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Is Welfare Pro-life? Assistance Programs, Abortion, and the Moderating Role of States

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This article examines the role of American welfare programs in low-income women's choices concerning abortion and childbirth. It considers the economic resources that programs confer and the context of resource delivery. The study argues that differences in state abortion rights climates moderate welfare receipt's relations with pregnancy decisions. Data from the Fragile Families and Child Wellbeing study are linked to state context. Analyses suggest that welfare recipients are substantially less likely to turn to abortion than are comparable low-income pregnant women but that this is only true of recipients in states where abortion policies, access to abortion providers, and public opinion reflect a pro-life orientation. Estimates suggest that welfare participation positively predicts abortion in states with a pro-choice stance. The findings identify a clearer relation between welfare and pregnancy resolution than previous research suggests and illuminate the conditional nature of this link.

Calling for greater study of the welfare state as an independent variable, Gøsta Esping-Andersen argues: "The welfare state is becoming deeply embedded in the everyday experience of virtually every citizen. . . . Given the magnitude and centrality of the welfare state, it is indeed unlikely that we shall understand much of contemporary society unless it becomes part of our models" (1990, 141). This study considers whether the American welfare state's influence extends into pregnant women's decisions between abortion and childbirth. In the United States, low-income women make up a disproportionate share of abortion patients (Jones, Darroch, and Henshaw 2002). Economic hardship ranks among the most frequently cited reasons for abortion (Freeman 1978; Faria, Barrett, and Goodman 1985; Torres and Forrest 1988; Glander et al. 1998; McIntyre, Anderson, and McDonald 2001; Finer et al. 2005). Po-

litical commentators speculate that expansions in social welfare programs could substantially reduce abortions without the controversy of abortion legislation, forming common ground for pro-life and pro-choice forces (e.g., Tribe 1990; Dionne 2005; Arons and Saperstein 2006).

State and federal welfare reforms of the 1990s elevate the importance of testing the assumption that some of welfare's effects are implicitly pro-life. Reforms tightened access to cash assistance through time limits, work requirements, and other mandates. During debates, some pro-life advocates argued that cutbacks in assistance would pressure poor women into unwanted abortions (Klerman 1998; Camasso 2007), and scholars claimed that the reforms threatened poor women's right to bear children (Jencks and Edin 1994; Mink 1998; Roberts 1999). Since then, abortion rates have risen among low-income women, while falling among women who are better off (Jones et al. 2002). This invites speculation that welfare reform may be responsible. As an empirical matter, however, the hypothesis that welfare has a pro-life effect is the subject of only limited study. Existing results show sensitivity to data and methods and suggest that if welfare has any relation with childbearing decisions, the substantive difference welfare makes is small.

Using individual-level data from a large panel of urban families, this study assesses whether public assistance has a pro-life effect. Specifically, it tests whether participation in the Temporary Assistance for Needy Families (TANF) program predicts a decline in the likelihood of abortion among disadvantaged pregnant women. The study's theoretical perspective on welfare's role considers the economic resources that the program confers as well as the context in which those resources are delivered. According to this perspective, a state's political and policy stances on abortion send messages to the public, and participation in TANF can be expected to magnify these messages. Since these messages may not always be consistent with welfare's economic signals, state stance on abortion may condition welfare's relations with pregnancy decisions. Indeed, this study finds that TANF recipients are less likely to turn to abortion than are comparable low-income pregnant women but only in those states where abortion policies, access to abortion providers, and public opinion reflect a pro-life stance on abortion. Estimates suggest that TANF participation positively predicts abortion in pro-choice states.

This research thus contributes to a growing body of evidence on the welfare state's influence over citizens' lives. It tests and qualifies some popular speculation, helping to explain the mixed results from existing research on welfare and abortion. In general, it highlights the potential moderating role of state context.

Economics and the Abortion Decision

Why should welfare reduce abortions? As characterized by Anne Gauthier (2007), contemporary theory identifies three main determinants of childbearing decisions: income, the costs of children, and the desirability of childbearing. Assistance programs can affect all of these factors. They provide or subsidize goods and services like cash, food, health care, housing, and child care. They also may send symbolic messages about the value of children (Gauthier 2007). Similarly, pregnant women's demand for abortion is a function of the relative costs and benefits associated with abortion and childbirth. These can include material, opportunity, and psychological costs and benefits (e.g., Leibowitz, Eisen, and Chow 1986; Lundberg and Plotnick 1995; Klerman 1998; Brown, Jewell, and Rous 2001). For some women, the costs of childbearing may be so high relative to their budgets that, in the absence of a strong safety net, their choices will not reflect their motherhood preferences. If they choose abortions, these choices may instead represent a response to a financial crisis, a response that the women may feel is their only choice (Myrdal 1968; Mink 1998; Jagannathan 2006). For these women, welfare policy may not just make childbearing more attractive; it may make childbearing seem possible.

One might also doubt welfare's abortion-reducing potential. According to a former Planned Parenthood president, economic constraints are just part of a unique web of circumstances that lead to the abortion choice (Feldt 2002). Most women give multiple reasons for the decision. This invites speculation that addressing financial need leaves untouched those other reasons for which a birth would present problems (Faria et al. 1985; Torres and Forrest 1988). In identifying reasons for their decision to have an abortion, abortion patients cite the concern that "having a baby would dramatically change my life" just as frequently as they cite finances (Finer et al. 2005, 113). Additional factors linked to abortion decisions include relationship problems (Finer et al. 2005), support shown by the father of a previous child (Coleman et al. 2009), pro-life views (Jagannathan 2006; Adamczyk and Felson 2008), individual and peer childbearing attitudes and behaviors (South and Baumer 2000, 2001), and feelings of responsibility for others who might be negatively affected by a birth (Gilligan 1982; Jones, Frohworth, and Moore 2008). Research on low-income families suggests that women's childbearing decisions have less to do with economics (Gibson-Davis 2009) than with motherhood aspirations (Edin and Kefalas 2005). Despite the high rates of unintended pregnancy among low-income women (Finer and Henshaw 2006), many of these pregnancies are neither unwanted nor necessarily unexpected (Edin and Kefalas 2005; Edin et al. 2007; Augustine, Nelson, and Edin 2009).

Empirical work on various measures of welfare policy, welfare receipt, and abortion incidence finds limited evidence that the incidence of abortion is associated with welfare policy or receipt. Several studies consider whether abortion incidence is associated with state cash (or other welfare) benefits, and most find that cash benefit levels are not related to state abortion rates (Blank, George, and London 1996; Meier et al. 1996; Matthews, Ribar, and Wilhelm 1997); the negative relation found by Stephan Gohmann and Robert Ohsfeldt (1993) is an exception. Laura Argys, Susan Averett, and Daniel Rees (2000) see some evidence that state benefits from the Aid to Families with Dependent Children (AFDC) program and Medicaid are negatively associated with abortions by AFDC recipients, such that the likelihood of abortions declines as benefits rise. But these findings disappear in fixed-effects analysis. In modeling data from an adolescent sample, Shelly Lundberg and Robert Plotnick (1995) find that higher welfare benefits predict a somewhat lower likelihood of abortion among pregnant young women.

A second line of relevant research examines whether welfare reforms of the 1990s yielded a predicted increase in abortions. One object of extensive study is the family cap, a provision of welfare reform that denies cash grant increases when welfare families bear additional children. The earliest studies offer scant evidence that the family cap is associated with the rate of abortion (Joyce et al. 2004; Klerman 2005). But in work recently published in this journal and elsewhere, Michael Camasso and Radha Jagannathan argue that family cap effects are hard to observe because they should be conditional on race and access to Medicaid-funded abortion (Camasso 2007; Camasso and Jagannathan 2009). They find that family caps are positively associated with abortion rates in states that are home to above-average percentages of black women and that pay for abortion through Medicaid (Camasso 2007; Camasso and Jagannathan 2009). In her experimental research with New Jersey welfare recipients, Jagannathan (2006) suggests that welfare reform's effect on abortion is indirect; welfare reform increases abortion's acceptability to affected women, and these views in turn predict an abortion choice. She also finds that welfare recipients who are employed (reforms aim to increase employment) are statistically significantly more likely to turn to abortion than are welfare recipients who are not employed.

