# The Long-term Effects of Family Planning Programs on U.S. Poverty

Martha J. Bailey, Zoë M. McLaren, and Olga Malkova

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Abstract:

The intergenerational link of childbearing and poverty provided an important rationale for funding the first U.S. family planning programs. This paper evaluates this rationale using the county-level roll-out of U.S. family planning programs from 1964 to 1973. Preliminary evidence using public use census data shows that U.S. family planning programs reduced the share of children in households below 150 percent of the poverty line by roughly 5 percent. However, we find no evidence that family planning programs affected the share of children in single-parent homes or in families receiving welfare. In ongoing work, we are using the 1970, 1980 and 1990 15-percent restricted Census data to refine these inferences and investigate the mechanisms for this relationship.

Contact Information:
Bailey: Department of Economics, University of Michigan, 611 Tappan Street, Ann Arbor, Michigan 48109; baileymj@umich.edu; Website: www-personal.umich.edu/~baileymj. McLaren: Department of Health Management and Policy, School of Public Health, University of Michigan, 1415 Washington Heights, M3166, Ann Arbor, Michigan 48109-2029; zmclaren@umich.edu. Malkova: Department of Economics, University of Michigan, 611 Tappan Street, Ann Arbor, Michigan 48109; omalkova@umich.edu.

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*We have a growing concern to foster the integrity of the family and the opportunity for each child. It is essential that all families have access to information and services that will allow freedom to choose the number and spacing of their children within the dictates of individual conscience.*
~President Lyndon Johnson, March 1, 1966

*Unwanted or untimely childbearing is one of several forces which are driving many families into poverty or keeping them in that condition.*
~President Richard Nixon, July 18, 1969.

Recent Congressional budget deliberations have included proposals to cut *all* funding for Title X of the Public Health Service Act—legislation which has funded U.S. domestic family planning programs since 1970. Although proponents of these cuts often justify them in terms of cost savings, this argument may be shortsighted. If cuts to family planning programs increase births among poor women, this could result in greater federal expenditures through Medicaid, Temporary Assistance for Needy Families (TANF), or social safety net programs in the short or medium term. There could be long term effects as well. If earlier childbearing limits women's educational and career investments, then children born to these women may grow up with fewer opportunities to escape from poverty themselves.

The intergenerational link of childbearing and poverty was, indeed, the rationale behind the very first federal subsidies for family planning programs. The architects of the War on Poverty, which began supporting family planning programs under the 1964 Economic Opportunity Act, believed that funding family planning would promote greater economic opportunities for disadvantaged women, who "do not want more children than do families with higher incomes" but "do not have the information or the resources to plan their families effectively according to their own desires" (National Academy of Sciences 1963). Concern for the economic circumstances of poor families and the promotion of opportunities for children was also central to the Nixon Administration's support of Title X. Both President Johnson and Nixon stressed the role of family planning programs in helping children escape from poverty and, therefore, achieving broader and longer-term economic prosperity.

Fifty years on, little research evaluates the broader, anti-poverty effects of these programs. In fact, firm conclusions about their fertility effects eluded researchers until recently. The earliest evaluation literature provided mixed evidence of the program's effects on fertility (Mellor 1998) and suffered from what are now well-known endogeneity problems (Rosenzweig and Wolpin 1986, Hotz et al. 1997). The difficulty of interpreting this evidence led to infamous debates among prominent academics (e.g., Blake 1969, Harkavy et al. 1969, Pritchett 1994, Bongaarts 1994, Knowles et al. 1994). Recent randomized interventions to reduce teen pregnancies overcome these endogeneity problems, but generally find that family planning programs had no effect on teen pregnancy (DiCenso et al. 2002). Although the short time horizons (typically one to two years between baseline and follow-up) and small samples (even in meta-analyses) limit definitive inferences, these results hardly provide a resounding endorsement for public investments in family planning.

Recent quasi-experimental studies, which address both endogeneity and power problems in the observational and experimental literatures, have begun to resolve this debate. Kearney and Levine's (2009) state-level differences-in-differences analysis provides strong evidence that family planning programs reduce births for women near the poverty line for at least two years. Bailey (2012) uses the "wild" county-level grant-making operation during the War on Poverty and the early years of Title X to demonstrate the longer-term fertility effects family planning. This study not only validates Kearney and Levine's shorter-term estimates using different data, historical period, and identifying assumptions, but also shows that the establishment of federally-funded family planning programs reduced fertility rates by almost 2 percent for at least 15 years.

Building on Bailey's (2012) empirical approach, this project aims to examine how family planning affected the persistence of poverty and the long-term material well-being of children. Using the 1970 and 1980 censuses, we exploit the county-level roll-out of federal family planning grants from 1964 to 1973. Our preliminary empirical findings provide robust evidence that family planning awards reduced the fraction of white and nonwhite children in households below 150 percent of the

1980 poverty line by 4 percent and 5 percent, respectively, within five years. This conclusion relies both upon event-study and differences-in-differences summary estimates and is robust to the inclusion of state-by-year of birth fixed effects, linear county-group time trends, and county-group controls for the number of abortion providers and other federal transfers. In contrast, we find no evidence that family planning grants reduced the fraction of children residing in single-parent families or receiving welfare. While suggestive, these results are limited by the availability of geographic information (county group) in the Integrated Public Use Microdata (IPUMS, which creates measurement error in our key independent variable) and sample sizes (because the county group is often suppressed for confidentiality reasons in public samples). More specifically, our preliminary analysis in the public use files rely on data from 662 consistently identified county groups and 252 consistently identified counties that received a federal family planning program between 1965 and 1973. In the restricted census samples, we are working with 3078 consistently identified counties and 666 treated counties. In addition, counties in the restricted samples are typically smaller than county groups, which confers the analysis with more power to detect effects on women who benefited from family planning.

To overcome these limitations, we have obtained access to the restricted, 15-percent samples of the 1970 and 1980 censuses at the University of Michigan Research Data Center and are currently working with these data to refine our inferences. We have already begun the disclosure process, and we expect our results based on these much larger samples and better geographic information to be available soon. In addition to the outcomes presented in this preliminary write up, we expect future work to explore the mechanisms for these effects including parents' investments in education, labor-force participation and employment, and wage earnings.

