters (2000), using data from the Census and the Natality volume of Vital Statistics, test seven welfare waivers separately to determine if a relationship between welfare reform and fertility exists. They find that both family caps and AFDC-UP waivers lowered non-marital childbearing. Additionally, there exists a large body of literature on the impact of AFDC benefit generosity on non-marital fertility. The results of these studies are inconclusive; Kearney (2002), Levine (2002), Rosenzweig (1999), and Moffitt (1998) report that non-marital fertility increases with higher levels of AFDC benefits, while Argys and Rees (1996) and Fairlie and London (1997) report no such effect.

decisions of immigrant women more substantially than it did natives' because immigrant women were more likely to use welfare benefits before reform, had higher levels of fertility to begin with, and faced stricter sanctions after PRWORA. There are at least two ways in which the restrictions placed on immigrants by PRWORA may have impacted fertility. First, the elimination of benefits may have directly altered immigrant fertility decisions for the reasons discussed below. Second, "chilling effects" of welfare reform may have caused additional changes in fertility for immigrants unaffected by the policy.[19] We test for evidence of both sources of fertility change in this paper.

To hypothesize the nature of changes in childbearing, if any, we consider existing theories on fertility. Standard economic theory, based on the concept of rational choice, suggests that individuals consider the costs and benefits of a particular action, and maximize their utility accordingly. Simply put, a household is assumed to maximize its utility by choosing the optimal combination of children and goods, given its resources, or budget constraint, as well as the personal characteristics (such as marital status, age, race, etc) of its members. The number of children a woman ultimately bears is the result of the tradeoffs she makes. Because welfare

[19] It has been hypothesized that changes in welfare policy that restrict the eligibility of some immigrants have chilling effects that alter the behavior of immigrants who are unaffected by the policy. Eligible immigrants may be discouraged from using benefits for a number of reasons. Van Hook (2003) writes "because of immigrants' particularly vulnerable legal and social status, the immigrant-specific provisions of welfare reform may have increased immigrants' confusion about their eligibility for welfare benefits and heightened their mistrust of or intimidation by the U.S. government." Fix and Passel (1999) find evidence for these chilling effects, citing the steep decline in non-citizen participation in welfare programs relative to natives', even though few immigrants were ineligible for benefits at the time of their analysis. There is also evidence that confusion about the eligibility of immigrants for welfare after PRWORA exists among benefit providers. Zimmerman and Fix (1998) find that in the years following welfare reform, approved applications for Medicaid and TANF in Los Angeles County fell dramatically for immigrants, although California elected to extend benefits to this population and immigrants did not face any real changes in eligibility. Denial rates for these applications in Los Angeles County remained stable and no similar decline in approval rates was seen among natives. However, Kaestner and Kaushal (2001) find no evidence for a chilling effect in TANF use among immigrants. Van Hook (2003) casts further doubt on the significance of chilling effects, hypothesizing that naturalization contributed to the decline in non-citizen benefit receipt. The author finds that "a substantial amount of the disproportionate decline in welfare receipt among non-citizens (which in previous work has been interpreted as a "chilling" effect) can be attributed to shifts in citizenship."

reform decreased the lifetime economic value of benefits to immigrant women on welfare, the resources available to them for child bearing and rearing, both financial (cash welfare receipt) and otherwise (Medicaid and Food Stamps) are diminished, effectively increasing the expected cost of raising a child. Given that children are normal goods, the utility maximization approach would suggest that recipients reduce fertility as a result. Moreover, if welfare reform induced immigrants to increase hours of work, as Kaestner and Kaushal (2001) find, resources, in the form of total time available to women for childbearing and caring, are further decreased, causing a reduction in fertility. By the same token, however, if this increased labor force participation results in higher household income, increasing the total resources available to the household, fertility may increase as a result. Indeed, Borjas (2003) provides evidence that losses in Medicaid suffered by immigrant welfare recipients were fully offset by increases in employer health insurance, which tend to have more comprehensive coverage. This improvement in health insurance coverage may contribute to the total resources available to immigrants, increasing fertility.

An alternative approach to framing fertility decisions invokes the idea of "opportunity cost," which suggests that women have children because the cost of doing so, in terms of the alternatives to childbearing, is small. Women who perceive themselves as having limited future economic opportunities may choose to have a child because the opportunity cost of doing so is less than the perceived benefits to having a child. Thus, the reduction of welfare benefits to immigrant women, who have bleak labor market opportunities to begin with, may decrease their future prospects further and induce an increase in fertility. However, if welfare reform induced immigrants to raise their employment, increasing their total income and improving their health insurance coverage, the opportunity cost of having children may rise, reducing fertility. Another

way of looking at fertility decisions is by considering relative deprivation, which suggests that individuals make decisions based on their perceived relative position rather than the absolute conditions they face. Thus, newly arrived immigrants who experience an improvement in condition after immigration may choose to have more children, even if their status is dismal, while immigrants who have resided in the United States for several years may reduce their fertility because they are now worse off.

In practice, fertility decisions are based on a complex combination of biological, economic, social, cultural, and personal considerations. Welfare reform may have changed the costs and benefits of having children through the ways described above, inducing a change in fertility, or could have resulted in no change if the weight placed on other factors such as personal and cultural preferences overshadow these changes. There are no clear predictions for the direction and magnitude of changes in fertility after welfare reform; we hypothesize only that fertility has changed somehow in the wake of welfare reform.

