Restrictions on Medicaid Funding of Abortion:

Effects on Birth Weight and Pregnancy Resolutions*

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Abstract

Previous research suggests that restricting the availability of abortion reduces average birth weight. In this paper we use data from the National Longitudinal Survey of Youth to reexamine this question. Most previous studies have estimated the probability that a pregnancy is carried to term, and then used these estimates to calculate "selection corrections" that are included in models of birth weight. We focus instead on reduced form models of birth weight that are not affected by under-reporting of abortion, and that do not involve strong identifying restrictions. We also explore the potential endogeneity of abortion laws by comparing jurisdictions with abortion restrictions to jurisdictions where restrictive laws have been passed but are enjoined by the courts. Our results provide little support for the hypothesis that restrictions reduce average birth weight. We also find some evidence that abortion restrictions are endogenous, and that estimated effects on birth weight may reflect unobserved characteristics of states.

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I. Introduction

Medicaid is a joint state/federal program of medical insurance for the poor, and the costs of most services are shared between the two levels of government. But the Hyde Amendment of 1976 restricted federal funding of abortion under the Medicaid program to cases in which the mother's life is in danger (Gold, 1982). This restriction has had the effect of eliminating federal funding of abortions. More than 99% of public funding for abortions currently comes from states (Gold and Guardado, 1988). Hence, poor women in states that do not pay for abortions under Medicaid may be unable to afford them.[1]

There is a large body of literature documenting the relationship between the distribution of birth outcomes and the availability of abortion services (Glass et al., 1974; Lanman, Kohl and Bedell, 1974; Quick, 1978; Grossman and Jacobowitz, 1981; Corman and Grossman, 1985; Joyce, 1987; Grossman and Joyce, 1990; and Joyce and Grossman, 1990). These studies all suggest that the women who are most likely to have unhealthy babies if abortion is not available, are also most likely to choose abortion. Hence, laws that restrict access to abortion services may increase the number of unhealthy fetuses carried to term.

In this paper we use data from the National Longitudinal Survey of Youth to extend this literature in three ways. First, most econometric studies have adopted a structural approach in which the first step is to estimate the probability that a pregnancy is carried to term. These estimates are then used to calculate "selection corrections" that are included in models of birth weight -- the single most important index of infant health (Institute of Medicine, 1985).

In practice, this approach suffers from two problems. First, all observers agree that abortions are severely under-reported in individual-level data. Second, in order to identify these models, it is necessary to assume that there are variables that affect birth weight only through their effects on the probability that a pregnancy is carried to term. It is unlikely that observed characteristics of the woman or her neighborhood will satisfy this criteria, and even laws regarding abortion may have independent effects on birth weights if they affect the number of clinics available for prenatal care, for example. Without these kind of variables, the model is identified only by assumptions about functional form which have no basis in social science research.

We adopt an alternative approach and focus on "reduced form" models of birth weight. The basic idea is that if laws regarding the Medicaid funding of abortion affect birth weights, then we should see an effect when we look at the distribution of birth weights. A second advantage of this method is that it does not require strong identifying restrictions.

A second contribution is that we explore the potential endogeneity of abortion laws by comparing jurisdictions with abortion restrictions to jurisdictions where restrictive laws have been passed but are enjoined by the courts. Our working assumption is that the actions of state legislatures reflect the wishes of the majority of voters in the state, whereas injunctions are imposed against the wishes of legislatures and therefore presumably against the wishes of most voters. Since both types of jurisdictions have passed restrictive laws, their unobserved characteristics should be similar, and if it is truly the law that matters rather than unobserved characteristics of the state, then restrictive laws that are enforced should have different effects than laws that have been enjoined. Previous studies of the effects of abortion laws treat the law as exogenous.

Our results provide only weak support for the hypothesis that restrictions reduce average birth weight, and we are unable to detect any effect on the probability of low birth weight. We also find some evidence that abortion restrictions are endogenous, so that estimated effects may reflect omitted characteristics of states.

II. Analytical Framework

Most economic analyses of birth weight have been based on a model in which each household faces a production function that determines the quantity and quality of children that can be produced, as well as a set of constraints and prices. The solution of a dynamic version of this model implies that at any point in time, there will be an optimal number of children C^*_t. If C_t is the actual number of children that a pregnant woman would have in the absence of an abortion, then a pregnant woman will choose to give birth if $b \equiv (C^*_t - C_t) \geq 0$.