Section I begins by describing the history of the federal U.S. family planning program and the mechanisms through which this program may have affected child living circumstances. Section II summarizes our event-study framework to estimate the effects of federal family planning programs

on fertility and presents our analysis to support its assumptions. Section III presents our preliminary results from the IPUMS data.

## I. THE INITIATION AND POTENTIAL IMPACT OF U.S. FAMILY PLANNING PROGRAMS UNDER THE *WAR ON POVERTY*

Today, the most effective contraceptive methods are scientifically tested, U.S. Food and Drug Administration (FDA) approved, and medically prescribed. A variety of nonprofit and public organizations make family planning information, services and supplies available to women without means. But historically, contraception was deemed obscene and banned under federal and most state statutes (Tone 2001, Bailey 2010). After *Enovid*, the first birth control pill, was approved by the U.S. Food and Drug Administration in 1960, a series of legal changes at the national and state level removed restrictions on the shipping, manufacturing, and sales of contraceptives to married and, later, unmarried women (Bailey et al. 2011).

Legal access, however, did not guarantee access in practice. Although the Pill was popular, it was prohibitively expensive. Shortly after its release, *Enovid* sold for roughly $750 per year (in 2008 dollars, Tone 2001: 257)—roughly three times the cost of birth control pills today ignoring the cost of doctor visits. This put the annual prescription cost at more than three weeks of full-time work at the 1960 minimum wage. Wide-spread concern about the "population bomb" and the expense of the Pill prompted studies of unwanted childbearing by income. Studies showing that lower income women were having more children than they desired (National Academy of Sciences 1963) were used by proponents of family planning programs to argue that federal subsidies would increase information about and reduce the cost of reliable contraceptives (Becker 1960 picks up on this argument).

*A. The National Expansion of Federally-Funded Family Planning Programs, 1964 to 1973*

Federal grants for family planning began under the Economic Opportunity Act (EOA, 1964), the cornerstone legislation of President Johnson's War on Poverty.[1] Although explicit language about family planning was not included in the EOA, the program fit within its funding authority. Sargent Shriver, the head of the Office of Economic Opportunity (OEO), began funding family planning programs through the Community Action Program as early as 1964 (Levitan 1969).

In the early days of the OEO, funding for family planning increased gradually. Between 1965 and 1967, federal outlays for family planning through the OEO increased from 1.6 to 30.3 million in 2008 dollars. Two important policy changes, however, increased funding more rapidly. The first change came with the 1967 "Green Amendment" to the EOA (Public Law 90-222, Title II, Section 222a), which designated family planning as a "national emphasis" program. From fiscal year 1967 to 1970, federal allocations to family planning increased by over 13 times their 1967 level to roughly 41 million 2008 dollars. The second change in outlays occurred under the administration of President Richard Nixon. His 1969 State of the Union Address advocated that Congress "establish as a national goal the provision of adequate family planning services within the next five years to all those who want them but cannot afford them." In November 1970, his effort culminated in the passage of Title X of the Public Health Services Act (also known as the Family Planning Services and Population Research Act, P.L. 91-572), which allocated funds for family planning grants through the newly-created Department of Health Education and Welfare (DHEW). Importantly, Title X allowed the Department of Health Education and Welfare (DHEW) to make grants to local organizations directly and prohibited the use of federal funds "in programs where abortion is a method of family planning"

[1] According to 1967 estimates, expenditures for family planning through the Maternal and Child Health programs (started in 1942) and the Maternal and Infant Care programs under the 1963 Social Security Amendment were small (DHEW 1974: 3).

(§ 1008). After the enactment of Title X, federal outlays for family planning increased by another 50 percent by 1973.[2]

From 1969 to 1983, the use of federal family planning increased by over four times (from 1.2 million to almost 5 million patients), in large part due to strong federal support and rising support from state and local governments. By 1973, federally supported family planning programs existed in 656 U.S. communities and served 1.9 million patients annually. By 1983, this number had grown to almost 5 million annually (Dryfoos 1988), roughly 83 percent of family planning patients were below 150 percent of the poverty line (13 percent were AFDC recipients), and 70 percent of patients were white and roughly one quarter were black (284). Although the bulk of family planning funds was federal in the first decade of the program (Cutright and Jaffe 1977: 3), the Alan Guttmacher Institute (2000) estimated that, by 1980, 50 percent of public support for family planning came from sources other than Title X. By 1994, 80 percent of public support came from sources other than Title X (13).

*B. Expected Effects of Family Planning Programs on the Poverty of Families and Children*

The primary stated objectives of federally-funded family planning programs were to (1) provide low-income individuals with greater choice over the number and spacing of their children; (2) improve maternal and infant health, and (3) reduce poverty (OEO 1969: 3). This analysis focuses on (3). Specifically, we examine how family planning grants affected material child living circumstances in 1980 as measured by the incidence of poverty among children, the likelihood that

[2] The political and popular support for funding family planning waned with two events in 1973. First, *Roe v. Wade* put family planning providers at the center of a national debate about restrictions on federal funds for this purpose. Second, the involuntary sterilization of two girls, Minnie Lee and Mary Alice Relf (ages 12 and 14), called to national attention the abuses of local "family planning" programs. As the OEO was phased out under the Nixon and Ford administrations, the total federal appropriations fell to an average of roughly 400 million per year (in 2008 dollars) from 1974 to 1981. In fiscal year 1981, appropriations fell again to an average of 300 million per year (in 2008 dollars) and have remained close to this level for the last 25 years. State and local dollars were increasing over this period.

children reside in single-parent households, and the likelihood that children lived in households receiving any welfare payments.[3]

Several theoretical reasons support a positive impact. First, by providing cheaper and more reliable contraception, family planning services should increase the number of births parents *choose* to avert and reduce ill-timed and unwanted childbearing by decreasing contraceptive failures. Fewer children in households implies greater financial and time resources for each child that is born (we call this the "family size channel").

Second, family planning may affect the lifecycle earnings of parents by lowering the costs of deferring or reducing childbearing and, therefore, investing in market work. Bailey, Hershbein and Miller (forthcoming) show that improved fertility control with the Pill increased women's career investments and, ultimately, their wages. Consistent with family planning also altering men's income, Hock (2007) shows that early access to the Pill increased men's educational attainment as well. Thus, family planning induced career investments could improve the material living circumstances of children. Reinforcing this mechanism, a reduction in the number of children *ceteris paribus* should decrease the shadow price of child "quality" and, thus, further increase parental investments in children (Becker and Lewis 1973, Willis 1973).