III. Method

The simplest way to measure the effect of welfare reform on fertility is to compare the fertility of an affected group before and after PRWORA. However, this method is only valid if no factors other than the changes in welfare policy had an effect on fertility decisions. In reality, many additional factors, some unobservable, could have impacted fertility between 1995 and 2000. To control for this, we compare the changes in fertility of otherwise similar groups that differ only with respect to their likeliness of being affected by welfare reform. This difference in differences method yields a causal estimate of the effect of welfare reform on the fertility of immigrants under the assumption that the control group provides a counterfactual for the affected

population. Any difference in fertility not attributed to welfare reform should be accounted for by differencing out the level discrepancy in fertility.

We use two established methods of identifying the control and treatment groups. First, we build on the method in Kaestner and Kaushal (2001), which differentiates women on the basis of educational attainment and marital status. Next, we follow the method in Borjas (2002), which categorizes women by citizenship status and the generosity of state welfare benefits after reform to immigrants specifically.

First Method

Our first method classifies women along six dimensions: marital status (never married or ever married); educational attainment (women with less than or equal to 12 years of education are designated as "low education" and those with more than 12 years of education as "high education"); nativity status ("native" referring to those who were born in the United States and "non-native" to the foreign-born); citizenship status ("native-born citizen", "naturalized citizen," or "non-citizen"); for non-citizens, the time of immigration (before or after welfare reform); and time period (before or after welfare reform). Two policy changes are used to designate the period effect: welfare reform in the form of AFDC waivers and welfare reform from TANF authorization.[20] Initially, simple regressions are estimated separately for each group to determine their fertility, measured as the number of births per 1000 women. These regressions are identical, and follow the following form:

(1) $\text{Fertility}=a+bX+c\text{policy}+e$

[20] Since TANF was implemented in such a short window, and the outcome of interest is not a precisely timed event, we will assume that welfare reform conditions at the start of a particular year affect fertility decisions the next year.

The regressions include controls for individual and state level factors that may affect fertility. Individual level controls include age in years and its square, race (White, Black, Other), educational attainment (less than high school completion, just high school completion, some or all college, and more than college completion), and where appropriate, marital status (never married or ever married), immigration status, and year of entry to the United States. State level controls are implemented for state unemployment rate, Medicaid eligibility (measured by two indicators, one for the program generosity to pregnant women, and one to children aged 14), and state average income. Policy variables such as the real maximum welfare benefit and welfare reform of two types (AFDC waivers and TANF implementation) are included. The regressions also control for state and year fixed effects. This list of control variables is akin to that in Kaestner and Kaushal (2001), except for our inclusion of the welfare maximum payments variable.

By comparing the coefficients of interest across regressions, we are implicitly creating a differences estimator. Doing so allows us to identify the magnitude of the change, if any, for individual groups, thus allowing us to determine the source of any fertility change reported from the difference estimator. This difference estimator is formalized with appropriate interactions as follows:

(2) $$\text{Fertility} = B1X_1 + B2(X1 \times TREAT) + B3X2 + B4\,X3 + B5X4 + B6Waiver + B7TANF + B8(TREAT \times Waiver) + B9(Treat \times TANF) + e$$

Fertility, as measured by the number of births per 1000 women, is designated by (FERT). The model also includes controls for state fixed effects (X1), year fixed effects (X2), a vector of personal characteristics (X3), and state level variables (X4) identical to those from equation (1). The coefficients of interest are B8 and B9; these measure the effect of AFDC waivers and TANF

implementation on the fertility of the treatment group, relative to the control group. The treatment group is defined as unmarried women with less than or equal to 12 years of education; these women are likely to be affected by welfare reform. The control group is defined as married women who have more than 12 years of education; these women are unlikely to be affected by welfare reform but are similar to the treatment group in every other way. We also estimate difference in difference results for a second control group: unmarried women with more than 12 years of education. We take these classifications from Kaestner and Kaushal (2001), who justify the validity of the groups in their paper. The regressions are estimated separately by five categories of citizenship status; native-born citizens, naturalized citizens, non-citizens, and among non-citizens, those who arrived before 1996, and those who arrived after 1996. Because non-citizens arriving after 1996 faced stricter provisions from PRWORA, we expect that they be more affected by reform than their native counterparts.

Second Method

The second method takes advantage of the variation in availability of welfare benefits to immigrants after PRWORA to denote which groups were affected by welfare reform. Treatment and control groups are also based on citizenship status (native citizen, naturalized citizen, non-citizen, and among non-citizens, those who arrived to the United States before 1996, and those who arrived after 1996) and time period (before or after welfare reform). We examine the differences in outcomes for immigrants in states that restricted benefits to immigrants after PRWORA (treatment group) and compare them to outcomes for immigrants in states that continued giving benefits to immigrants (control group).The between-state variation in benefit extension to immigrants after PRWORA is captured by classifying states into two categories indicating higher and lower benefit generosity. This classification is based on the availability of

certain programs to immigrants after PRWORA, as categorized by Borjas (2003). Figure 3 depicts this classification of state generosity. States are classified as "more generous" if they offered either one of food stamps or SSI to pre-enactment immigrants, or one of TANF, Medicaid, food assistance, or SST to post-enactment immigrants during the five-year ban. We expect non-citizens in less generous states to have lower fertility rates relative to the trend after welfare reform. Furthermore, we expect recent immigrants (those who arrived to the United States post-PRWORA) in less generous states to have even lower fertility rates, relative to the trend. We test this through a regression equation as follows:

$$\text{Fertility}_{ij} = X_{ij}\beta_1 + T_{ij}\beta_2 + I_{ij}\beta_3 + G_j\beta_4 + (I_{ij} \times T_{ij}) + (I_{ij} \times G_j) \quad (1)$$
$$+ (G_j \times T_{ij}) + (u \times I_{ij}) + \theta\,(I_{ij} \times G_j \times T_{ij}) + \varepsilon_{ij}$$