A third set of studies that discuss the role of welfare in pregnancy decision making focuses on individual welfare receipt rather than on policy measures. The samples in all of these studies are limited to pregnant adolescents. The studies find that these women and girls are more likely to carry the pregnancy to term if their parents receive AFDC or TANF than if the parents do not receive such benefits (Leibowitz et al. 1986; Adamczyk and Felson 2008). They also are more likely to carry it to term if they receive Medicaid than if they do not receive it (Joyce

1988). These studies suggest, however, that the findings may not represent a welfare effect but instead a marker of low socioeconomic status and low opportunity costs of childbearing.

A more extensive literature considers welfare's relation to births as well as to state- and country-level birthrates. Much of this research evaluates claims (e.g., Murray 1984) that welfare incentivizes nonmarital childbearing. One review of studies finds little evidence for an association between welfare and fertility (Hoynes 1997); another suggests that there is such an association but that it is small and inconsistent (Moffitt 1998). Some subsequent work bolsters evidence for a linkage (Rosenzweig 1999), but other studies find that welfare benefit generosity is unrelated to single motherhood (Blau, Kahn, and Waldfogel 2004) or subsequent fertility (Curtis and Waldfogel 2009). Cross-national and U.S. studies on a range of family policies, including tax credits, tax exemptions, maternity leave, and child-care assistance, suggest that, on balance, welfare generosity increases birthrates. The magnitude of the association is generally found to be small, however, and may be temporary; studies suggest that welfare generosity is more strongly associated with parents' decisions concerning the timing of children than with the total number of children in a family (for a review, see Gauthier 2007). It is notable, though, that this literature says little about the abort-or-deliver decision that may precede these births.¹ There are many reasons why births do not occur (e.g., abortion, miscarriage, and the absence of pregnancy), and welfare may contribute to some of them more than others. Focusing on birthrates alone or on women who give birth versus women who do not may obscure welfare's role at any one stage of the events and decisions that lead to the birth.

The Moderating Role of States

This study argues that research on links between welfare and abortion overlooks a key point: any association between welfare receipt and abortion may be conditional on the context in which public assistance is delivered. This study focuses specifically on the import of the abortion rights climate in the state where a woman lives.

There are several reasons why the state abortion rights climate should affect abortion decisions. Policy barriers to abortion access, scarcity of abortion providers, and community attitudes that discourage abortion can add material and psychological costs to the abortion option (e.g., Lundberg and Plotnick 1995; Brown et al. 2001). Further, given the finding that opinion on abortion in a state is strongly associated with that state's abortion policy (Wetstein 1996), pregnant women and their social networks may be inclined toward the views that prevail in their state. Existing research finds that abortion incidence is statistically significantly related to state abortion policies, provider supply, and opinion

(Hansen 1980; Gohmann and Ohsfeldt 1993; Lundberg and Plotnick 1995; Blank et al. 1996; Wetstein 1996; Altman-Palm and Tremblay 1998; Argys et al. 2000; Joyce and Kaestner 2000; Brown et al. 2001).

Research is less clear on why a state's abortion stance influences the relation between welfare receipt and pregnancy resolution decisions in that state. This study suggests that a low-income, pregnant woman may be more likely to see and accept welfare as an alternative to abortion if she faces a consistent set of cues that point her in a pro-birth (or antiabortion) direction. These cues may reflect the attitudes of partners, parents, and peers. They may emerge in the general accessibility of abortion services and in the normative symbols projected by state abortion policy choices. Cues may also take the form of resources and messages that the woman encounters in the welfare office and that pertain to reproductive decisions.

This study argues that policy influences individuals psychologically and economically. It also holds that welfare participation may be one vehicle for such influence. The argument draws on a growing body of literature on policy feedback. Policy feedback theory asserts that the design, content, and street-level implementation of public policies send messages to mass publics. These messages can shape individual perceptions of identity, of the government, and of how mainstream society understands right and wrong. These perceptions in turn affect citizens' political behavior and thus the path of future policy making (Pierson 1993; Soss 1999; Mettler 2005). Welfare recipients' vulnerability may make them especially susceptible to government influence (Lipsky 1980). Indeed, Lawrence Mead conceives of welfare programs as "authority structures that do or do not govern the society," rather than as a means of providing economic resources (2004, 8). He attributes much of Wisconsin's welfare-to-work success to street-level bureaucrats who serve as "agents of social norms far more directly than before" (159).

Welfare may present particular opportunities for the state to exert influence on TANF participants' pregnancy decisions. Some state abortion policies disproportionately affect welfare recipients. States choose whether to fund abortions under Medicaid (McFarlane and Meier 2001), a public health insurance program offered to most TANF recipients as well as other low-income individuals (Herz 2005).² If state Medicaid funding covers abortions, TANF recipients' access to abortion funding may offset the theoretically pro-birth effect of TANF receipt. So too, a state's Medicaid funding policy may project messages about the state's view of abortion. Some states' laws prohibit certain public employees and grantees from offering abortion counseling or referrals (NARAL 2001). These prohibitions may affect the practical information and policy messages that welfare-reliant women receive from the state and its partners.

Women may also receive cues about childbearing and abortion from their interaction with welfare bureaucrats. All states require TANF re-

cipients to sign a personal responsibility agreement, which may obligate them to attend family planning or parenting classes and to comply with other requirements (Lurie 2001). Although research suggests that states' adoption of family cap policies is unrelated to state abortion policies (Camasso 2007), family cap policies may provide an opportunity for the discussion of pregnancy and childbearing issues in the welfare office. Some welfare offices house family planning clinics or extend family planning referrals; in others, state or office policies bar caseworkers from discussing family planning (Nathan, Gentry, and Lawrence 1998; Lurie 2001). In political debates and the welfare office itself, low-income women find that their "choices—about work, marriage, sex, childbearing—face explicit and implicit scrutiny in ways that their more economically and socially privileged brethren rarely encounter" (Watkins-Hayes 2009, 5). One study finds that the topic of pregnancy comes up in 12–15 percent of worker-client encounters in four states' welfare offices (Lurie 2006). Each of the four states requires caseworkers to ask new TANF applicants if they are pregnant. During this exchange, "the worker will generally offer some comments, which may be construed as judgment, rebuke, or counsel" (Riccucci 2005, 95). These cues may plausibly reflect the beliefs of the surrounding community; a study of TANF sanction rates and local political ideology provides some empirical support for the notion that local values influence bureaucratic behavior (Fording, Soss, and Schram 2007).

In sum, this study theorizes that women's TANF participation may magnify the cues that state policy choices, the accessibility of abortion providers, and public attitudes send to all women about abortion. Relative to comparable low-income women, TANF participants may be more likely to acquire knowledge about state abortion policy and norms.³ Welfare recipients also may be more likely to acquire resources that affect the costs of birth and possibly of abortion. States that lean in a pro-life direction can be expected to send cues that are consistent with that position and to communicate such cues through TANF. One can expect that women who receive TANF in such states will be less likely to choose abortion than women who live in those states and do not receive TANF. In states with pro-choice stances, TANF's influence is likely to be more ambiguous. The TANF program will connect a low-income woman to cash, food stamps, and other assistance, but it may also connect her to a resource (Medicaid) that makes abortion affordable. Through TANF participation, she may also gain exposure to the state's pro-choice environment.

Data and Method

This study analyzes TANF receipt, pregnancy outcomes, and the moderating role of the states. It employs data from the Fragile Families and

Child Wellbeing Study, a panel study of families in 20 large American cities.⁴ In the late 1990s, researchers began to interview a sample of 4,898 mothers upon the birth of a focal child (the baseline interview). Most mothers were interviewed when this child was 12–18 months old (the 1-year follow-up) and again when the child was 3 years old (the 3-year follow-up). The study questioned mothers extensively about public assistance, economic hardship, and pregnancies that occurred subsequent to the focal child's birth. City-level identifiers in the data allow this study to link respondents to the states where they reside and, thus, to their state's policies.

The Fragile Families sample diverges from the general population of American women in two key ways. First, all respondents have borne at least one child. In deciding how to resolve any subsequent pregnancies, these mothers theoretically face a different set of costs than do women facing the prospect of first-time motherhood, and the fact that respondents have children may signal a preference for motherhood over abortion. Second, the Fragile Families sample disproportionately captures unmarried women, women of color, urban women, and those of low socioeconomic status (see table 1). This is because the study sampled from hospitals where large numbers of single mothers delivered (Reichman et al. 2001). This sampling choice facilitates the Fragile Families study's special interest in families formed by unmarried parents.