Third, the effects of family planning on family size and parental income should disproportionately affect poor households and their children, because more affluent households would have already been using family planning services before federal subsidies began (we call this the "selection channel"). Because the beneficiaries of federal family planning programs were disproportionately poor, the effects of family planning programs through both the family size and parent income channels would be disproportionately felt by the poor and mechanically reduce child poverty in the immediate term. This is closely related to what Gruber, Levine and Staiger (1999) call

[3] Welfare income in the Census includes Supplemental Security Income (SSI) to the blind, disabled or those 65 and older, Aid to Families with Dependent Children (AFDC), and General Assistance (GA).

the "marginal child." If, for instance, more disadvantaged women are more likely to use publically-funded family planning programs to avoid or delay childbearing (because they can afford fewer "quality units" of children), the outcomes of the children born will tend to improve *even in the absence* of direct and indirect causal effects on parents' outcomes or their investments in their children. Our analysis will investigate both the magnitude of these effects and whether they persist and potentially affect the longer-term outcomes of children from poor families.

## II. An Event-Study Analysis of the Effects of Family Planning on Child Living Circumstances

Forty-five years after U.S. family planning programs began, social scientists and policy makers know very little about how these programs affected the well-being of American families and the living circumstances of children. Evaluating these effects has been elusive in large part, because of the challenges associated with causal inference with observational data. Although some studies establish that the existence or use of family planning programs are related to lower poverty rates, these correlations are equally consistent with alternative mechanisms. Our analysis addresses this issue by exploiting the *timing* of first federal family planning grants within an event-study specification. This section describes the data on federal family planning grants and children's outcomes and then lays out the econometric framework for the analysis.

### *A. Census Data on Child Living Circumstances in 1980*

The 1980 Integrated Public Use Microdata Series (IPUMS) of the U.S. Census provide data on children's material living circumstances for the analysis and have several main advantages. First, 5-percent samples of the U.S. population provide very large samples, which allow us to measure with great precision by birth year and race the fraction of children in homes that were below 150 percent of the 1980 poverty line, residing in a single-parent household, or in a household that receives any

welfare income.[4] A second advantage is that information on county group in the 1980 Census (the lowest level of geographic identification in the public Census files) provides a convenient unit of analysis to link the location of first family planning grants to individuals in the Census.[5] County groups in the continental U.S. are typically contiguous agglomerations of counties. In some cases, counties are split between different county groups, which limits our ability to link covariates to county groups and match them to family planning grant information. For this preliminary analysis, we restrict our sample to the 662 coterminous county groups (252 of which receive family planning grants from 1964 to 1973) that do not contain split counties of the 1154 county groups available in the 1980 Census and contain at least 300 implied births (to limit collinearity problems in our regressions) in all years from 1959 to 1979. These restrictions limit our sample of county groups for Nonwhites to 371 county groups (157 of which received family planning grants from 1964 to 1973).[6] In ongoing work, we are using the 1970, 1980, and 1990 15-percent, restricted Census samples to link all households to family planning grants, refine our identification strategy by distance of a household from a family planning clinic, and improve the precision of our estimates.

*B. Quantitative Evidence on the Roll-Out of Family Planning Programs*

We make use of information on first family planning grants to 656 U.S. communities through the OEO and DHEW from 1965 to 1973. Information on family planning grants funded under the OEO is drawn from the National Archives Community Action Program (NACAP) files, and information on family planning grants funded under Title X is culled from the National Archives Federal Outlay (NAFO) files. These files provide two, crucial pieces of information: (1) information about where services were delivered under the grant (county and state) allows each grant to be

[4] Our analysis has also experimented with other poverty thresholds and these results are available upon request.
[5] We link *county-level* first family planning grants to Census *county groups* using a cross-walk generously provided by Elizabeth Cascio.
[6] We also exclude Virginia from the analysis, because so many of its counties changed boundaries over the 1970s making it difficult to merge county groups with appropriate covariates.

matched to the county group in the 1980 U.S. Census;[7] (2) the date of the *first* federal family planning grant allows it to be related to the year each child was born (inferred from the April 1 reference date in the 1980 Census and birth quarter). Both pieces of information allow the analysis to relate the precise *timing* of changes in funding for family planning communities nationwide to changes in the material living circumstances of children in the 1980 Census.

Key to this paper's identification strategy is that *when* family planning programs were established is as good as random after conditioning on other model covariates. Bailey (forthcoming) supports this assumption with descriptive evidence from a variety of sources. She shows that neither 1960 census characteristics, 1964 fertility levels, 1960 to 1964 fertility changes, nor a rich set of measures of sexual behavior, birth control use, and childbearing in the 1965 *National Fertility Study* predict when federal family planning programs began during the 1964 to 1973 period. Finally, she shows that the incidence of federal funding for other War on Poverty programs did not correspond to family planning program funding. However, the date a federal family planning program began systematically predicts *when* county-level fertility rates began their more rapid decline.

*C. Empirical Strategy*

This analysis examines the effects of family planning programs on children's outcomes by exploiting the *timing* of first federal family planning grants within the following event-study specification (Jacobson, LaLonde and Sullivan 1993; Bailey forthcoming). Rather than comparing locations that received family planning grants to those that did not, this analysis links the Census county-group-by-birth year panel of child living circumstances to variation in the timing of *when* county groups received their *first* federal grants for family planning $T_j$*. Our main estimating equation is,

[7] County group is the unit of analysis, because it is the lowest level of aggregation available for the public Census data. Neither county groups nor local governments received grants.