For example, following Grossman and Joyce (1990), equations for the birth probability function and a birth weight production function can be specified as follows:

[1] $b = \alpha_1 z + \vartheta$, $\vartheta = \alpha_2 c + \alpha_3 a + \alpha_4 e + \varphi$, and

[2] $w = \beta_1 x + \upsilon$, $\upsilon = \beta_4 e + \omega$,

where **b** is the probability that a pregnancy is carried to term, **w** is the birth weight, and $\boldsymbol{\omega}$ and $\boldsymbol{\varphi}$ are unspecified random disturbances.

The vector **z** in the birth probability equation [1] contains determinants of the optimal number of children such as family income, religion, maternal education, maternal health and the number of mother's siblings. The vector **c** contains measures of the cost of contraception, **a** measures the cost of an abortion, and **e** measures the health endowment of the fetus. Rosenzweig and Schultz (1982, 1983, 1988), Joyce (1987), and Corman et al. (1987) emphasize that women with favorable fetal health endowments are more likely to give birth, other things being equal.

The vector **x** in the birth weight equation [2] includes determinants of the birth weight of the child such as the sex and race of the infant, and maternal smoking and drinking. However, birth weight also depends on the fetal health endowment **e**, which is unobserved.

Restrictions on the Medicaid funding of abortion will have a direct effect on the probability that a pregnancy is carried to term because they will increase **a**. Grossman and Joyce (1990) argue that increasing the cost of abortion will decrease the proportion of births that are "wanted". In turn, more babies will be born to mothers who smoke, drink, or engage in other behaviors detrimental to their fetuses, and to mothers whose infants have poor health endowments. Hence, the average infant born will have a lower value of **e**, and this will be reflected in lower average birth weights.

Similarly, increases in the cost of contraception, **c**, may also lower the proportion of pregnancies that are "wanted", with adverse effects on the average observed health endowments of fetuses carried to term. Factors that affect the optimal number of children, **z**, may also affect the average value of **e**, conditional on a birth. For example, a Catholic mother may be more willing to continue a pregnancy when the fetus is unhealthy.

These arguments all suggest that fetal health endowments conditional on birth will depend on **z**, **a**, and **c**. Hence,

$$[3]\ w|b = \beta_1 x|b + \upsilon|b,\ \upsilon|b = \beta_4 e|b + \omega|b,$$

where

$$[4]\ e|b = \alpha_1'z + \alpha_2'c + \alpha_3'a + \varphi'.$$

III. The Data

We combine information from the National Longitudinal Survey of Youth (NLSY) with state and county-level information from the Alan Guttmacher Institute (AGI) about the Medicaid funding of abortion, access to abortion services, and availability of prenatal care. The NLSY began in 1979 with 6,283 young women between the ages of 14 and 21, and these women have been surveyed in every year since.

The survey contains information about the socio-economic backgrounds of the women, reproductive histories, and pregnancy outcomes. Due to limitations on the information available about abortion restrictions, our sample covers the years 1980 to 1989.

The NLSY is not a representative sample of the population of pregnant women because it focuses on young women, and because the survey oversampled African-Americans, and the poor. However, it does focus on the young, minority women who are likely to be most affected by restrictions on the Medicaid funding of abortion, and who are most likely to bear children of low birth weight.[2]

The previous literature focuses on birth weight rather than on the probability of low birth weight. The reason for this is that only 8% of U.S. infants are of low birth weight (less than or equal to 2500 grams) which makes it difficult to identify effects in small samples. Also, 2500 grams is an arbitrary cutoff, which is not associated with any sudden decline in health outcomes. Nevertheless, the incidence of low birth weight is of greater importance than mean birth weight for policy purposes, since low birth weight infants have much high mortality rates, and account for 57% of neonatal costs (Schwartz, 1989). In what follows, we examine both measures.

In addition, we show separate results for whites (and hispanics), African-Americans, low-income women, and high-income women.[3] Dividing the sample by race is standard for analyses of birth weight -- African-American women tend to have babies of lower birth weight at all income levels, and the reasons are not well understood (Cramer, 1987).

Dividing the sample by income level provides a further check on our results: If it is the restrictive laws themselves that are important (rather than omitted characteristics of states), then these laws should have smaller effects on high-income women since these women are not generally eligible for Medicaid. Hence any significant estimated effects on these women must reflect either omitted state characteristics or reductions in the general availability of abortion services. We designate those with incomes over 185% of the poverty line as high-income.[4]

The individual-level data available in the NLSY offer an advantage over the more aggregated data used in some studies by allowing us to come much closer to estimating the rich theoretical model implied by equations [3] and [4]. The individual-level variables that we control for are listed in Table I.[5] In general, we expect women with more human capital (as proxied by income, age, education, height, absence of pregnancy losses, test scores, and the respondent's mother's education and work history) to have infants of higher birth weight, and to be less likely to carry a pregnancy to term (higher opportunity costs). Drinking and smoking have been shown to be associated with lower birth weights. The presence of a spouse or partner, number of siblings, urban residence, foreign language, religious attendance, Catholicism, southern residence, and living with both parents as a teen are expected to influence the probability of a birth, and perhaps to have independent effects on birth weight.