The dependent variable y_{ij} measures the fertility outcome (in births per 1000 women) of person i in state j. X_{ij} is a vector of socioeconomic characteristics, including the woman's age, age squared, race, level of educational attainment, marital status, and state unemployment rate at time t. Age is measured as a continuous variable; the analysis is restricted to women between the ages of 18 and 54. Educational attainment is measured as a vector of dummy variables indicating whether the person is a high school dropout (with less than 12 years of education), a high school graduate (12 years of education), has some college or is a college graduate (13–16 years of education), or has more than a college education (at least 17 years of education). T_{ij} is a dummy variable indicating period of birth; T_{ij} is equal to one if the birth occurred post-PRWORA (after 1996) and zero if the birth occurred pre-PRWORA (before 1996). Observations from 1996 and 1997 are eliminated from the analysis. I_{ij} is a vector of four dummy variables indicating whether the person is a naturalized citizen (in which case $I1_{ij}$ equals 1), a non-citizen (in which case $I2_{ij}$ equals 1), a pre-PRWORA non-citizen (in which case $I3_{ij}$ equals 1), or a post-PRWORA non

citizen (in which case $I4_{ij}$ equals 1). The omitted variable indicates that a person is a native to the United States. Finally, G_j is a dummy variable indicating the state's benefit generosity; the value of G_j is 1 if a state is termed as "less generous." The regression also incorporates a number of interactions to control for the sensitivity of immigrant outcomes to the permutation of business cycle outcomes, the time period, and state generosity, with respect to natives.' Year and state fixed effects are added, and standard errors are clustered to refine the analysis.

Because G_j is set to one if a state is 'less generous' (meaning they did not use state funds to make up for lost federal benefits), the coefficient θ can be taken to measure the relative difference in fertility before and after PRWORA of different kinds of immigrants in "less" generous states. That is, it measures the effect of PRWORA on the relative trend in fertility in states that are "less generous."

In an effort to refine this analysis to include only immigrant women who are likely to use welfare benefits and thus be affected by PRWORA, this method is repeated using a target population of unmarried women with less than 12 years of education.

IV. Data

Part of the reason that the immigrant fertility effects of welfare reform have not been previously studied is the lack of information on immigration and births in commonly used data sets. Testing the models above with the given hypotheses requires a large data set that contains both immigration data and fertility information, as well as socioeconomic indicators. Many data sets with immigration variables lack figures on fertility. The Decennial Census, however, includes all the necessary information. Our main source of data is the Integrated Public Use Microdata Series (IPUMS) from the 2000 Census, which is publicly available through University of Minnesota. The 2000 IPUMS is useful for this analysis because it contains large sample sizes

and provides micro level data on immigration status, labor force participation, education, household composition, and nupitality. Although the IPUMS does not explicitly include measures of fertility, this information can be imputed from the dataset, as the ages of almost all kids born during the 1990s to women in the 2000 census are reported. Using this information, we can construct a dataset with retrospective information on fertility and are able to create variables indicating whether a particular woman had a child in any given year. Thus, we can create a data set that shows fertility by year, with the fertility of an individual being measured as their conception decisions 10 months prior to birth. This data set then mimics a panel on fertility, with the caveat being that we do not have time varying data on the mother for variables other than fertility decisions. We will discuss the implications of this and other limitations of the data in a later section.

To construct the data set, we first select women who were of childbearing age, defined here as 18 to 44 years old, during the period of 1990-2000. We keep only those children who have a biological mother in the sample; those with step- or adopted mothers are dropped because there is no way to their identify birth mothers with the IPUMS. We then link the children's data with their mothers,' and create fertility variables for individual women from this information. Because the number of observations available from the census is quite large, we collapse the data into cells by state of residence, age, race, citizenship status, marital status, educational attainment, and year of birth, and then construct a fertility rate data set with observations for each category.[21] We treat each cell as a separate observation, with a fertility rate equal to the average fertility of all women within that cell.

[21] "Race" is categorized by "white," "black," and "other"; "Citizenship status" is categorized by "native" "naturalized citizen," "non-citizen," "non-citizen pre-1996," "non-citizen post-1996," and "non-citizen arrived in 1996"; "Marital status" is designated by "never married" or "ever married"; "educational attainment" is categorized by "less than high school," "high school," "some or all college," and "more than college."

Figure 4 presents basic summary statistics from our created dataset, which is generated from 1,961,492 observations with valid data. These observations are collapsed into 706,933 individual cells delineated by the categories listed above. The number of observations per cell varies from 1 to 3729 individuals, and the fertility rate ranges from zero to 4000 children born per 1000 women. Because of the variation in the number of observations per cell, the sample is weighted accordingly.[22] All analyses done in this paper are preformed with these weights in place.