These features, apparent limitations in some contexts, help my study to surmount some obstacles that arise in analyzing welfare participation and abortion. Since all Fragile Families respondents are mothers, it is possible to observe individual welfare receipt before the pregnancy decision; limits on the welfare eligibility of adults without dependent children would otherwise preclude this. Women who have previously given birth also are estimated to make up a surprisingly large share of abortion patients: over 60 percent in 2000 (Jones et al. 2002). This same study finds that women with one previous live birth terminate pregnancies at a much higher rate (32 abortions per 1,000 women) than do women with no previous live births (19 per 1,000); among women with two or more prior live births, the rate falls back to 18 per 1,000 (Jones et al. 2002). Qualitative research suggests that the realities of motherhood, including material sacrifice, competing pressures of work and children, and a desire to fulfill abstract ideals of good parenting, may drive women with one or more children toward abortion if they are faced with a subsequent, unintended pregnancy (Jones et al. 2008). Because many Fragile Families respondents are at the economic margins, the resulting subsample includes a large group of potentially welfare-eligible women and may enable the current study to disentangle the effects of welfare programs from the effects of low income.

This subsample is composed of 1,070 women who reported a pregnancy that ended in abortion or a live birth and that occurred before

the 3-year follow-up interview, when the focal child was 3 years old. Of the 1,070 respondents, one-third reported the abortion or birth in the 1-year follow-up interview, and the rest did so at the 3-year follow-up.⁵ For the 191 women who reported these outcomes at both follow-ups (i.e., who had more than one pregnancy that resulted in birth or abortion), the analyses use data on the first pregnancy.⁶

Twenty-five percent of respondents report that they ended the pregnancy in abortion. This parallels the finding that nearly one-quarter of U.S. pregnancies (excluding miscarriages) ended in abortion in 2000 (Finer and Henshaw 2003). This parallel does not mean, however, that this sample avoids the underreporting of abortions found in many surveys (Jones and Forrest 1992; Fu et al. 1998; Jagannathan 2001). The demographics of this panel suggest that the respondents are more likely to experience both abortion (Jones et al. 2002) and unintended birth (Henshaw 1998) than are women in the general population. Comparisons to national abortion statistics also suggest that low-income women, and low-income black women especially, tend to underreport abortions (Fu et al. 1998). While this analysis cannot estimate the likely extent of underreporting in the Fragile Families data, there is reason to suspect that abortion reporting in the Fragile Families study may be less incomplete than abortion reporting in one widely used study, the National Longitudinal Survey of Youth. Of the abortions and live births reported by welfare recipients in this study's subsample, about 30 percent were abortions. This figure also probably understates the ratio of abortions that might have been reported because Fragile Families collected data only on whether respondents had pregnancies that they ended in abortion, not on how many abortions respondents procured. The 30 percent abortion ratio is substantially higher than the 10 percent ratio that Argyis and colleagues (2000) observe for welfare recipients over 1979–91 in the National Longitudinal Survey of Youth, despite the fact that abortion-to-birth ratios nationally were lower in the late 1990s and early 2000s than they were over 1979–91 (Finer and Henshaw 2003).

The dependent variable is a dummy signaling that the pregnancy ended in abortion. Key independent variables include TANF participation, multiple measures of a state's stance on abortion, and a term for the interaction of TANF participation with the state abortion stance. With the exception of a few invariant controls asked only at the baseline interview, all independent variables are drawn from the 1-year (12–18 month) follow-up interview. This improves chances that respondents' measured experiences with welfare precede the pregnancy in time. Of the 317 women who reported that they received TANF at the 1-year follow-up interview, two-thirds also reported receiving income from "public assistance, welfare, or food stamps" at baseline; the remaining women reported receiving TANF, on average, for 7.4 of the 12 months before the 1-year follow-up. Because of the time required to recover

Table 1

VARIABLES IN MODEL, SOURCES, AND SAMPLE STATISTICS

Variable (and When Measured)	M	SD	Min	Max	Definitions and Sources
Pregnancy outcome (12–18 mo. or 3 yr.)	.25	.43	0	1	Dummy coded 1 if R's pregnancy ended in abortion instead of live birth.
Receives TANF (12–18 mo.)	.30	.46	0	1	Dummy coded 1 if R received TANF at all in the 12 months preceding follow-up interview.
Experienced concrete economic hardship (12–18 mo.)	.51	.50	0	1	Dummy coded 1 if R reports at least one of 12 concrete economic hardships (identified in text) in the previous 12 months.
HH income per capita (12–18 mo.)	7.92	9.43	0	79.59	Preceding year's pretax income from all sources for everyone living in HH. Adjusted for 2000 state differences in cost of living using the 2004 version of Berry, Fording, and Hanson's index (2000). The full HH income is divided by the number of people in the HH. Missing values imputed by Fragile Families staff. Income is in 1,000s.
Any employment since childbirth (12–18 mo.)	.76	.43	0	1	Dummy coded 1 if R has worked since focal child's birth.
Currently in school (12–18 mo.)	.19	.39	0	1	Dummy coded 1 if R is attending school or a training program or taking any classes.
HS diploma (baseline and 12–18 mo.)	.29	.46	0	1	Dummy coded 1 if R's education stopped with an HS diploma.
Some college or college grad (baseline and 12–18 mo.)	.35	.48	0	1	Dummy coded 1 if R has at least some college, technical school, or trade school experience.
Married (12–18 mo.)	.29	.45	0	1	Dummy coded 1 if R is married.
Black (baseline)	.52	.50	0	1	Dummy coded 1 if R identifies race as black or African American.
No. of prior biological children (baseline)	1.99	1.32	1	11	Number of R's biological children.
Age 35 or older (12–18 mo.)	.06	.25	0	1	Dummy variable. Others ages not statistically significant.
Attends church weekly (12–18 mo.)	.31	.46	0	1	Dummy coded 1 if R reports attending religious services "more than once a week" or "about once a week."
Considered abortion of focal child (baseline)	.30	.46	0	1	Dummy coded 1 for affirmative response to "When you found out you were pregnant, did you think about having an abortion?"

Domestic abuse victim (12–18 mo.)	.09	.29	0, 1	Dummy coded 1 if R (a) cites violence or abuse among reasons for ending romantic relationship with focal child's father; (b) says father or new partner often or sometimes "slaps or kicks you," "hits you with his fist or an object that could hurt you," or "tries to make you have sex or do sexual things you don't want to do"; or (c) answers affirmatively to "Couples sometimes get into fights. Were you ever cut, bruised, or seriously hurt in a fight with (the father or new partner)?"
Father involvement (12–18 mo.)	1.42	.60	0, 2	Average of 11 items also used by Coleman and colleagues (2009); see n. 9 for wording. Each coded 0–2; rarely, never, or not at all = 0. Coded 0 when father was unknown, deceased, unaware of the child, had no contact with the child, had not seen the child, or (a–f) only if parents had not been in "any kind of relationship" at baseline or follow-up.
State abortion opinion (1988–92)	14.13*	3.96	5.9, 19.9	Percent of state residents choosing "never legal" when asked if abortion should be always, sometimes, or never legal. Source: 1988–92 Senate National Election Study, as aggregated by Norrander (2001). Data available: http://www.u.arizona.edu/~norrander/data.html .
Abortion providers per 100,000 residents (2000)	.62*	.34	.19, 1.23	Number of abortion providers per 100,000 state population. Population data are from the Census Bureau, and abortion provider data are from Finer and Henshaw (2003).
Abortion policies index (2000)	1.57*	1.23	0, 3	Number of abortion restrictions (out of three described in text) state was enforcing. Does not count laws that either NARAL does not oppose or the National Right to Life Committee does not support. Sources: McFarlane and Meier (2001), NARAL (2001), National Right to Life Committee (2001), and Americans United for Life (2008).
Overall state stance on abortion (2000)	.66*	.35	0, 1	Principal-components factor score of state abortion opinion, policies, and providers, rescaled to 0–1 range. Eigenvalue = 2.39. Factor loadings are .91 (opinion), -.87 (providers), and .91 (policies).
State TANF benefit (2000)	4.38*	1.38	2.17, 7.01	Typical monthly cash grant for a family of three, in 100s. Source: U.S. Department of Health and Human Services (2000). Adjusted for state cost of living.
State family planning spending per capita (FY 2001)	4.03*	1.58	2.09, 9.21	Total state spending on family planning, adjusted for cost of living, per capita. Spending data are from Sonfield and Gold (2005); population estimates come from the Census Bureau.