Since some of these variables might be considered to be endogenous, we have also estimated models excluding maternal age at the birth, the highest grade completed, prior pregnancy losses, presence of a spouse or partner, religious attendance, smoking, and drinking. Excluding these variables did not alter the conclusions discussed below. We also include dummy variables for the year of the pregnancy in an effort to capture changes due to the aging of our sample and changes in attitudes towards abortion over time.

State-level data about the Medicaid funding of abortions and the percentage of counties in a state that have abortion providers are taken from AGI surveys. Data on Medicaid funding is available for the years: 1980-1983, 1985, 1987, and 1990.[6] Data on the number of abortion providers by state from AGI's periodic surveys of all known abortion providers is available for the years 1980 to 1988 with the exception of 1983 and 1986 (Henshaw and Van Vort, 1992.).[7] Information about the percentage of counties in the state with abortion providers is included in the models estimated below as a proxy for the cost of an abortion, **a**.

State policies towards abortion are defined as nonrestrictive if the state provides Medicaid funding of abortion in all cases or in all "medically necessary" circumstances.[8] Restrictive states are those that only pay for abortions under more stringent conditions, the most stringent being the federal requirement that the woman's life is endangered. In 1982, 99% of the state funding of abortion took place in non-restrictive states, while the 28 states that followed the federal standard reported no spending (Gold and Nestor, 1984). Information about state funding of abortions under Medicaid during the period under study is available from the authors upon request. Eleven states changed their policies over the sample period.

Point-in-time county-level information is available from AGI for the number of hospitals with over 400 beds with outpatient services and one or more obstetrician-gynecologists (henceforth, hospitals with prenatal care), the number of clinics providing prenatal care, the number of obstetricians-gynecologists (OB-GYNs), the number of general and family practice physicians (GP-FPs), the number of local health departments that provide subsidized care, per 1000 births, and the fraction of births to unmarried women (Singh, Forrest, and Torres, 1989).

If providers of prenatal care, health departments, OB-GYNs and GP-FPs provide contraceptive services (which seems likely), and if births to unmarried women could be reduced by increasing access to contraception, then all these variables can be thought of as proxies for the cost of contraception, **c**, in equation [1] above. In addition, OB-GYNs may proxy for the availability of abortion services, since some doctors may perform abortions in their offices.

In the last part of the paper, we follow previous researchers and estimate models of the probability that a pregnancy is carried to term. We would not expect abortion restrictions to impact birth weights if they have no effect on the probability of a birth; hence we examine birth probabilities, keeping in mind the possible impact of under-reporting of abortion. Since we are focusing on the choice between birth and abortion in these models, we exclude pregnancies that ended in a fetal loss.[9] Births with missing birth weight and explanatory variables are also excluded. The resulting data set has information about 6543 pregnancies, 88% of which ended in a birth.

A comparison of the NLSY data with Vital Statistics data shows that while the number of births and pregnancy losses is accurately reported, there is substantial under-reporting of abortions especially in the early years of the survey and among minorities (Cooksey, 1990; Lundberg and Plotnick, 1990; Jones and Forrest, 1992).

AGI data on abortion ratios (abortions as a percent of live births and abortions) are obtained from providers rather than from surveys of individuals. The AGI data indicate that throughout the 1980s the abortion ratio for all women was approximately 30%. This ratio tends to be even higher for younger women, at 41% for 15 to 19 year olds, and 52% for 20 to 24 year olds. For whites only, the abortion ratio was 25 to 27% during the period and for all nonwhites it was approximately 39%. In contrast, in our NLSY sample of young women, the reported abortion ratio is 12% for all women, 12% for whites and 11% for African-

Americans.[10]

Means and standard deviations of the variables used in our analysis are shown in Table II for each of the 5 groups we consider. The unit of observation is the pregnancy rather than the woman (although this has little effect on the means reported).

Table II shows that about half of all sample pregnancies occurred in states with restrictions on Medicaid funding of abortion, while slightly over a quarter occurred in states forced by injunction to fund abortion services nonrestrictively. African-American and low-income women were more likely to live in a state with a restrictive funding law, and African-American women were less likely to live in a state with nonrestrictive funding by injunction.

The typical pregnancy occurred in a state where only a third of the counties had an abortion provider and in a county where there was one clinic providing prenatal care for every 1000 births and one large hospital providing prenatal care for every 2000 births. There were .6 OB-GYNs and 1.4 family or general practitioners per 100 births in the county.