To check the accuracy of our data, we compare our basic fertility statistics to those published in the 2002 National Vial Statistics Report by the National Center for Health Statistics of the Centers for Disease Control and Prevention (CDC). Figure 5 presents the fertility statistics from both sources of data. Note that for this comparison, we have expanded our dataset to incorporate women aged 15 to 18 in order to match the CDC report, which includes women aged 15-44. It is clear that the trend in fertility rates from both sources of data is comparable; fertility declined from 1990 to 1997 before rising slightly between the years 1998 and 2000. However, our statistics are not equivalent to those from the CDC in absolute numbers. For example, our fertility measure indicates that on average, 63.6 children were born for every 1000 women in 1990, and 59.2 such children were born in 2000. The CDC estimates that 70.9 children were born per 1000 women in 1990 and 65.9 such children were born in 2000. One possible reason for this discrepancy is that the CDC fertility figures are calculated from total live births, and our data includes only those children who reside with their mothers. While an ideal measure of fertility would be a count of conceptions (defined as the sum of abortions, miscarriages, and live births), this information is not readily available. We argue that because conception and miscarriage rates

[22] Weights (counts of people) did matter in creating the averages,(eg for the one mean number it was 34 without weights for fertility rare and 29 with the weights).

are independent of policy, and there is evidence that abortion is exogenous as well (Lichter, et. al. (1998), Matthews et. al. (1997)), the number of live births is a good measure of fertility. However, the IPUMS only allows us to link children's records with their birth mothers' if they live in the same residence. To the extent that some children do not live with their mothers, we can expect the CDC fertility statistics to be larger than the IPUMS. Children who reside with relatives, live with foster families, are adopted, or live without their parents for other reasons do not appear in our sample. The number of such children is substantial; a census report found that in 2000, 4% of all children lived apart from their mothers.[23] Clearly, some of the difference in fertility rates reported from the two sources can be attributed to this. Another explanation for the difference in fertility statistics is infant mortality. While the rate of infant mortality in the United States is quite low (6.9 deaths per 1000 births in 2001), any child deaths would make our estimates lower than those from the CDC, as their data includes children who died after birth and ours does not.[24] We argue that the differences between data sources are immaterial and will not affect the results.

V. Results

Figure 6 presents a descriptive account of the average fertility for women aged 18-44 between 1990 and 2000 from various groups in our dataset. As expected, the fertility of non-citizens was higher than that of natives or naturalized citizens for the entire period. Fertility generally declined for all groups between 1990 and 2000. This pattern is largely true for both native and naturalized citizens; natives exhibited a -12.7% change in fertility between 1990 and 2000, and naturalized citizens a -26.4% change. Non-citizens demonstrated an increase in fertility during the first few years of the decade before declining; the total decline in fertility

[23] http://www.census.gov/population/pop-profile/2000/chap06.pdf
[24] National Center for Health Statistics (CDC), Mortality Data http://www.cdc.gov/nchs/about/major/dvs/mortdata.htm

between 1990 and 2000 was 22.1 percent. However, a closer look at the trends in fertility for non-citizens reveals that, while fertility generally declined for non-citizens who arrived to the United States before 1996 (-24.8%), those who arrived after 1996 exhibited a steady increase in fertility (21.9% between 1998 and 2000). This result is surprising, as post-1996 immigrants were the group most affected by welfare reform.

Figure 7 presents another descriptive account of the fertility of immigrants before and after welfare reform, this time by the educational attainment, marital status, and immigration status of the woman. These statistics allow us to examine more specifically which group was driving the change in fertility demonstrated by non-citizens after welfare reform. The figures show that the mean fertility of low-educated unmarried non-citizens who arrived before welfare reform was much higher (40.25 children per 1000 women) than that of those who arrived after reform (14.27 children per 1000 women), indicating that welfare reform may have had a negative effect on the fertility of unmarried post-1996 immigrants. Conversely, the fertility of low-educated married non-citizens was higher for those who arrived after 1996 (130.54 children per 1000) than those who arrived before 1996 (115.98 children per 1000), indicating that welfare reform had a positive effect on the fertility of married post-1996 immigrants. The fertility behavior of higher educated immigrants mirrors these results; fertility was lower for unmarried immigrant women who arrived after welfare reform (5.89 births per 1000) than those who arrived before (15.46 births per 1000) and higher for married immigrants who arrived after reform (103.27 births per 1000) than those who arrived before (91.48 births per 1000). This data seems to indicate that the high fertility of post-1996 immigrants can be attributed to the behavior of married immigrants, and that the fertility of unmarried post-1996 immigrants, the group most

likely to be affected by welfare reform, was lower than that of unmarried pre-1996 immigrants because of PRWORA.

To ensure that these results are not the product of a compositional change in the immigrant population, we conduct simple regressions estimated separately for each group. Figure 8 presents the outcomes from these regressions, which estimates with a number of controls the change in fertility as a result of TANF implementation or AFDC waivers. Because AFDC waivers did not directly affect the immigrant population, we concentrate on the results of TANF implementation. For low-educated and unmarried non-citizens, TANF implementation can be associated with a decrease in fertility for both pre- and post- welfare reform immigrants, with a bigger impact on those immigrants who arrived before 1996 (-7.71 births per 1000) than those who arrived after 1996 (-0.72 births per 1000). This is evidence for the "chilling effect" of welfare reform. For low-educated and married non-citizens, TANF can be linked to an increase in fertility for both pre- and post- reform immigrants, with a bigger impact on the post-reform immigrants (5.60 births per 1000) than the pre-reform immigrants (0.847 births per 1000). For higher educated immigrants, TANF implementation is associated with increases in fertility for unmarried non-citizens, with a larger increase for those who arrived before enactment (4.56) than those who arrived after (0.208). Married non-citizens who arrived before 1996 experienced a decrease in fertility (-1.325) after TANF implementation, and those who arrived after 1996 experienced an increase in fertility (1.64).