$$(1) \qquad Y_{j,t} = \theta_j t + \gamma_{s(j),t} + \sum_{y=-7}^{-2} \pi_y D_j 1(t - T_j^* = y) + \sum_{y=0}^{7} \tau_y D_j 1(t - T_j^* = y) + \boldsymbol{X}'_{jt}\boldsymbol{\beta} + \varepsilon_{j,t} ,$$

where $Y$ is a measure of living circumstances in county group $j$, in state $s$, for a child born in year $t$; $\theta$ is a set of country-group fixed effects which capture time-invariant county-group differences and, in model 4, the linear evolution of county-group differences with the interaction of these effects with linear time trends, $\theta_j t$; $\gamma$ is a set of time-varying, state-by-birth year fixed effects (included in model 2 through model 4) that capture changes in state policy including abortion legalization, changes in Medicaid policy, and changes in family planning funds in Title V of the 1967 Amendment to the Social Security Act.[8] In model 1 which omits state-birth-year fixed effects, $\boldsymbol{X}$ includes the controls of Gruber, Levine and Staiger (1999): the average per capita income (from the Bureau of Economic Analysis) and the insured unemployment rate (from the ET Financial Handbook) and the percent of the population that is non-white (from Surveillance Epidemiology and End Results, SEER). In all models (model 1 through 4), $\boldsymbol{X}$ includes county-group covariates for the number of abortion providers, which accounts for *within-state changes in the provision of abortion* from 1970 to 1979 (zero before 1970, providers in 1970-1972 inferred for California, New York, and Washington from 1973 use data) and annual information on per capita measures of government transfers using data from the Bureau of Economic Analysis Regional Information System (REIS) (cash public assistance benefits such as Aid to Families with Dependent Children, Supplemental Security Income, and General Assistance; medical spending such as Medicare and military health care; and cash retirement and disability payments).[9] $1(\,)$ is an indicator function that takes a value of 1 when the time period of the observation is –7 or less, –6, …, 0, 1, …,7 or more years from the date of the first family

[8] In 1967, Title V of the Social Security Act mandated that at least 6 percent of funds for child and maternal health at the state level be earmarked for family planning services (Public Law 90-248, Title V, Secs. 502, 505a, 508a; Title IV, Sec. 201a).

[9] We are grateful to Doug Almond, Hillary Hoynes, and Diane Schanzenbach for sharing the Regional Economic Information System (REIS) data for the 1959 to 1978 period and to the Guttmacher Institute and Ted Joyce for sharing information on abortion providers from 1973 to 1979.

planning grant in the county group, $T_j^*$, and y= –1 is omitted. In specifications that pool funded and unfunded counties, $D_j$ is a dummy equal to one if the county group ever received family planning funding between 1964 and 1973.

Of interest are the values of $\pi_y$, which represent average annual differences in outcomes for eventually funded county groups *before* they received their first grant, and $\tau_y$, which represent the average annual differences in outcomes of funded counties after the first grant was received. Key to isolating the shock to the supply of family planning services is the inclusion of county-group fixed effects, which allows consistent estimation of $\pi$ and $\tau$ even in the presence of pre-existing *unobserved* differences between funded and unfunded locations. All specifications are weighted by the number of children in each county group/birth year cell to capture the impact of family planning on the living circumstances of the marginal child.

The analysis also considers heterogeneity in the effects of family planning grants. First, we estimate equation (1) separately for whites and nonwhites to consider differences in the effects by race. Because not all county groups have sufficient populations of nonwhites in all birth years, the sample sizes for a balanced set of county groups are considerably smaller for this group (see earlier discussion on sample restrictions). Second, we estimate a specification that includes interactions with state dummies for legalization of abortion before 1973 with our event-year dummies, $1(t - T_j^* = y)$. The idea is to allow for heterogeneity in the impact of family planning grants in places with legal access to abortion, where contraception and abortion may have worked as substitutes or complements.

The event-study framework in equation 1 confers important advantages over a more standard difference-in-differences (DiD) specification. One is that the non-parametric specification of $\tau$ relaxes the standard DiD assumption the treatment with a family planning grant is associated with a one-time, level shift in outcomes. A federal family planning grant cannot be spent instantaneously

and may be used to build new facilities and hire employees. As a result, the effects in newly funded programs may be smaller than the effects several years later. Moreover, if family planning programs allow women to delay childbearing for several years, then federal grants could initially depress birth rates but raise them later—that is, there might be *no effects on average* over a five-year period, although there are meaningful inter-temporal changes. The flexible, event-study specification allows the effects to grow over time and also allows the detection of inter-temporal substitution.

A second advantage is that estimates of $\pi$ allow a visual and statistical evaluation of the *evolution* of pre-treatment unobservables in funded communities (rather than assuming that $\pi_y = 0$ for $y<0$). Specifically, plots of $\pi$ show whether a different, potentially non-linear, preexisting trend may confound the estimates of $\tau$. Furthermore, they show whether the effects preceded the treatment even by a few years–an important falsification test. The event study, therefore, allows a direct evaluation of an important threat to identification in DiD and requires a tighter correspondence in the timing between the federal grant and changes in outcomes.

The main disadvantage, however, is that the tremendous number of covariates and our small number of county groups tend to make the event-study estimates imprecise (our on-going work uses restricted Census data and a much larger set of geographic units to increase precision and reduce measurement error). We use the following DiD specification to summarize our results and jointly test the statistical significance of the effects in the post period,

$$(2) \qquad Y_{jt} = \theta_j t + \gamma_{s(j),t} + \sum_g \tilde{\tau}_g D_j 1\left(t - T_j^* \in g\right) + \boldsymbol{X}'_{jt}\boldsymbol{\beta} + \varepsilon_{jt} \, .$$

The equation is identical to that in (1) (all notation remains as defined) save the measure of exposure to family planning: $g$ indexes two five-year periods (0 to 4, 5 or more years past the date of the first grant). Although all of the dummies in equations 1 and 2 are included in all specifications, figures and tables present only estimates that are based upon a *balanced* sample of counties.

## III. RESULTS: DID FAMILY PLANNING GRANTS IMPROVE CHILD LIVING CIRCUMSTANCES?

Figure 2 presents event-study estimates of the effect of a first family planning grant on the fraction of children living in households below 150 percent of the 1980 poverty line for whites (panel A) and nonwhites (panel B) for "funded" county groups only (by "funded" we mean that only county groups receiving funding between 1964 and 1973 are included). Table 1 summarizes these estimates using comparable specifications of equation 2 for a pooled sample of funded and unfunded county groups as well as for treated county groups only. Four specifications are presented: model 1 includes county group and year effects (assumes $\gamma_{s(j),t} = \gamma_t$) and covariates; model 2 adds state-by-year fixed effects to model 1; model 3 adds an interaction of a dummy variable for states that legalized abortion early with treatment measures to model 2; model 4 adds linear county group time trends to model 2. Heteroskedasticity-robust standard errors clustered by county group are used to construct 95-percent, point-wise confidence intervals presented for models 2 through 4.