IV. Results

a) Effects on Birth Weight

The effects of restrictions on the Medicaid funding of abortion on birth weight are shown in Tables IIIa, IIIb, IVa, and IVb.

The models in Tables IIIa and IIIb are estimated using random effects methods, in order to take account of the fact that a woman may have more than two births in the sample.

Table IIIa indicates restrictive laws have no significant effect on birth weight. And although restrictive laws that are enjoined (injunctions) are estimated to have a significantly negative effect on birth weights among high income women, F-statistics shown at the bottom of the table indicate that we are unable to reject the null hypothesis that neither type of law has any effect.

In contrast, the number of abortion providers is associated with significantly higher birth weights, especially among African-American women and low-income women. These effects are large -- for example, if the whole distribution of African-American birth weights were shifted 13 ounces to the right, the fraction of these infants who were of low birth weight would fall from 11% to around 4%.[11]

The only other community-level variables that are statistically significant are the number of hospitals in the county with prenatal care services, which has a positive impact on African-American birth weights, and the fraction of births to unmarried women. The latter has a large effect (-14 ounces) on birth weights among low-income women.

Turning to the individual-level controls, we find that, as expected, birth weight rises with income, the presence of a spouse or partner, the mother's height (a marker for health), and with maternal human capital as measured by either highest grade (for African-Americans) or AFQT scores (for whites). Birth weight is also higher for male babies, and lower for African-Americans, and when mothers smoke. Finally, African-Americans and low income women have babies of higher birth weight if they live in the south.

A potential problem with these results, is that restrictions on the Medicaid funding of abortion may influence the number of abortion providers, by restricting demand for their services if poor women are unable to self-finance abortions. That is, both the number of abortion providers and birth weights may both be functions of the law variables. We find for example, that in the average state with restrictive laws, only 18% of counties have an abortion provider, compared to 64% in states with laws that have been enjoined, and 49% in states without any restrictive laws.

Table IIIb shows the estimated coefficients on the law variables from an alternative model identical to that estimated in Table IIIa, except that does not include the number of abortion providers variable. At first glance, the results appear to be somewhat different from those discussed above. Now the coefficient on restrictive laws is statistically significant in the equations for African-Americans and for *high-income* women. The latter finding is remarkable, since high-income women are not eligible for Medicaid-funded abortions in any case and hence are not likely to be directly affected by the restrictions. On closer inspection, we see that as in Table IIIa, we are unable to reject the null hypothesis that restrictive laws have the same effect as laws that have been enjoined. In fact, in the case of high-income women, both coefficients are statistically significant, and the hypothesis that they are both equal to zero can be rejected at the 90% level of confidence.

Hence, restrictive laws appear to matter, whether or not they are implemented. Moreover, they matter more for high-income than for low-income women, even though high-income women aren't eligible for Medicaid funding of abortion. These counter-intuitive results strongly suggest that the laws only appear to reduce birth weight because they proxy for characteristics of states that are associated both with the passage of such laws, and with lower birth weights. The comparison of Tables IIIa and IIIb also indicates that the number of abortion providers is one such characteristic.

As discussed above, we have also estimated models using low birth weight as the dependent variable. Since this variable is dichotomous, we estimate probit models which are shown in Table IVa and IVb. The standard errors in these tables are not corrected for the fact that there may be more than one birth per mother. We have estimated similar models using one randomly chosen birth per mother which yielded similar point estimates, but had even higher standard errors. We were unable to find any significant effect of abortion restrictions on the incidence of low birth weight in any of these models.

It is natural to ask whether the insignificant coefficients on the law variables in Table IVa and IVb reflect the difficulty involved in identifying the determinants of a rare event in a small sample. The rest of the coefficient estimates reported in Table IV speak to this issue. We find that while the effects are generally weaker than those reported in Table III, many of the same patterns hold. For example, the fraction of births to unmarried mothers increases the probability of low birth weight, while the number of abortion providers, maternal education, maternal height, and having a spouse or partner, reduces it. We also find that prior pregnancy losses increase the probability of low birth weight among low-income women. These results suggest that it is possible to identify at least some of the determinants of low birth weight in the NLSY sample.

b) Probability of a Birth

Models of the probability of a birth are shown in Tables Va and Vb.[12] Since the dependent variable is dichotomous, these models are estimated using probits. Standard errors have not been corrected for the fact that a woman may have more than one pregnancy. As discussed above, we have also estimated similar models using one randomly chosen pregnancy per mother, and obtained similar, though less precise, results.