While the conclusions derived from comparing means and the simple regressions above are interesting, they do not account for factors that affect fertility other than welfare reform and the control variables identified. Figure 9 presents very preliminary results from the first difference in difference analysis, which compares the changes in fertility of unmarried and low-

educated immigrants to all unmarried immigrants and all low-educated immigrants, otherwise similar groups that differ only with respect to their likeliness of being affected by welfare reform. The results from this analysis support the idea that the fertility of immigrants most likely to be affected by welfare reform (low-educated and unmarried), decreased as a result of welfare reform. All unmarried and low-educated immigrants demonstrated a decrease in fertility after PRWORA, relative to low-educated immigrants of any marital status, with the biggest decrease coming from the post-1996 non-citizens, who experienced nearly 38 less births per 1000 than all low educated immigrants. Non-citizens who arrived before 1996 experienced a decrease in fertility of more than 11 births per 1000, and naturalized citizens experienced a decrease of almost 10 births per 1000, relative to all low-educated immigrants. All low-educated and unmarried immigrants experienced a decrease in fertility relative to all unmarried immigrants of any education level as well, although the coefficient for post-1996 immigrants is no longer significant and the other coefficients are smaller in magnitude, indicating that this control group may be less effective than the previous one.

Figure 10 presents the results from the second difference in difference analysis. *To be completed…*

Figure 11 presents the results using Natality Data – *To be completed…*

Caveats / Specification Checks

Because the Census data contains information on individuals in 2000 only, there is some question as to the applicability of this dataset to our analysis. The dataset we have constructed does not contain time-varying information on variables other than fertility. In our analysis, we have assumed that these variables are time varying in ways that do not confound our variables of interest. However, if this is not the case, our results may be affected, especially if variables such

as marital status, educational attainment, and citizenship status have changed for individual women over the last ten years. Such changes are problematic because they cause a misspecification of observations. For example, a person giving birth as a low-educated, unmarried non-citizen may have become a high-educated, married naturalized citizen by 2000.[25] Her fertility observations would be counted as those from a high-educated and married citizen when they should be logged as ones from a low-educated, unmarried non-citizen. However, these changes should not matter as long as they are random.

The incidence of return migration is another problem that could confound the IPUMS data; if a substantial number of immigrants left the United States after welfare reform, our results would not represent the true impact of PRWORA, as the fertility of those immigrants would not be counted. Women must be present in 2000 to be counted in the data set, so our estimates pertain only to those people who did not leave. It is well documented that return migration is common (Reyes 1997, Borjas and Bratsberg, 1996), particularly among the less-educated and poor, but no studies have shown that return migration has increased as a result of PRWORA. Again, these changes should not matter as long as they are random.

A related concern involves internal migration. The data set constructed from the IPUMS assumes that women have lived in the same state from 1990 to 2000, when they were interviewed for the census. If inter-state migration occurred after welfare reform because of differences in the generosity of welfare policies, our results would be confounded. Several recent studies (Graefe and De Jong (2002 & 2004), Enchautegui (1997)) suggest that inter-state migration as a result of welfare reform was fairly common. In order to address this point, we are going to repeat the analysis with the IPUMS data, comparing kids' state of birth to their mothers' 2002 state of residence to determine which state the fertility observation should go to.

[25] We are not concerned about the effects of divorce, as we classify women as "ever-married" or "never-married."

Figure 1: State Funded Benefits to Immigrants Before and After PRWORA

From Borjas 2002

	Pre-1996				Post- 1996			
State	TANF	Medicaid	Food Assistance	SSI	TANF	Medicaid	Food Assistance	SSI
Alabama	No	Yes	No	No	No	No	No	No
Alaska	Yes	Yes	No	No	No	No	No	No
Arizona	Yes	Yes	No	No	No	No	No	No
Arkansas	Yes	Yes	No	No	No	No	No	No
California	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colorado	Yes	Yes	No	No	No	No	Yes	No
Connecticut	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Delaware	Yes	Yes	No	No	No	Yes	No	No
DC	Yes	Yes	No	No	No	No	No	No
Florida	Yes	Yes	Yes	No	No	No	No	No
Georgia	Yes	Yes	No	No	Yes	No	No	No
Hawaii	Yes	Yes	No	No	Yes	Yes	No	No
Idaho	Yes	Yes	No	No	No	No	No	No
Illinois	Yes	Yes	Yes	Yes	No	Yes	No	No
Indiana	Yes	Yes	No	No	No	No	No	No
Iowa	Yes	Yes	No	No	No	No	No	No
Kansas	Yes	Yes	No	No	No	No	No	No
Kentucky	Yes	Yes	No	No	No	No	No	No
Louisiana	Yes	Yes	No	No	No	No	No	No
Maine	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maryland	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Massachusetts	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Michigan	Yes	Yes	No	No	No	No	No	No
Minnesota	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Mississippi	Yes	Yes	No	No	No	No	No	No
Missouri	Yes	Yes	Yes	No	Yes	No	No	No
Montana	Yes	Yes	No	No	No	No	No	No
Nebraska	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Nevada	Yes	Yes	No	No	No	No	No	No
New Hampshire	Yes	Yes	No	Yes	No	No	No	No
New Jersey	Yes	Yes	Yes	No	No	No	No	No
New Mexico	Yes	Yes	No	No	No	No	No	No
New York	Yes	Yes	Yes	No	No	No	No	No
North Carolina	Yes	Yes	No	No	No	No	No	No
North Dakota	Yes	Yes	No	No	No	No	No	No
Ohio	Yes	Yes	Yes	No	No	No	No	No
Oklahoma	Yes	Yes	No	No	No	No	No	No
Oregon	Yes	Yes	No	Yes	Yes	No	No	Yes
Pennsylvania	Yes	Yes	No	No	Yes	Yes	No	No
Rhode Island	Yes	Yes	Yes	No	Yes	Yes	No	No
South Carolina	Yes	Yes	No	No	No	No	No	No
South Dakota	Yes	Yes	No	No	No	No	No	No
Tennessee	Yes	Yes	No	No	Yes	No	No	No
Texas	Yes	Yes	Yes	No	No	No	No	No
Utah	Yes	Yes	No	No	Yes	No	No	No
Vermont	Yes	Yes	No	No	Yes	No	No	No
Virginia	Yes	Yes	No	No	No	Yes	No	No
Washington	Yes	Yes	Yes	No	Yes	Yes	Yes	No
West Virginia	Yes	Yes	No	No	No	No	No	No
Wisconsin	Yes	Yes	Yes	No	Yes	No	Yes	No
Wyoming	Yes	Yes	No	No	Yes	No	No	No