NOTE.—M = mean; 12–18 mo. = 12–18-month follow-up interview; 3 yr. = 3-year follow-up interview; R = respondent; TANF = Temporary Assistance for Needy Families program; HH = household; HS diploma = high school or general equivalency diploma; FY = fiscal year.
 * Individual level mean.

Table 2

FRAGILE FAMILIES STATES AND ORIENTATIONS TOWARD ABORTION

	<i>N</i>	% TANF	% Abortion Never Legal	Abortion Policies	Providers per 100,000	Overall Stance
California	67	19.4	5.9	0	1.18	0
Florida	29	13.8	12.3	1	.68	.51
Illinois	28	32.1	12.9	0	.30	.56
Indiana	87	24.1	18.2	2	.25	.98
Maryland	86	31.3	15.9	0	.79	.47
Massachusetts	25	36.0	9.4	1	.74	.40
Michigan	83	34.9	15.5	3	.50	.91
New Jersey	93	38.7	11.3	0	1.02	.24
New York	85	20.0	7.7	0	1.23	.04
Ohio	20	30.0	17.8	2	.31	.95
Pennsylvania	134	43.2	17.4	3	.59	.94
Tennessee	23	47.8	14.9	2	.28	.86
Texas	99	20.2	12.4	2	.31	.77
Virginia	96	27.1	19.9	3	.65	1.00
Wisconsin	115	27.0	15.6	2	.19	.92
State-level mean	71	29.7	13.8	1.4	.60	.64

NOTE.—Number of cases and % TANF (Temporary Assistance for Needy Families) pertain to the 1,070 cases used in this study's subsample. The four abortion rights climate measures are state-level data. Cities included are Baltimore; Boston; Chicago; Corpus Christi, TX; Detroit; Indianapolis; Jacksonville, FL; Milwaukee; Newark, NJ; New York; Nashville; Norfolk, VA; Philadelphia; Pittsburgh; Richmond, VA; San Antonio; San Jose, CA; and Toledo, OH.

fertility after childbirth, the respondent probably would not have recognized her pregnancy until at least a few months after delivering the focal child. Thus, while most respondents probably began to receive TANF before conception, this temporal ordering could still be reversed for some of the respondents for whom pregnancy outcome and TANF receipt are measured simultaneously at the 1-year follow-up. This limitation should be kept in mind. Following presentation of the main results, the sensitivity analysis addresses how these concerns about timing affect the study's results.

The primary measure of welfare participation is whether the respondent received TANF in the 12 months preceding the 1-year follow-up interview. Thirty percent of respondents report that they did. By state, TANF receipt among this subsample ranges from a low of 13.8 percent in Florida to a high of 47.8 percent in Tennessee (see table 2).

This study uses three measures to capture states' stance on abortion: state abortion opinion, the number of abortion providers in the state, and state abortion policies. State abortion opinion is measured as the percentage of state residents who say that abortion should never be legal. Data for this measure were collected by the Senate National Election Study in 1988, 1990, and 1992. The data were aggregated to the state level and pooled across years by Barbara Norrander (2001).⁷ The measure of state abortion providers comes from a provider count conducted in 2000 (Finer and Henshaw 2003); for each state, the number

of providers is divided by the state's population (in 100,000s) in 2000, such that the resulting measure is a ratio of providers to residents. The measure of state abortion policies is an index that indicates whether each examined state enforced up to three abortion laws in 2000. These provisions include a policy that prevents the state Medicaid program from covering abortions, a requirement that minors notify their parents or obtain parental consent before having abortions, and a requirement that women complete waiting periods or counseling sessions before obtaining an abortion. These three provisions are prominently mentioned in texts on abortion policy (e.g., McFarlane and Meier 2001). Unlike other policies that were generally unenforceable in 2000 (e.g., abortion bans), these three may concretely affect the ability to obtain an abortion when a woman desires one. Because of the strong relations among opinion, policy, and provider supply (Wetstein 1996), the three measures of state abortion stance are used to create a single principal-components factor score. This is a continuous variable that ranges from 0 to 1.

Tables 1 and 2 explain these four measures in detail. In sum, across the 15 Fragile Families states, the California public shows the most support for abortion rights, while the Virginia public shows the least. The abortion provider supply appears to be thinnest in Wisconsin and most plentiful in New York. Michigan, Pennsylvania, and Virginia enforced all three abortion policies examined. California, Illinois, Maryland, New Jersey, and New York enforced none of these policies. On the continuous state abortion stance factor, scores for California and New York are at or near zero. Those for Michigan, Wisconsin, Ohio, Pennsylvania, Indiana, and Virginia crowd between 0.9 and 1.

Because individual-level TANF participation is a key welfare measure and because this study interacts it with a measure of the abortion rights climate in the Fragile Families states, it is important for this research to establish that these states' TANF policies do not differ systematically with the abortion rights climate. Welfare policy data give little reason to believe that they do. Fragile Families investigators considered TANF benefit generosity in stratifying U.S. cities for sampling. Although cities in the high-generosity benefit category include some in pro-choice California and New York, that category also includes cities in the pro-life states of Michigan, Ohio, and Wisconsin (Reichman et al. 2001).

A brief examination of data on the 15 Fragile Families states from the Urban Institute's Welfare Rules Database also fails to reveal, as of 2000, a clear, discernible relation between state TANF policies and the state's overall stance toward abortion.⁸ This analysis of the Urban Institute data (not shown) finds sanctions for TANF rule violations to be strictest in the states categorized as moderate on abortion and to be most lenient in the states categorized as pro-choice. Pro-choice and pro-life states differ little in the timing of work requirements for new TANF

recipients. Most of the pro-choice and pro-life states require new recipients to work or participate in a work-related activity almost immediately; the remaining states require work after an assessment or orientation. This study's analysis also suggests that pro-life and pro-choice states have similar policies on the duration of the work activity exemption granted to mothers caring for infants (a mean of 9 months). Family cap policies are on the books in two of three pro-choice states, all of the moderate states, and three of six pro-life states; the seventh pro-life state has a flat benefit policy (i.e., the benefit does not change with the size of the family).

Although the key welfare measure is individual-level TANF participation, this study controls for additional items. The maximum TANF benefit for a family of three and family planning spending per capita are captured for each of the 15 states. Both items are adjusted for state-by-state differences in the cost of living. Because Fragile Families data do not measure respondents' attitudes toward abortion, the current study uses two measures that substitute for such attitudes: the frequency of church attendance and whether the respondent reports at baseline that she considered abortion of the focal child. The model controls for whether the respondent reports being a victim of domestic violence. Also included is an 11-item index that assesses father involvement and support in the parenting of the focal child.⁹

Models also control for several demographic and economic variables. These models hold constant marital status (married or not), education (dummies for a high school diploma only and for at least some college experience), race (black or not), and age (over 35 or not). Household income per capita (adjusted for state cost-of-living differences), the respondent's report of whether she worked between the birth of the focal child and the 1-year follow-up, and her report of whether she was in school at the 1-year follow-up are also included. Models also control for whether the respondent reports an experience of concrete economic hardship in the 12 months before the 1-year follow-up interview. This measure is a dummy variable equaling 1 if the respondent answered affirmatively to at least one of the following questions "because there wasn't enough money":

- Did you receive free food or meals?
- Did your (child/children) go hungry?
- Did you go hungry?
- Did you not pay the full amount of rent or mortgage payments?
- Were you evicted from your home or apartment for not paying the rent or mortgage?
- Did you not pay the full amount of a gas, oil or electricity bill?
- Was service turned off by the gas or electric company, or did the oil company not deliver oil?
- Was service disconnected by the telephone company because pay-

ments were not made?

- Did you borrow money from friends or family to help pay bills?
- Did you move in with other people even for a little while because of financial problems?
- Did you stay at a shelter, in an abandoned building, an automobile or any other place not meant for regular housing even for one night?
- Was there anyone in your household who needed to see a doctor or go to the hospital but couldn't go because of the cost?

Table 1 details coding, sources, and summary statistics for each variable in this analysis.

All multivariate analyses employ probit models. Robust standard errors are clustered at the state level. Presentation of the main models is followed by discussion of analyses that examine the sensitivity of findings to different measures and samples and that assess the possibility of endogeneity bias.

Results

Multivariate Results

Table 3 presents the results of probit models of whether a pregnant woman chooses abortion. The four models presented vary only in the state abortion rights climate measure on which TANF receipt is conditioned: state abortion opinion (Opinion model), the number of abortion providers per 100,000 residents (Provider model), an index of state abortion policies (Policies model), and the principal-components factor score of all three. The score reflects the state stance on abortion (Overall Stance model).