For white children, panel A of figure 2 provides preliminary evidence that federal family planning grants reduced the incidence of child poverty. Although a slight pre-trend is evident in model 1, the addition of state-by-year fixed effects in models 2 through 4 capture it completely. After accounting for model covariates, the residual rate of child poverty is small and statistically indistinguishable in the five years leading up to the first federal family planning grant. There is a noticeable trend-break in fraction of white children living in households below 150 percent of poverty beginning in year of the first family planning grant. Individual point estimates for the year of the award and the year after the award are 0.7 and 1.5 percentage points lower than in the period before the grant. Moreover, the effects are persistent. The incidence of child poverty remains approximately 1.5 percentage points lower two to five years after the family planning grant. Panel A of table 1 shows that the post-period effects are comparable when unfunded county groups to construct the counterfactual (i.e. estimate the models' fixed effects) or using funded counties only, although the former estimates are less precise. Overall, federal family planning grants reduce the

incidence of poverty among white children by roughly 4 percent (1 percentage point over a base of 26). The one exception to this robust pattern is model 4 for funded counties only. The substantial increase in sample size conferred by restricted Census data will also allow us to generate estimates for this specification with greater precision.

For nonwhite children, panel B of figure 2 provides more striking evidence that family planning grants reduced the incidence of child poverty. Not only is there no evidence of a pre-trend in models 1 through 4, but a sharp trend break is evident in the year of the first family planning grant in every specification. Specifically, the fraction of children living in households below 150 percent of the 1980 poverty line falls by roughly 2 percentage points, or 3.5 percent, in the first year of the grant. Consistent with first grants initiating or expanding family planning programs, the effects grow slightly over time and the point estimates in year three and five are individually, statistically significant at the 5-percent level. Panel B of table 1 shows that the post-period effects are generally comparable when unfunded county groups are used to construct the counterfactual (i.e. estimate the models' fixed effects) or when using funded counties only; the estimated magnitudes are more robust and larger for the funded sample. According to the simple DiD summary measure for the funded sample, federal family planning grants lowered the incidence of poverty among nonwhite children by roughly 4 percent (2.7 percentage points over a base of 56).

Figure 3, however, provides only limited evidence that family planning grants reduced the fraction of children living in single-parent households. Although panel A exhibits no pre-trend for whites in all models that include state-by-year effects, a slight dip in this measure in *only* the year following the grant provides weak evidence that this measure was affected. The DiD estimates presented in panel A of table 2 do register a uniformly negative estimate in the funded sample. While imprecise, the magnitudes imply a reduction of 2 to 4 percent (.3 to .5 over a base of 13) in the fraction of children in single-parent households. Again, the increase in sample size conferred by restricted Census data will also allow us to generate more precise estimates. In contrast to the poverty

outcomes, panel B of figure 3 shows no effects for nonwhite children. Not only is there a strong pre-trend for models 2 through 4, but there is no evidence of a trend break at the time of the first family planning award. The DiD estimates in panel B of table 2 should be viewed with this caveat in mind. They fallaciously register an increase the fraction of children living with single parents *even in models that include state-by-year effects and county group trends*. As is borne out in panel B of figure 3, these positive estimates reflects the strong pre-trend in outcomes—not the effect of family planning grants.

As a final outcome, we consider the fraction of children residing in households receiving any welfare payments in figure 4. As with the single parent outcome, neither panels A or B provides evidence that family planning grants affected this outcome. Panel A exhibits no pre-trend for white children in all models, and there is no trend break in the first two years of the award. Although the fraction of children in homes receiving welfare increases two years following the family planning grant, the disconnect in timing makes causal inference tenuous. None of the DiD estimates presented in panel A of table 3 exhibit consistent signs or are statistically significant. Similarly, panel B of figure 4 shows no evidence of an effect of family planning programs on the fraction of nonwhite children in families receiving welfare. Not only is there a strong pre-trend for models 2 through 4, but there is no evidence of a trend break at the time of the first family planning award. Again, the DiD estimates in panel B of table 3 could be misleading without the event study figures as they reflect the positive trend in outcomes, which is not captured in the rich set of state-by-year effects and county group trends. As was the case with the fraction of nonwhite children in single-parent households, the almost uniformly positive DiD estimates reflect the failure of the econometric model to generate the appropriate counterfactual—not the effect of family planning grants themselves.

## IV. PRELIMINARY CONCLUSIONS

This paper evaluates the effects of family planning programs begun from 1964 to 1973 on the material living circumstances of U.S. children. Our key empirical findings provide robust evidence

that family planning awards reduced the fraction of white and nonwhite children in households below 150 percent of the 1980 poverty line by 4 percent and 5 percent, respectively, within five years. This conclusion relies both upon event-study and differences-in-differences summary estimates. In contrast, we find no evidence that family planning grants reduced the fraction of children residing in single-parent families or receiving welfare. We are currently working with the restricted version of the 1970 and 1980 censuses to refine these inferences as well as explore the mechanisms for these effects including the human capital investments of parents.