Figure 2: Trends in Benefit Use by Citizenship, 1994 and 1997 (Fix & Passel)

Program	Citizenship Status	1994	1997	Change	% Change
AFDC/TANF/SSI/General Assistance	Native Citizen*	7.9%	6.6%	-1.2%	-16%
	Non-Citizen*	13.9%	9.0%	-4.9%	-35%
	Naturalized Citizen	6.0%	6.9%	0.9%	15%
Food Stamps	Native Citizen*	8.7%	6.8%	-1.8%	-21%
	Non-Citizen*	15.4%	10.8%	-4.6%	-30%
	Naturalized Citizen	5.5%	5.4%	--	--
Medicaid	Native Citizen*	13.5%	12.5%	-1.0%	-7%
	Non-Citizen*	26.5%	20.8%	-5.7%	-22%
	Naturalized Citizen	11.9%	13.6%	1.7%	14%

* Significant at $p < 0.10$

Figure 3: Borjas Classification of State Generosity
From Borjas 2003

State	Food Stamps or SSI to pre-enactment immigrants	TANF, Medicaid, food assistance, or SSI to post-enactment immigrants during 5 year ban	Borjas Classification of State Generosity (G) G = 1 if 'less generous' G = 0 if 'more generous'
Alabama	No	No	0
Alaska	No	No	0
Arizona	No	No	0
Arkansas	No	No	0
California	Yes	Yes	1
Colorado	No	Yes	1
Connecticut	Yes	Yes	1
Delaware	No	Yes	1
DC	No	No	0
Florida	Yes	No	1
Georgia	No	Yes	1
Hawaii	No	Yes	1
Idaho	No	No	0
Illinois	Yes	Yes	1
Indiana	No	No	0
Iowa	No	No	0
Kansas	No	No	0
Kentucky	No	No	0
Louisiana	No	No	0
Maine	Yes	Yes	1
Maryland	Yes	Yes	1
Massachusetts	Yes	Yes	1
Michigan	No	No	0
Minnesota	Yes	Yes	1
Mississippi	No	No	0
Missouri	Yes	Yes	1
Montana	No	No	0
Nebraska	Yes	Yes	1
Nevada	No	No	0
New Hampshire	Yes	No	1
New Jersey	Yes	No	1
New Mexico	No	No	0
New York	Yes	No	1
North Carolina	No	No	0
North Dakota	No	No	0
Ohio	Yes	No	1
Oklahoma	No	No	0
Oregon	Yes	Yes	1
Pennsylvania	No	Yes	1
Rhode Island	Yes	Yes	1
South Carolina	No	No	0
South Dakota	No	No	0
Tennessee	No	Yes	1
Texas	Yes	No	1
Utah	No	Yes	1
Vermont	No	Yes	1
Virginia	No	Yes	1
Washington	Yes	Yes	1
West Virginia	No	No	0
Wisconsin	Yes	Yes	1
Wyoming	No	Yes	1

Table 4: Basic Summary Statistics

Variable	Mean	St Dev	Min	Max
Count of observations in a cell*	13.7	90.55	1	3729
Fertility rate (/1000 women)	62.5	86.32	0	4000
Age (in years)	31.6	7.5847	18	44
Never married (fraction)	.22	.4093		
Unemployment rate	5.781	1.507		
Maximum welfare benefit	$460.88	181.52		
Medicaid elig index (women)	.376	.0795		
Medicaid elig index(14yrolds)	.1678	.1358		
State per cap real inc	26581.85	3529.31		
Education: Less than HS	13.5%			
HS completion	27.7%			
Some or all college	51.4%			
More than college	7.35%			
Race: White	75.2%			
Black	12.11%			
Other	11.97%			
Year of immigration: N/A	87.18%			
Of those who are immigrants:				
In 1960 of before:	3.14%			
1961<=year<=1970	9.66%			
1971<=year<=1980	25.22%			
1981<=year<=1990	40.20%			
1991<=year<=1995	16.57%			
1996<=year<=1997	3.37%			
Year of obs (10% each year)				
Citizenship status: native born or board abroad to US parents	88.5%			
Naturalized citizens	5.12%			
non citizen who arrived after 1996	0.38%			
non citizen who arrived before 1996	5.76%			
non citizen who arrived in 1996	0.21%			

* sample is weighted by number of observations per cell

* denotes not weighted results.