Because each model includes an interaction term that allows the relation between abortion and whether a woman receives TANF to vary with each measure of the state abortion rights climate, interpretation of coefficients requires care. The coefficient on whether a woman receives TANF represents the association of TANF and the probability of choosing abortion when the applicable state abortion rights climate measure equals zero. As the value of each state abortion rights climate measure increases from zero, thus growing more pro-life, the TANF coefficient must be adjusted by the interaction term. Interpretation of the association between each abortion rights climate measure and abortion should proceed likewise.

In each of the four models, the estimated relation between TANF receipt and abortion varies to a statistically significant degree with the measure of the state abortion rights climate. In sum, while the estimates suggest that TANF exerts an apparent pro-life effect, it emerges only as state public opinion grows more pro-life, abortion providers grow scarcer, and the state enforces more abortion regulations. In the Opin-

Table 3

TANF, STATE ABORTION RIGHTS CLIMATE, AND ABORTION DECISIONS

	MODEL			Overall Stance
	Opinion	Provider	Policies	
Receives TANF	1.019** (.357)	-.703** (.213)	.209 (.148)	.443* (.180)
State abortion opinion	-.051* (.023)			
Receives TANF × state abortion opinion	-.080** (.026)			
Abortion providers per 100,000 state population		.796** (.136)		
Receives TANF × abortion providers		.842** (.275)		
Abortion policies index			-.087 (.074)	
Receives TANF × abortion policies			-.204** (.076)	
Overall state stance on abortion				-.621** (.201)
Receives TANF × overall state stance on abortion				-.874** (.248)
State TANF benefit	-.006 (.072)	.032 (.035)	.034 (.079)	.006 (.053)
State family planning spending per capita	.015 (.035)	-.029 (.024)	.053 (.033)	.006 (.024)
Experienced concrete economic hardship	.170** (.052)	.206** (.056)	.154** (.050)	.182** (.053)
HH income per capita	.006 (.007)	.006 (.007)	.004 (.007)	.005 (.007)
Any employment since childbirth	.094 (.087)	.037 (.091)	.079 (.087)	.094 (.091)
Currently in school	.022 (.065)	.056 (.074)	.005 (.065)	.025 (.068)
HS diploma	.060 (.142)	.075 (.143)	.084 (.137)	.070 (.141)
Some college or college grad	-.007 (.137)	.015 (.153)	.039 (.139)	.010 (.137)
Married	-.601** (.086)	-.662** (.088)	-.618** (.083)	-.621** (.085)
Black	.502** (.099)	.355** (.079)	.387** (.089)	.422** (.079)
No. of prior biological children	-.191** (.049)	-.181** (.055)	-.187** (.050)	-.185** (.052)
Age 35 or older	.386* (.185)	.415* (.186)	.366+ (.188)	.383* (.184)
Attends church weekly	-.202* (.087)	-.187* (.093)	-.191* (.084)	-.204* (.089)
Considered abortion of focal child	.416** (.056)	.412** (.057)	.417** (.054)	.418** (.058)

Table 3 (Continued)

	MODEL			Overall Stance
	Opinion	Provider	Policies	
Domestic abuse victim	.471* (.187)	.467* (.192)	.463* (.189)	.478* (.193)
Father involvement	-.127* (.064)	-.140* (.070)	-.121 ⁺ (.068)	-.141* (.067)
Constant	.056	-1.066**	-.808*	-.238 (.336)
Pseudo R^2	.152	.163	.139	.158
N	1,070	1,070	1,070	1,070

NOTE.—TANF = Temporary Assistance for Needy Families program; HH = household; HS diploma = high school or general equivalency diploma. Figures are probit coefficients. Parentheses enclose standard errors clustered at the state level.

⁺ $p < .10$.

* $p < .05$.

** $p < .01$, two-tailed tests.

ion model, the receives TANF result (1.019) represents the nonexistent case in which no one supports a total prohibition of abortion. The statistically significant and negative coefficient estimated for the interaction of TANF receipt and state abortion opinion ($-.080$) suggests that, as statewide public opinion becomes increasingly pro-life, TANF recipients become less likely than other women to resolve a pregnancy in abortion.

To facilitate substantive interpretation of these estimates, S-Post (Long and Freese 2006) is used to compute changes in the predicted probability of the dependent variable associated with changes in TANF receipt and each measure of the state abortion rights climate. More specifically, the analysis predicts the likelihood that abortion is chosen by a woman who, on the basis of the means of continuous variables and modes of categorical variables, might be considered a typical pregnant Fragile Families respondent. This respondent is an unmarried black woman with one prior child. She lacks a high school diploma and does not attend school but has had at least some work experience since the birth of her last child. She does not report domestic abuse, does not attend weekly church services, and did not consider aborting her previous pregnancy. All other variables take their sample means (table 1). Setting state abortion opinion so that only 6 percent of the public agrees that abortion should never be legal (a value close to the minimum for these 15 states), the analysis predicts that women who receive TANF are a statistically significant ($p < .05$) 18.8 percentage points more likely than comparable women to choose abortion. When setting state abortion opinion so that 19 percent of the public agrees that abortion should never be legal (a value approaching the maximum value for these 15

states), the analysis predicts that women who receive TANF are a statistically significant ($p < .05$) 15.8 percentage points less likely than comparable women to choose abortion.

The Provider model examines the role of provider supply (i.e., the number of providers per 100,000 state residents) in women's decisions to have abortions. In this model, the direction of relations is reversed because higher values on the abortion provider measure suggest a more pro-choice climate. In a hypothetical state with no abortion providers, TANF recipients are estimated to be statistically significantly less likely than other women to choose abortion ($-.703$). The estimated coefficient for the interaction between TANF receipt and provider supply suggests, however, that as the number of abortion providers grows, TANF recipients eventually become more likely than other women to have an abortion (.842). If these changes are expressed as predicted probabilities for the same typical respondent described above, TANF receipt is associated with a statistically significant ($p < .10$) 12.4 percent increase in the likelihood of choosing abortion when the number of abortion providers is set at 1.23 per 100,000 residents, its maximum across the 15 states. When the number of abortion providers is set at its minimum, 0.19, the model predicts that the typical respondent is a statistically significant ($p < .05$) 14.4 percentage points less likely to choose abortion if she receives TANF than if she does not.

In the Policies model, estimates for the index of state abortion policies suggest that, in states that do not enforce any of the three examined abortion policies, the association between TANF receipt and abortion does not reach statistical significance (.209). However, as the number of enforced policies grows, a negative and statistically significant relation emerges between TANF receipt and likelihood of choosing abortion ($-.204$). For a typical respondent living in a state that enforces all three abortion policies, this translates into a statistically significant ($p < .05$) 13.2 percentage point decrease in the likelihood of abortion for women who receive TANF, as compared to comparable women who do not receive TANF.

The Overall Stance model presents results from efforts to capture an overall state stance on abortion, and the estimates follow a pattern similar to those in the first three models. When the overall state abortion stance variable takes its minimum (most pro-choice) value, 0, the model estimates a positive and statistically significant relation between a respondent's receipt of TANF and her likelihood of choosing abortion (.443). The negative and statistically significant coefficient on the receives TANF \times overall state stance on abortion measure ($-.874$), however, suggests that women who receive TANF eventually become less likely than comparable women to choose abortion as their state's stance on abortion grows more pro-life. Substantively, when setting overall state

abortion stance at its minimum value for these data, the predicted probability that the same representative respondent described above will have an abortion increases from 56.6 percent if she does not receive TANF to 72.9 percent if she does receive TANF ($p < .05$). By contrast, the analysis estimates a much lower probability that the same woman will choose abortion, if her state's stance on abortion takes the maximum (most pro-life) value found in these data, and a much different association with TANF. For this woman, the model predicts a 32.5 percent chance that she will choose abortion if she does not receive TANF and an 18.8 percent chance she will choose abortion if she does receive TANF ($p < .05$).

The four measures of the state abortion rights climate (abortion opinion, the number of abortion providers, the index of abortion policies, and the overall state stance factor) carry their expected signs, such that the likelihood of abortion is predicted to decline as the state's climate becomes increasingly pro-life. Each of these coefficients, except that for the abortion policy index, is statistically significant. Meanwhile, the signs and statistically significant coefficients on all four of these variables' interactions with TANF receipt suggest that the association of each variable with abortion is stronger among women who receive TANF than among women who do not.