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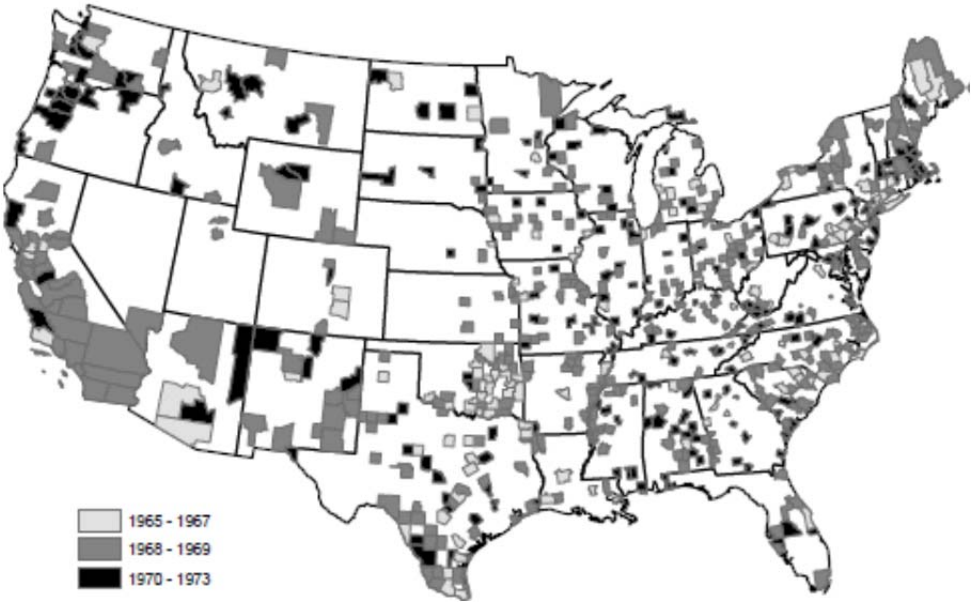
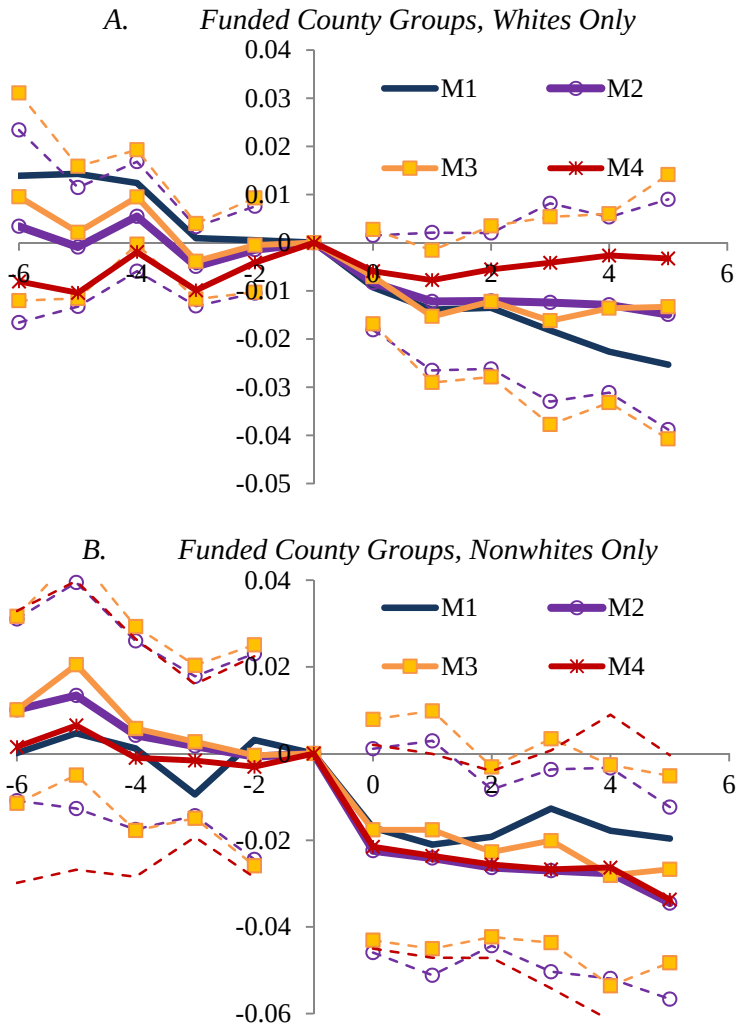
**Figure 1. The Date of the First Federal Family Planning Grant, 1965-1973**



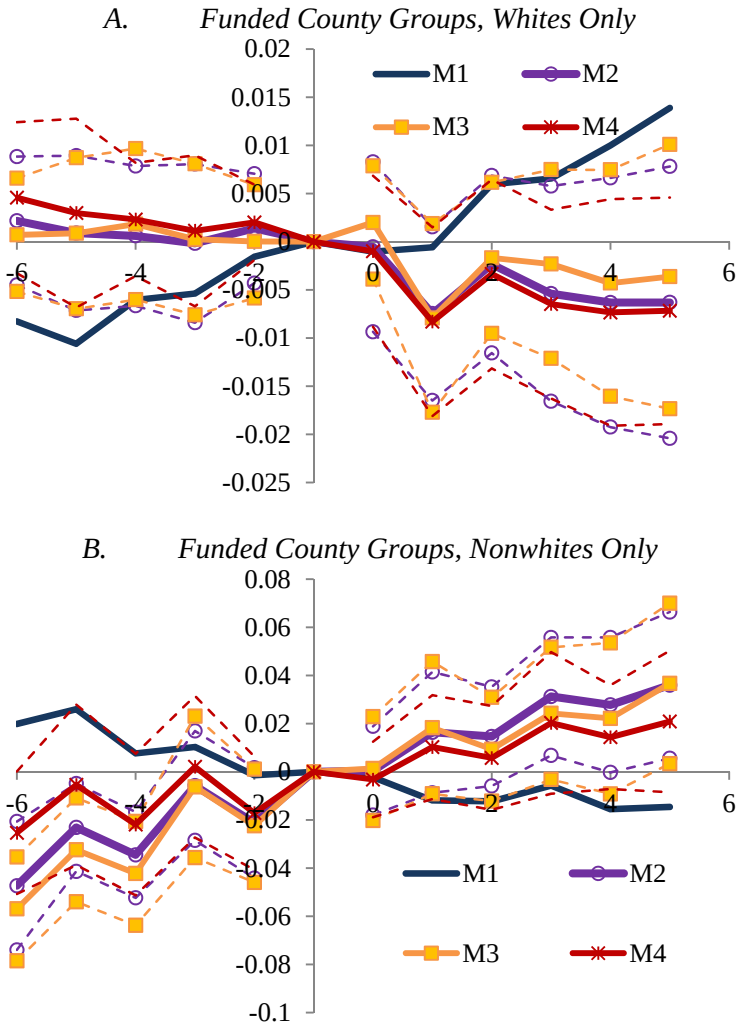

Note: Dates are the year that the county first received a federal grant. Counties not receiving a family planning grant between 1965 and 1973, including communities that received funding but with an unknown starting date, are not shaded. Source: NACAP, NAFO and OEO (1969, 1971 and 1974).