Figure 5: Trends in Fertility, 1990-2000 (ages 15-44)

Year	Fertility per 1000 Women

	IPUMS Statistics	CDC Statistics
1990	63.62321	70.9
1991	63.66672	69.3
1992	61.971	68.4
1993	61.00577	67
1994	59.33758	65.9
1995	58.64359	64.6
1996	58.11666	64.1
1997	56.35435	63.6
1998	56.95022	64.3
1999	58.58653	64.4
2000	59.18457	65.9

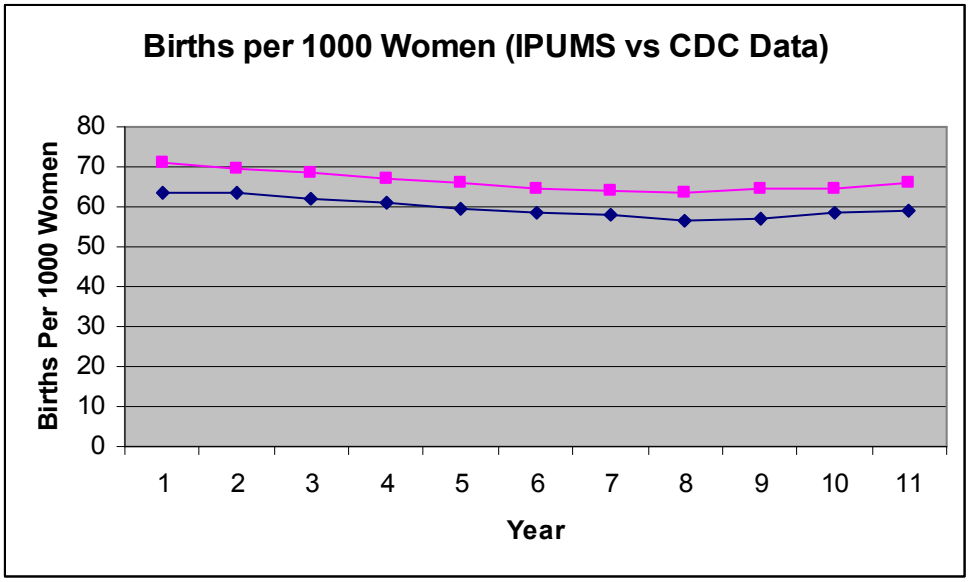

Figure 6: Trends in Fertility, by citizenship and immigration status and year

	All Women	Native Citizens	Naturalized Citizens	Non-Citizens	Non-Citizens, pre-1996	Non-Citizens, post-1996
1990	67.34145	65.1303	78.35258	105.5441	105.5441	
1991	67.45437	64.94156	78.11275	107.9105	107.9105	
1992	65.66408	62.90855	74.95852	108.7931	108.7931	
1993	64.49344	61.96177	71.58424	102.1411	102.1411	
1994	62.94087	60.49719	68.72469	97.25328	97.25328	
1995	62.53619	60.10423	67.35887	94.58247	94.58247	
1996	62.19657	59.8764	65.17602	91.22362	91.22362	
1997	60.7752	58.40703	63.30846	88.48617	89.38136	
1998	59.88843	57.81968	58.69508	84.49407	83.73488	70.99364
1999	60.0311	58.11499	57.81861	81.67709	80.49577	81.80955
2000	59.18457	56.87908	57.6937	82.21358	79.34083	86.51203
% change, 1990-2000	-0.12113	-0.12669	-0.26367	-0.22105	-0.24827	0.218588

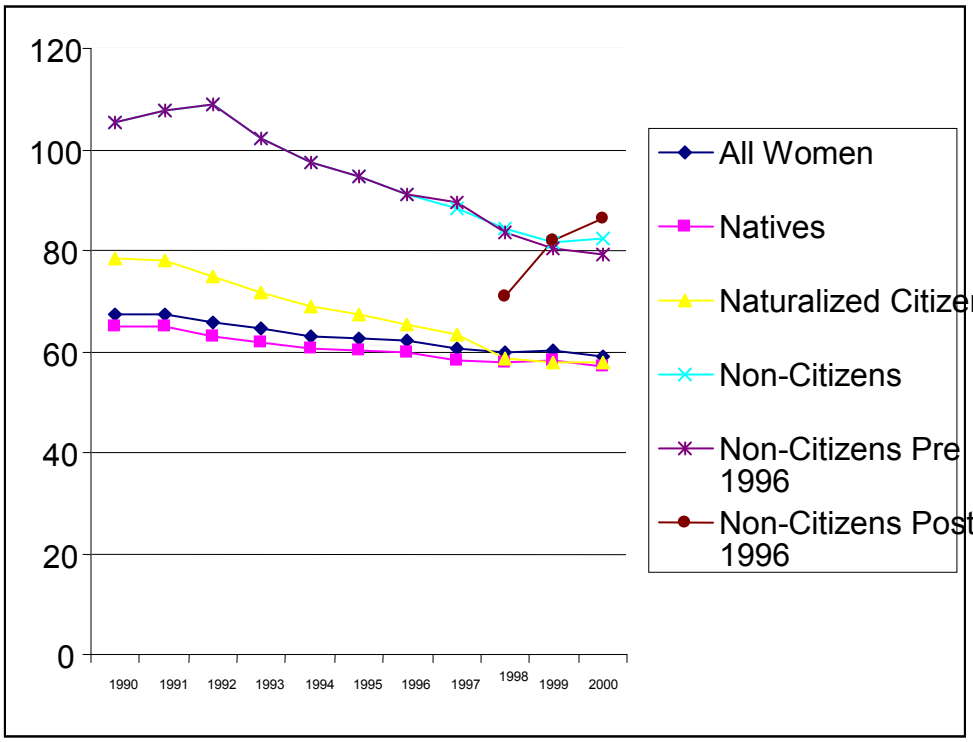

Table 7: Fertility Rates by Educational Attainment, Marital Status, and Immigration Category