Other statistically significant correlates of the abortion decision show consistency across models. Regardless of the abortion rights climate measure used, models estimate statistically significant increases in the likelihood of abortion among black women, women age 35 or older, women who report being a domestic abuse victim, women who report that they considered aborting the focal child, and women who report experiencing a concrete economic hardship in the 12 months before the 1-year follow-up interview. By contrast, all models estimate weekly church attendance, the number of biological children, and involvement and support from the focal child's father to be negatively and statistically significantly associated with the likelihood of choosing abortion.

In nonlinear models, the sign, size, and statistical significance of an interaction effect can vary across observations, and those variations can sometimes be dramatic (Ai and Norton 2003). To ensure that table 3's results do not mislead, this analysis next uses Stata's *inteff* routine to estimate corrected mean interaction effects across all cases (Norton, Wang, and Ai 2004). This interaction effect represents the total percentage-point change in the probability of *Y* associated with a 1-unit increase in both interacted variables. For the Opinion (receives TANF \times state abortion opinion), Policies (receives TANF \times abortion policy index), and Overall Stance (receives TANF \times overall state stance on abortion) models, the mean interaction effects are estimated to be statistically significant at the .05 level, and their signs remain negative. For

the Provider model (receives TANF \times abortion providers), the interaction effect is estimated to be statistically significant at the .10 level, and its sign remains positive.

Estimated mean interaction effects are also large in magnitude. In the Overall Stance model, a 1-unit increase in both interacted variables represents a shift from no TANF receipt to TANF receipt and a move from the state with the most pro-choice stance on abortion in these data (a value of 0) to the most pro-life stance on abortion in these data (a value of 1). For this model, the *inteff* routine estimates a mean interaction effect of -0.195 . This represents a reduction of almost 20 percentage points in the likelihood of choosing abortion.

Sensitivity Analysis

One might reasonably question the nature of the conditional TANF effect and the extent to which it represents the actual experience of TANF participation. An alternative possibility is that the TANF effect in states with a pro-life stance stands in for unmeasured effects of disadvantage and for low-income women's sensitivity to the costs of abortion. Table 4 presents key coefficients from alternative models; all models contain the same controls as table 3's Overall Stance model.

The first set of results presented in table 4 comes from a model in which a respondent's receipt of housing assistance (a voucher or public housing), rather than her receipt of TANF, serves as the key independent variable. In these data, TANF and housing assistance programs have similarly sized and similarly disadvantaged clientele. The two programs share about one-half of their clientele. Housing assistance recipients should therefore share any unmeasured characteristics associated with disadvantage as well as any extra sensitivity to abortion costs. However, housing assistance programs are typically administered by a local housing authority rather than the general state human services bureaucracy that runs the TANF program in each state. Housing assistance programs operate largely according to federal rules and, although TANF's style can be characterized as paternalistic, housing assistance programs exercise authority in a more removed, "bureaucratic" fashion (Bruch, Ferree, and Soss 2010, 210). In-kind assistance (here in the form of housing assistance) is also less flexible than cash assistance and so is potentially less useful to recipients. If results for the measure of TANF participation and those for its interaction with state stance on abortion really represent poverty and low-income women's sensitivity to abortion costs, one might expect the analyses to identify a relation between housing assistance receipt and abortion, a relation that is conditional on the state stance on abortion.

These relations do not materialize (see table 4, Housing Assistance model). Women who receive housing assistance are not statistically sig-

Table 4

SENSITIVITY OF KEY FINDINGS TO ALTERNATIVE MEASURES

	HA	PSN	Hardship	New Moms	3 Yr.	FE	Base. Welf.
Receives housing assistance	.109 (.175)						
Overall state stance on abortion	-.833** (.190)	-1.284** (.425)	-.581** (.186)	-.594+ (.304)	-.509** (.179)	-.363* (.155)	-.677** (.176)
Receives housing × overall state stance on abortion	-.319 (.273)						
Private safety net		-.041 (.063)					
Private safety net × overall state stance on abortion		.099 (.081)					
Receives TANF			.434* (.186)	.601** (.224)	.182 (.254)	.359 (.246)	
Receives TANF × overall state stance on abortion			-.861** (.259)	-1.001** (.251)	-.796* (.336)	-.913** (.280)	
Experienced concrete economic hardship			.233+ (.132)				
Experienced hardship × overall state stance on abortion			-.082 (.191)				
Receives welfare at baseline and TANF at follow-up							.615* (.241)
Welfare at baseline and TANF at follow-up × overall state stance on abortion							-1.091** (.341)
Pseudo R^2	.151	.151	.159	.204	.138	.267	.159
N	1,068	1,070	1,070	495	695	1,070	1,065

NOTE.—HA = Housing Assistance model; PSN = Private Safety Net model; Hardship = Hardship model; New Moms = New Mothers Only model; 3 Yr. = 3-Year First Pregnancies Only model; FE = Fixed Effects model; Base. Welf. = Baseline Welfare model; TANF = Temporary Assistance for Needy Families program. Figures are probit coefficients, with standard errors clustered at the state level in parentheses. Aside from the variables being replaced, models contain all controls reported in table 3. Unless otherwise indicated in the text, statistically significant probit coefficients on interaction terms are also statistically significant when corrected.

+ $p < .10$.

* $p < .05$.

*** $p < .01$, two-tailed tests.

nificantly more likely to choose abortion than comparable women who do not receive housing assistance. These estimates further suggest that the relation between housing assistance and abortion does not vary with the state's stance on abortion.

Table 4 next presents the Private Safety Net model, in which a measure of the private safety net provided by friends and family substitutes for the TANF receipt indicator. Fragile Families interviewers asked respondents whether they could count on someone for a loan of \$200, a loan of \$1,000, emergency child care, a place to live, a cosignature for a loan of \$1,000, or a cosignature for a loan of \$5,000. If access to resources indeed factors into respondents' pregnancy decisions, the anticipated level of private support should be inversely related to the likelihood of abortion. Further, if TANF magnifies local abortion policy and politics more effectively than women's other support networks, the private safety net's effect on abortion should not vary with state stance on abortion. In the Private Safety Net model, the estimated coefficient for the private safety net is not statistically significant, nor is the term for the interaction between the private safety net and the state stance on abortion.

Table 4 also presents results from the Hardship model. This model includes TANF participation and its interaction with state abortion stance but differs from the Overall Stance model in table 3 in that it also allows the effects of material hardship to vary with state stance on abortion. If the interaction of TANF receipt and the state's stance toward abortion picks up economically marginal women's sensitivity to abortion costs, that sensitivity might also be identifiable in an interaction of hardship and the state abortion stance, but this is not the case.

This study's conclusions are subjected to a few additional tests. In one, the analyzed sample is limited to women for whom the Fragile Families focal child was the first child to whom they gave birth. This specification removes those TANF recipients who may have had long-term experiences with the program since TANF eligibility rules generally require recipients to have dependent children. Inclusion of women with prior histories of AFDC or TANF may be problematic for a few reasons. State abortion policy and the availability of abortion providers may change over the time in which the participant receives program benefits. In addition, women with lengthy welfare histories may have begun their childbearing under a more generous system than the one in place at the time of the interview. Finally, because the Fragile Families study was conducted after welfare reform, sample members who receive cash assistance are subject to lifetime limits on that assistance. States could, however, exempt a portion of the TANF caseload from time limits, and exemptions are typically given to those facing the most severe barriers to economic self-sufficiency (Farrell et al. 2008). The distinction between women with lengthy histories of welfare and the large majority of cash assistance recipients, who use the program as a temporary safety net

(Blank 1997), may be more qualitatively different in the postreform years than it was in the prereform years.

The results change little if the analysis only uses women who are new mothers (New Mothers Only model). The term for the interaction between TANF receipt and the state stance on abortion is estimated to remain statistically significant. The estimated main effect of TANF receipt also remains statistically significant. Thus, in pro-choice states, new TANF recipients are estimated to be statistically significantly more likely to resolve a pregnancy in abortion than are other comparable low-income women. The analysis suggests that this relation weakens and reverses itself as the state's stance on abortion grows more pro-life.