**Figure 2. Estimates of the Effects of Family Planning Grants on Fraction of Children at 150 Percent of the 1980 Poverty Line**



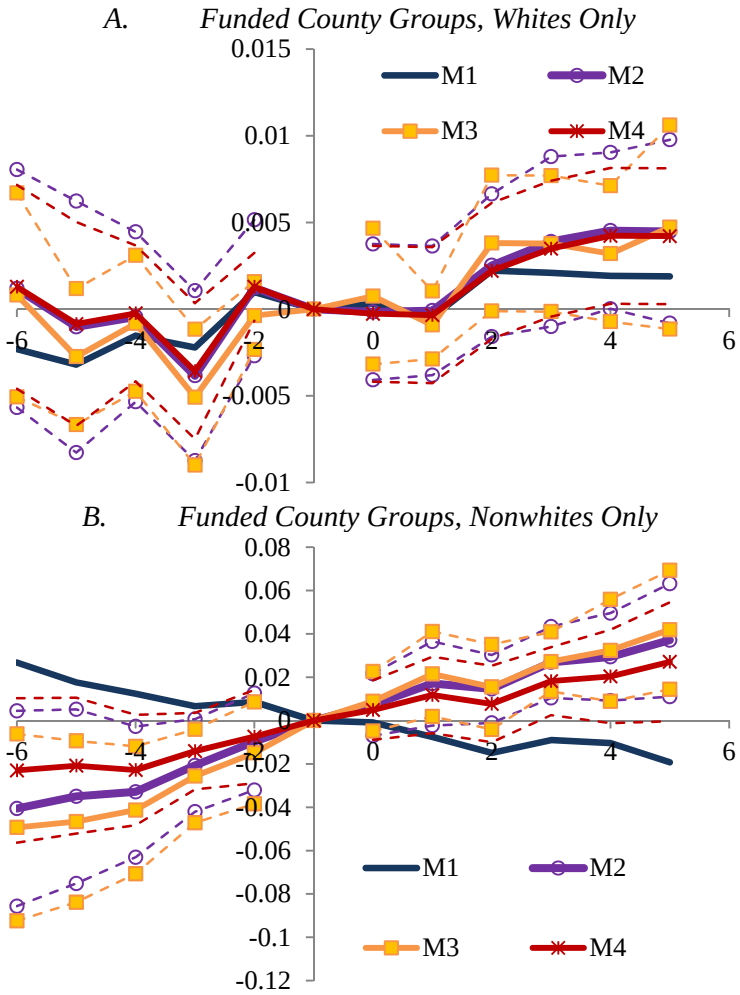

Notes: Panels plot of $\pi$ and $\tau$ from equation 1. Weights are the number of births in a county group. Heteroskedasticity-robust standard errors clustered by county construct 95-percent, point-wise confidence intervals (dashed lines). Sources: 1980 5-Percent Sample of the U.S. Census IPUMS (Ruggles et al. 2010).

**Figure 3. Estimates of the Effects of Family Planning Grants on Fraction of Children in Single Head-of-Household Families**




Notes: Panels plot of $\pi$ and $\tau$ from equation 1. Weights are the number of births in a county group. Heteroskedasticity-robust standard errors clustered by county construct 95-percent, point-wise confidence intervals (dashed lines). Sources: 1980 5-Percent Sample of the U.S. Census IPUMS (Ruggles et al. 2010).

**Figure 4. Estimates of the Effects of Family Planning Grants on Fraction of Children in Households Receiving Welfare**




Notes: Panels plot of $\pi$ and $\tau$ from equation 1. Weights are the number of births in a county group. Heteroskedasticity-robust standard errors clustered by county construct 95-percent, point-wise confidence intervals (dashed lines). Sources: 1980 5-Percent Sample of the U.S. Census IPUMS (Ruggles et al. 2010).

**Table 1. Differences-in-Differences Estimates of the Effects of First Family Planning Grants on the Fraction of Children below 150 Percent of the 1980 Poverty Line**

| | A. DV: Fraction of White Children Below 150 Percent of Poverty in 1980 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| | All County Groups | | | | Funded only | | | |
| *Mean DV* | *0.252* | | | | *0.259* | | | |
| Years 0-4 after First | -0.00932 | -0.0111 | -0.0107 | -0.00855 | -0.00984 | -0.00957 | -0.0117 | -0.00334 |
| Family Planning Grant | [0.00536] | [0.00570] | [0.00611] | [0.00415] | [0.00582] | [0.00506] | [0.00497] | [0.00647] |
| R-squared | 0.349 | 0.408 | 0.408 | 0.474 | 0.402 | 0.525 | 0.525 | 0.600 |
| Observations | 13902 | 13902 | 13902 | 13902 | 5292 | 5292 | 5292 | 5292 |
| Counties | 662 | 662 | 662 | 662 | 252 | 252 | 252 | 252 |
| Covariates | M1 | M2 | M3 | M4 | M1 | M2 | M3 | M4 |
| | B. DV: Fraction of Nonwhite Children Below 150 Percent of Poverty in 1980 | | | | | | | |
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| | All County Groups | | | | Funded only | | | |
| *Mean DV* | *0.559* | | | | *0.563* | | | |
| Years 0-4 after First | -0.00672 | -0.00329 | -0.000176 | -0.00355 | -0.0150 | -0.0274 | -0.0274 | -0.0205 |
| Family Planning Grant | [0.00808] | [0.00798] | [0.00848] | [0.00635] | [0.00845] | [0.00755] | [0.00802] | [0.00881] |
| R-squared | 0.050 | 0.207 | 0.207 | 0.274 | 0.060 | 0.325 | 0.325 | 0.389 |
| Observations | 7791 | 7791 | 7791 | 7791 | 3297 | 3297 | 3297 | 3297 |
| Counties | 371 | 371 | 371 | 371 | 157 | 157 | 157 | 157 |
| Covariates | M1 | M2 | M3 | M4 | M1 | M2 | M3 | M4 |

Notes: Panels A (whites) and B (nonwhites) display least-squares estimates of equation 2 using the fraction of children below 150 percent of the poverty line as the dependent variable. The first four columns use a pooled sample of both funded and unfunded county groups. The last four columns include only county groups ever receiving a family planning grant between 1964 and 1973. Column 1 corresponds to model 1 and includes REIS and abortion provider covariates and county group and year fixed effects. Column 2 corresponds to model 2 and adds state-by-year effects to model 1. Column 3 corresponds to model 3 and interacts state that legalized abortion in 1970 with the treatment variable (estimates reflect the effects in county groups receiving family planning groups in states that did not legalize abortion before *Roe v. Wade*). Column 4 corresponds to model 4 and adds linear county trends to model 2. Heteroskedasticity-robust standard errors clustered by county are presented beneath each estimate in brackets. Source: 1980 5-Percent Sample of the U.S. Census IPUMS (Ruggles et al. 2010).