Category	N	Mean	Category	N	Mean
Low educated Unmarried Native Born	110,141	46.58	High Educated Unmarried Native Born	78,301	18.416
Low educated Unmarried Foreign Born	175,578	35.93	High Educated Unmarried Foreign Born	144,872	13.127
Low educated Unmarried Foreign Born Citizen	63,225	31.66	High Educated Unmarried Foreign Born Citizen	76,883	12.27
Low educated Unmarried Non-citizen	108,643	38.068	High Educated Unmarried Non-citizen	65,382	14.44
Low educated Unmarried Non-citizen Post96	7,305	14.27	High Educated Unmarried Non-citizen Post96	4,914	5.89
Low educated Unmarried Non-citizen Pre96	101,338	40.25	High Educated Unmarried Non-citizen Pre96	60,468	15.46
Low educated Married Native Born	180,532	65.117	High Educated Married Native Born	146,114	73.26
Low educated Married Foreign Born	609,090	103.05	High Educated Married Foreign Born	416,090	82.87
Low educated Married Foreign Born Citizen	281,878	79.45	High Educated Married Foreign Born Citizen	237,389	76.20
Low educated Married Non-citizen	318,953	116.57	High Educated Married Non-citizen	173,694	92.2
Low educated Married Non-citizen Post96	13,607	130.54	High Educated Married Non-citizen Post96	8,148	103.27
Low educated Married Non-citizen Pre96	305,346	115.98	High Educated Married Non-citizen Pre96	165,546	91.48

Table 8: **Regression results by Education/Marital status/Immigration categories (T stats in parentheses)**

Category	AFDC	TANF	Category	AFDC	TANF
Low educated Unmarried Native Born	1.39 (2)	.558 (0.5)	High Educated Unmarried Native Born	-.116 (-0.3)	.294 (.5)
Low educated Unmarried Foreign Born	-.322 (-.2)	-5.37 (-2)	High Educated Unmarried Foreign Born	-.043 (.04)	2.269 (1.4)
Low educated Unmarried Foreign Born Citizen	.166 (.06)	-.26 (-.06)	High Educated Unmarried Foreign Born Citizen	-.884 (-.7)	.292 (0.13)
Low educated Unmarried Non-citizen	-1.08 (-.6)	-7.51 (-2.4)	High Educated Unmarried Non-citizen	1.089 (.7)	3.89 (1.6)
Low educated Unmarried Non-citizen Post96	1.37 (.16)	-.72 (.09)	High Educated Unmarried Non-citizen Post96	.823 (.13)	.208 (.03)
Low educated Unmarried Non-citizen Pre96	-.85 (-.4)	-7.71 (-2.3)	High Educated Unmarried Non-citizen Pre96	1.241 (.7)	4.56 (1.7)
Low educated Married Native Born	.269 (.6)	1.653 (2.2)	High Educated Married Native Born	-.2858 (-0.65)	.539 (0.71)
Low educated Married Foreign Born	2.41 (2.23)	-.287 (-.16)	High Educated Married Foreign Born	.523 (0.43)	.101 (0.05)
Low educated Married Foreign Born Citizen	-1.09 (-.7)	-2.43 (-.8)	High Educated Married Foreign Born Citizen	1.17 (0.76)	-.305 (-0.11)
Low educated Married Non-citizen	3.93 (2.8)	.728 (.3)	High Educated Married Non-citizen	-1.256 (.6)	-.226 (.07)
Low educated Married Non-citizen Post96	8.18 (.56)	5.60 (.4)	High Educated Married Non-citizen Post96	-20.29 (-1.26)	1.64 (1)
Low educated Married Non-citizen Pre96	3.11 (2)	.847 (.34)	High Educated Married Non-citizen Pre96	-.937 (-0.47)	-1.325 (-0.38)

Table 9: Difference in Differences Estimates of the Effect of TANF and AFDC Waivers on the Fertility of Unmarried Women
VERY PRELIMINARY

Target Group:	Natives	Foreign Born	Naturalized Citizens	Non-Citizens	Non-Citizen, Pre 1996	Non - Citizen, Post 1996
Low Educated, Unmarried CONTROL: LOW EDUCATED MARRIED						
AFDC Waivers:	**-6.12** ** **(.836)**	**-6.92** ** **(.816)**	**-2.50** ** **(1.16)**	**-5.45** ** **(1.18)**	**-4.26** ** **(1.15)**	**-9.90** **(10.00)**
TANF:	**-25.10** ** **(1.00)**	**-20.6** ** **(2.25)**	**-9.99** ** **(1.83)**	**-19.03** ** **(3.24)**	**-11.23** ** **(2.76)**	**-37.73** ** **(9.25)**
Low Educated, Unmarried *Control: High Educated, Unmarried*						
AFDC Waivers:	**0.84** **(.839)**	**-6.83** ** **(2.58)**	**-6.17** ** **(2.65)**	**-7.46** ** **(2.65)**	**7.44** ** **(2.70)**	**-1.03** **(6.29)**
TANF:	**-2.81 ** ** **(.729)**	**-11.30** ** **(2.72)**	**-6.69** ** **(2.94)**	**-13.26** ** **(2.49)**	**-11.23** ** **(2.74)**	**-4.70** **(5.60)**

Table 10: Results from Borjas Analysis

Target Group	Naturalized	Non-Citizen	Pre-1996	Post-1996
All individuals				
Unmarried, less than 12 years of education				

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