The last three sets of results in table 4 represent tests attempting to verify that conclusions are not affected by those cases in which welfare participation and pregnancy outcomes are measured simultaneously. The 3-Year First Pregnancies Only model excludes respondents who reported at the 1-year follow-up that they gave birth or had an abortion. Here, the estimated coefficient for the relation between TANF receipt and abortion is no longer statistically significant, but the estimated term for the interaction between TANF participation and the state stance on abortion does rise to statistical significance (the mean inteff-corrected interaction effect does not). Yet, women experiencing pregnancy relatively soon after giving birth are theoretically interesting, especially since many of those pregnancies may be unintended. Excluding these women from the analysis also changes the demographic character of the sample in statistically significant ways, as those women who report a pregnancy outcome at the 3-year follow-up but not the 1-year follow-up have higher household incomes and are less likely to report economic hardship than are women who report a pregnancy outcome at the 1-year follow-up. They are less likely to receive TANF, more likely to be married, more likely to have college experience or a degree, and less likely to be black. These demographic differences suggest one possible interpretation of the ambiguous 3-Year First Pregnancies Only results; if TANF works at all as an alternative to abortion, it works that way only for the very most economically marginal women. A second, more cautious interpretation is that these findings call attention to the distinctiveness of women who receive TANF and who also experience a birth or abortion within 12–18 months of a subsequent birth. The discussion section of this article explores this point further.

Table 4's Fixed Effects model attempts to control for unmeasured differences associated with the survey wave at which respondents first report a pregnancy outcome and the region of the country where respondents live.¹⁰ In results not displayed in the table, a dummy variable that equals 1 when the pregnancy outcome is reported at the 1-year follow-up carries a positive and statistically significant coefficient. This suggests that, all else being equal, respondents reporting their first preg-

nancy outcome at the 1-year follow-up are more likely to have had an abortion than women reporting their first pregnancy outcome at the 3-year follow-up. While this finding may mean that a pregnancy reported at the 1-year follow-up was more likely to have been unintended than a pregnancy reported later, it may also reflect the biological difficulty of delivering a subsequent child in that time frame. Regional fixed effects in this model take the form of seven dummy variables. One of these represents the Midwestern states of Illinois, Indiana, Michigan, Ohio, and Wisconsin. A second represents Maryland and Virginia. The remaining five dummy variables represent California, Florida, Massachusetts, Tennessee, and Texas, respectively. Compared to a base category of coefficients for New Jersey, New York, and Pennsylvania, the coefficients for Florida and for Maryland and Virginia are negative and statistically significant; the Massachusetts coefficient is positive and statistically significant. With these additions, the receives TANF coefficient is positive but not statistically significant. The estimate of the coefficient interacting TANF receipt with state stance on abortion, however, remains negative and statistically significant. The inteff-corrected mean interaction effect, although not shown in the table, is statistically significant ($p < .05$) and similar in magnitude to the interaction effect from the model without fixed effects. The inteff routine estimates that TANF receipt, coupled with the 1-unit movement from the maximum pro-choice to the maximum pro-life state stance on abortion, is associated with a mean 17.5 percentage point decrease in the probability of abortion.

The final model in table 4, the Baseline Welfare model, features an altered TANF measure. At the baseline interview, Fragile Families interviewers asked whether new mothers had received income from "public assistance, welfare, or food stamps" in the 12 months before the interview, but interviewers did not query respondents about TANF specifically, as they did in subsequent interviews. The Baseline Welfare model considers respondents to be TANF recipients only if they report receiving "public assistance, welfare, or food stamps" at the baseline interview and TANF at the 1-year follow-up. This strategy improves the likelihood that respondents coded as TANF recipients would have begun receiving TANF before becoming pregnant. Results from this model are consistent with those presented in the Overall Stance model.¹¹

A further possibility is that at least some of the study's results may be affected by endogeneity of the abortion provider supply, as the number of providers should reflect, at least in part, local demand for abortion. This study follows Rebecca Blank and colleagues (1996) in exploring that endogeneity issue through instrumental variables estimation. This exploration uses as instruments the number of nonfederal physicians who are not ob-gyns (American Medical Association 2001) and the number of nonfederal hospitals (American Hospital Association 2003). Both instruments are adjusted to reflect the number per 100,000 state resi-

dents, and separate probits are run by TANF status. The results suggest that abortion provider supply remains a substantial and statistically significant predictor of pregnancy resolution, especially for TANF recipients. Because the instruments do not pass Wald tests of exogeneity ($p = .12$ for TANF recipients; $p = .95$ for others), this analysis cannot rule out an endogeneity problem. Its results, however, are consistent with Blank and colleagues' (1996) findings with respect to abortion providers' contribution to state abortion rates. After instrumenting, Blank and colleagues observe a large and statistically significant relation between abortion provider availability and abortion rates. Also, their comparisons of results under ordinary least squares and two-stage least squares estimation lead them to conclude that provider availability's effect is "not the result of endogeneity bias" (1996, 532).

Discussion

This analysis addresses speculation that welfare is pro-life, reducing abortion by improving poor women's economic capacity to choose childbirth. The results provide evidence for this hypothesis, but that evidence is found only in states where public opinion, policy choices, and a scarcity of abortion providers signal a preference for birth over abortion. In other words, the state abortion rights climate moderates the relation between welfare and pregnancy decision making.

The study argues that this finding may be due to interstate differences in the types of economic resources that welfare provides to disadvantaged women and to the types of messages (about the acceptability and desirability of abortion) that women may receive. It also argues that those messages are magnified through participation in the TANF program. In theory, public assistance in states with pro-life stances on abortion reduces the material cost of childbearing by offering a reasonably reliable although hardly extravagant set of basic resources that other disadvantaged women may struggle to secure. The state does not limit welfare recipients' abortion access any more than its policies constrain access for other disadvantaged women, but neither does it offer resources like Medicaid that may help disadvantaged women obtain abortions. In states with pro-life stances, a woman who chooses to end a problem pregnancy with an abortion may face greater social disapproval than would a counterpart in another state. She may have to pay more, travel farther, or wait longer to obtain an abortion. Participation in TANF may magnify the disapproval she encounters in a pro-life state, and she may also share the abortion attitudes prevailing in her state. If all these signals point her away from abortion and TANF's safety net (however porous) is available to her, she may be more inclined than a counterpart in another state to choose childbirth.

In pro-choice states, a disadvantaged woman with a problem preg-

nancy may perceive mixed signals. Although TANF offers her some cushion against the costs of childbearing, it also affords her access to resources that would reduce her cost of abortion. Among family, social network, welfare workers, and other service providers from whom she may seek help, she may be more likely to encounter the message that abortion is a legitimate option. Support networks in those states may even counsel her that abortion is the more responsible choice. In pro-choice states, she faces fewer barriers to accessing an abortion than do women in pro-life states, and welfare receipt may magnify her awareness of all this. Her opinions may parallel prevailing opinion in the state, such that she is more accepting of abortion than would be a counterpart in a pro-life state. Because she faces a much weaker set of deterrents to abortion than does her counterpart in a pro-life state, the material support that TANF offers may seem less helpful to her in confronting the financial pressures of low-income motherhood.

This study's results imply that expanding eligibility for TANF may reduce abortions, at least in states where a pro-life stance prevails. But these results should be read very cautiously since data limitations prevent this study from testing some very plausible alternative explanations. One question that these results invite concerns the consistency of low-income women's pregnancy decisions with their true reproductive preferences. Following the political commentary discussed in the introduction, this study discusses welfare's pro-life effect, as if TANF's safety net enables poor women to fulfill a desire for childbearing (or, at least, to avoid abortion). But an alternative interpretation is plausible; state abortion policies and politics may force many low-income women to carry unwanted pregnancies to term, running up welfare costs in the process (Henshaw et al. 2009). The results of analyses with alternative measures suggest, however, that the estimated effect of TANF participation does not simply indicate that these women share a particular sensitivity to abortion restrictions. The findings suggest that TANF recipients in pro-life states are statistically significantly and substantially less likely than other disadvantaged women to choose abortion, in spite of the barriers low-income women not on TANF would also confront in obtaining abortions. These findings further suggest that, to some extent, TANF enables childbirth rather than imposes it. Without data on pregnancy intention, reactions to the pregnancy, or future childbearing intentions, however, one can only speculate on this point.