**Table 2. Differences-in-Differences Estimates of the Effects of Family Planning Grants on the Fraction of Children in Single-Parent Families in 1980**

| | A. DV: Fraction of White Children in Single-Parent Families | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| | All County Groups | | | | Funded only | | | |
| *Mean DV* | *0.128* | | | | *0.132* | | | |
| Years 0-4 after First | 0.00141 | -0.000320 | -0.0001 | 0.000769 | -0.000513 | -0.00413 | -0.00329 | -0.00509 |
| Family Planning Grant | [0.00212] | [0.00234] | [0.00211] | [0.00202] | [0.00321] | [0.00375] | [0.00354] | [0.00375] |
| R-squared | 0.351 | 0.414 | 0.414 | 0.439 | 0.375 | 0.513 | 0.513 | 0.551 |
| Observations | 13902 | 13902 | 13902 | 13902 | 5292 | 5292 | 5292 | 5292 |
| Counties | 662 | 662 | 662 | 662 | 252 | 252 | 252 | 252 |
| Covariates | M1 | M2 | M3 | M4 | M1 | M2 | M3 | M4 |
| | B. DV: Fraction of Nonwhite Children in Single-Parent Families | | | | | | | |
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| | All County Groups | | | | Funded only | | | |
| *Mean DV* | *0.374* | | | | *0.383* | | | |
| Years 0-4 after First | -0.00152 | 0.00307 | 0.000774 | -0.00238 | -0.00422 | 0.0301 | 0.0285 | 0.00830 |
| Family Planning Grant | [0.00527] | [0.00875] | [0.00978] | [0.00521] | [0.00788] | [0.0165] | [0.0176] | [0.00721] |
| R-squared | 0.311 | 0.396 | 0.396 | 0.427 | 0.377 | 0.525 | 0.525 | 0.567 |
| Observations | 7791 | 7791 | 7791 | 7791 | 3297 | 3297 | 3297 | 3297 |
| Counties | 371 | 371 | 371 | 371 | 157 | 157 | 157 | 157 |
| Covariates | M1 | M2 | M3 | M4 | M1 | M2 | M3 | M4 |

Notes: Panels A (whites) and B (nonwhites) display least-squares estimates of equation 2 using the fraction of children residing in single-parent families in 1980 as the dependent variable. The first four columns use a pooled sample of both funded and unfunded county groups. The last four columns include only county groups ever receiving a family planning grant between 1964 and 1973. Column 1 corresponds to model 1 and includes REIS and abortion provider covariates and county group and year fixed effects. Column 2 corresponds to model 2 and adds state-by-year effects to model 1. Column 3 corresponds to model 3 and interacts state that legalized abortion in 1970 with the treatment variable (estimates reflect the effects in county groups receiving family planning groups in states that did not legalize abortion before *Roe v. Wade*). Column 4 corresponds to model 4 and adds linear county trends to model 2. Heteroskedasticity-robust standard errors clustered by county are presented beneath each estimate in brackets. Source: 1980 5-Percent Sample of the U.S. Census IPUMS (Ruggles et al. 2010).

**Table 3. Differences-in-Differences Estimates of the Effects of Family Planning Grants on the Fraction of Children in Households Receiving Welfare Payments in 1980**

| | A. DV: Fraction of White Children in Families Receiving Any Income from Welfare | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| | All County Groups | | | | Funded only | | | |
| *Mean DV* | *0.0407* | | | | *0.0412* | | | |
| Years 0-4 after First | 0.000199 | 0.000745 | 0.00184 | 0.00162 | -0.000790 | 0.000902 | 0.000833 | -3.68e-05 |
| Family Planning Grant | [0.00219] | [0.00228] | [0.00158] | [0.00144] | [0.00181] | [0.00164] | [0.00181] | [0.00142] |
| R-squared | 0.438 | 0.483 | 0.484 | 0.516 | 0.480 | 0.570 | 0.570 | 0.609 |
| Observations | 13902 | 13902 | 13902 | 13902 | 5292 | 5292 | 5292 | 5292 |
| Counties | 662 | 662 | 662 | 662 | 252 | 252 | 252 | 252 |
| Covariates | M1 | M2 | M3 | M4 | M1 | M2 | M3 | M4 |
| | B. DV: Fraction of Nonwhite Children in Families Receiving Any Income from Welfare | | | | | | | |
| | (1) | (2) | (3) | (4) | (1) | (2) | (3) | (4) |
| | All County Groups | | | | Funded only | | | |
| *Mean DV* | *0.157* | | | | *0.158* | | | |
| Years 0-4 after First | 0.00684 | 0.0186 | 0.0212 | 0.0150 | -0.00529 | 0.0317 | 0.0343 | 0.0125 |
| Family Planning Grant | [0.00890] | [0.0121] | [0.0128] | [0.00590] | [0.00754] | [0.0215] | [0.0223] | [0.0102] |
| R-squared | 0.607 | 0.650 | 0.650 | 0.687 | 0.652 | 0.726 | 0.726 | 0.756 |
| Observations | 7791 | 7791 | 7791 | 7791 | 3297 | 3297 | 3297 | 3297 |
| Counties | 371 | 371 | 371 | 371 | 157 | 157 | 157 | 157 |
| Covariates | M1 | M2 | M3 | M4 | M1 | M2 | M3 | M4 |

Notes: Panels A (whites) and B (nonwhites) display least-squares estimates of equation 2 using the fraction of children residing in households receiving any welfare payments in 1980 as the dependent variable. The first four columns use a pooled sample of both funded and unfunded county groups. The last four columns include only county groups ever receiving a family planning grant between 1964 and 1973. Column 1 corresponds to model 1 and includes REIS and abortion provider covariates and county group and year fixed effects. Column 2 corresponds to model 2 and adds state-by-year effects to model 1. Column 3 corresponds to model 3 and interacts state that legalized abortion in 1970 with the treatment variable (estimates reflect the effects in county groups receiving family planning groups in states that did not legalize abortion before *Roe v. Wade*). Column 4 corresponds to model 4 and adds linear county trends to model 2. Heteroskedasticity-robust standard errors clustered by county are presented beneath each estimate in brackets. Source: 1980 5-Percent Sample of the U.S. Census IPUMS (Ruggles et al. 2010).