Another matter to which the study cannot do full justice is the question of whether the observed welfare effect stands for unmeasured characteristics of selection into TANF. For example, a particularly strong desire for children may drive mothers' willingness to take welfare and their decision to carry subsequent pregnancies to term. If this were the case, one would not expect to find that TANF's relation to abortion varies with the abortion rights climate. In addition, Jane Mauldon and

colleagues (2004) find no clear evidence that welfare recipients want more children than other women do. Their study, however, does not comment on whether this varies by state. The TANF population may also have other unmeasured qualities and circumstances that differ systematically with state abortion rights climates. But state TANF policies and abortion rights climates appear unrelated in the Fragile Families states, and no clear alternative hypothesis emerges. Until future research formulates and tests that hypothesis, an important limitation is the possibility that selection into TANF drives this study's results.

As explained earlier, the simultaneous measurement of some respondents' pregnancy outcomes and TANF receipt presents a concern for these findings. While earlier analyses attempted to establish that, for most of these women, initiation of TANF receipt should have preceded the pregnancy, this study cannot definitively confirm that it did. Those analyses are also not immune from criticism.

The strong possibility of unreported abortions poses another threat to this study's conclusions. Evidence suggests that large proportions of women do not disclose abortions in surveys (Jones and Forrest 1992). When she validates survey data with her respondents' Medicaid records, Jagannathan (2001) finds that New Jersey welfare recipients report only 29 percent of the abortions that were actually performed on them. Exclusion of women from my study's analysis due to unreported abortions presents a particular concern if underreporting is systematically related to key independent variables. Evidence suggests that low-income women report fewer abortions than do other women (Fu et al. 1998), but this finding does not address the quality of welfare recipients' abortion reporting relative to that of other low-income women. Among New Jersey welfare recipients, however, the frequency with which women fail to report abortion grows as their number of negative abortion attitudes increases and their number of negative childbearing attitudes decreases (Jagannathan 2001). This finding may imply that levels of abortion reporting are lower among pro-life women than among others, and they may be more likely to reside in pro-life states. While my study offers reason to suspect that its TANF recipients' abortion reporting is less incomplete than that found in another data set, the underreporting concern remains relevant.

This study's sample limits the ability to generalize its findings. The study does not speak for disadvantaged women outside major cities. Although women with prior children are the majority of abortion patients, their childbearing decisions potentially involve a different set of considerations than those that influence decisions about a potential first birth. Findings from abortion patient surveys suggest that childless women are just as likely as other abortion patients to cite money as a reason for their decision, but childless women are considerably more likely to voice concerns about unreadiness for a baby and the interfer-

ence that parenting would impose on educational or career plans (Finer et al. 2005). American-style public assistance may not be enough to alleviate these broad concerns. Women who lack prior experience in parenthood, however, may have a rosier view of it (Musick 1993). First-time childbearing also opens wider access to public assistance, although this is likely to be attractive only to the most economically marginal recipients. Thin policy knowledge among Americans who do not receive public assistance may further complicate matters, limiting welfare's effects on their decisions. All of these considerations suggest that the study offers no clear guidance on whether the observed welfare effects can be expected to apply to childless women.

At least until future studies overcome these limitations, this research advances understanding of low-income women's childbearing and the role of welfare by illuminating the conditional nature of welfare's link to abortion. In doing so, it reinforces recent work on the conditional nature of the family cap (Camasso and Jagannathan 2009). This study's findings suggest that previous research, in which welfare's impact on abortion is generally found to be small and sensitive to specification if discernible at all, may understate welfare's role in preventing abortion. This seems to happen, however, only with growth in the practical, political, and social costs of abortion. Welfare thus seems to complement such political and policy efforts rather than to act as a substitute for them. Because of the study's limitations, these conclusions should be read cautiously. Superior data would include, among other things, validated abortion reports, more precise measurement of the timing of pregnancy outcomes and welfare receipt, and a richer array of questions about pregnancy intention and childbearing motivation. Should such data become available, this study's findings may provide a useful point of departure for its analysis.

Beyond the specific question addressed here, this research also contributes to a growing body of literature on the broad effects that policy can have on citizens. Policy may affect a range of attitudes and behaviors beyond those it specifically targets. These effects may come via "lessons" (Soss 1999) imparted by policy choices and the spirit in which they are implemented. Previous research elucidates interstate variation in administrative capacity (Mead 2004) as well as in political culture, institutions, and behavior (e.g., Elazar 1972; Hero and Tolbert 1996; Gimpel and Schuknecht 2003). The current study suggests that research on public policy's effects should consider the broad political, policy, and administrative context in which the policy of interest is situated. It also should consider the possibility of moderating effects. Indeed, this study finds them, even for behavior as deeply personal (however politicized) as the choices between childbearing and abortion.

Notes

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1. One exception is Lundberg and Plotnick's (1995) three-stage model for adolescents. The model suggests that links between benefit generosity and nonmarital childbearing are driven mainly by recipients' decision to forgo marriage rather than by their decision to choose childbirth.

2. In cases of rape, incest, or danger to the life of the mother, the federal government will pay for Medicaid abortions.

3. This is not to suggest that TANF recipients do not already hold those norms. Surveys suggest that, if analyses adjust for background characteristics, the marriage and child-bearing attitudes of welfare recipients are quite similar to those of other women (Mauldron et al. 2004).

4. Austin, TX; Baltimore; Boston; Chicago; Corpus Christi, TX; Detroit; Indianapolis; Jacksonville, FL; Milwaukee; Newark, NJ; New York; Nashville; Norfolk, VA; Oakland, CA; Philadelphia; Pittsburgh; Richmond, VA; San Antonio; San Jose, CA; and Toledo, OH.

5. The number of respondents in the subsample (1,070) is lower than the sample of 1,468 women who otherwise meet this condition because the subsample excludes some respondents from the analyses. The subsample excludes 216 residents of Oakland, CA, and Austin, TX, because some items on their questionnaires differ from the items used in other participants' questionnaires. In addition, the subsample excludes 32 women who reported an abortion and birth in the same survey, as well as 120 women whose state of residence changed between the baseline and the 1-year follow-up interview. Also excluded are respondents for whom values are missing on the variables in this study's model.

6. Results do not change much if the Overall Stance model in table 3 is run using data from the 3-year follow-up pregnancy instead. The results also are similar if the analysis drops all women who report pregnancy at both waves.

7. While a more recent state-level abortion opinion measure, if available, would have been preferable, data from 1988 to 1992 should provide a good approximation of abortion attitudes in 2000. Researchers observe an unusual degree of stability in national-level abortion opinion data from the 1970s through the 1990s (Jelen and Wilcox 2003).

8. For the purpose of this analysis, states are categorized as pro-choice, moderate, and pro-life. Categorization is based on clustering of values for the variable representing the overall state stance on abortion. Pro-choice states are California, New York, and New Jersey. Moderate states are Florida, Illinois, Maryland, and Massachusetts. The remaining states (Indiana, Michigan, Ohio, Pennsylvania, Tennessee, Texas, Virginia, and Wisconsin) are categorized as pro-life.

9. Items in the index include (a) "When (FATHER) is with (CHILD), he acts like the father you want for your child"; (b) "You can trust (FATHER) to take good care of (CHILD)"; (c) "He respects the schedules and rules you make for (CHILD)"; (d) "He supports you in the way you want to raise (CHILD)"; (e) "You and (FATHER) talk about problems that come up with raising (CHILD)"; (f) "You can count on (FATHER) for help when you need someone to look after (CHILD) for a few hours"; (g) "How often does he look after (CHILD) when you need to do things?"; (h) "How often does he run errands for you like picking things up from the store?"; (i) "How often does he fix things around your home, paint, or help make it look nicer in other ways?"; (j) "How often does he take (CHILD) places (he/she) needs to go, such as to daycare or the doctor?"; (k) "If you had to go away for one week and could not take (CHILD) with you, how much

would you trust (FATHER) to take care of your child? Would you trust him very much, somewhat, or not at all?" For items *a–f*, response options are always, sometimes, and rarely true. For items *g–j*, response options include often, sometimes, rarely, and never.

10. Sparse cell counts and the presence of other state-level variables make it impossible to estimate this model with a full set of state fixed effects.

11. As a further check, the study constructs another TANF measure that is specifically designed to increase the chances that TANF receipt began after the start of a pregnancy. Respondents are coded as receiving TANF only if they were a current TANF participant at the time of the wave 2 follow-up interview and did not report public assistance income at the baseline interview. In results from the model that uses this measure, neither the TANF coefficient nor the term for the interaction between TANF receipt and the state abortion stance is statistically significant. This suggests that women who begin to receive TANF after a subsequent conception are not driving this study's results.

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