Since estimating the probability that a pregnancy is carried to term is the starting point of most of the previous literature, presenting these estimates facilitates comparisons with the previous literature and allows us to comment on the extent to which results regarding birth probabilities are likely to be driven by the significant under-reporting described above.

A second reason for turning to the birth probability models at this point, is that the reduced forms are somewhat difficult to interpret. It is possible that laws restricting the Medicaid funding of abortion do not affect birth weight because they do not have any effect on the probability that pregnancies are carried to term. Alternatively, it is possible for restrictive laws to increase the probability of a birth without having any effect on mean birth weight if more infants are born throughout the birthweight distribution.

Table Va shows that restrictive laws seem to have a positive effect on the probability that a pregnancy is carried to term -- the estimates imply that restrictive laws increase the probability of a birth by about 3% among whites and by about 10% among African-Americans, although the estimate for whites is only marginally significant. We also find that the probability of a birth is increased for high-income and low-income women by 4% and 5% respectively. Estimates from models that exclude the number of abortion providers are shown in Table Vb. They are quite similar to those discussed above, although the point estimate for whites becomes significant at the 95% level of confidence.

The Chi-squared statistics shown at the bottom of Table Va indicate that the null hypothesis that restrictions and enjoined laws have the same effect is rejected for African-Americans and for low-income women, but not for whites or for high-income women. In fact, restrictive laws have much bigger effects than enjoined laws on African-American and low income women, the two groups who one would expect to be most affected by the restrictions.

However, Table Vb shows that when the number of abortion providers is omitted from the model, the null hypothesis of equal effects can be rejected for every group. This comparison suggests that restrictive laws may increase birth probabilities among white and high-income women who are not directly affected by the restrictions, by indirectly reducing the number of abortion providers.

Turning to the other explanatory variables, we find that other measures of the availability of medical services have important effects. Higher numbers of OB-GYNs are associated with a lower probability that a pregnancy is carried to term, while the availability of free or subsidized health care (as measured by "Other Clinics" and "Subsidized Care") increases the probability of a birth.

The individual-level variables have roughly the signs one would expect: Women with higher earnings potential (as proxied by income, age, AFQT scores, and the education of the respondent's own mother) are less likely to have a birth as are those in urban areas. Women with a spouse or partner, those who lived with both parents at age 14, and those who report religious attendance are more likely to have a birth.

The sign of the effect we estimate for whites is the same as that reported by Lundberg and Plotnick (1990) using the same data, but the size is much smaller -- they calculate that the most restrictive Medicaid funding laws increase the probability of a birth by 61%. There are several possible reasons for this discrepancy. First, they include two indices of abortion policy, a measure of the restrictiveness of abortion funding, and a more general measure of "restrictiveness of abortion law". These variables appear to be collinear since they have large point estimates with opposite signs, and the authors note that each is significantly positive in an equation for abortions when entered separately.

Second, we include many more community-level variables, and these variables appear to have strong independent effects on birth probabilities as discussed above. Third, we group all funding restrictions together, and create a zero/one variable, while Lundburg and Plotnick use a continuous variable that ranges from one to four, with four being the most restrictive level.

The results of Levine, Trainor and Zimmerman (1994) are more directly comparable to ours. In a probit model based on NLSY data for all women, the coefficient on a dummy variable for restrictions on the Medicaid funding of abortions is .273, almost identical to our estimate of .270. These results have recently been replicated by Staiger and Stock (1994).

We can also compare our estimates to recent work by Blank, George, and London (1994). They use a 13 year panel of aggregate state-level data on abortion rates, collected from abortion providers. This data is thought to be much more reliable than that collected from individuals. They find that restrictions on the Medicaid funding of abortion reduce within state abortion rates by 14%. However, the actual abortion rate among state residents declines by only 5%, which suggests that these laws induce substantial cross-state migration for abortions. The latter figure is very similar to our estimate for all women, suggesting that the under-reporting of abortions in individual-level data leads to very little bias in the estimated effects of the law variables.

Nevertheless, it is useful to consider whether or not it is possible to explain our results using reasonable assumptions about patterns of under-reporting. Previous studies of the legalization of abortion suggest that these reporting effects may be important. For example, Glass et al. (1974) and Lanman et al.

(1974) found that increases in the number of legal abortions following legalization reflected decreases in the number of illegal abortions, rather than any increase in the pregnancy rate.

Suppose for example, that restrictive laws are more likely to be enacted in jurisdictions where there is a great deal of stigma attached to abortion. In this case, one would expect to find that both restrictive laws and enjoined laws were associated with higher birth probabilities, simply because abortion would be more under-reported in these jurisdictions. However, the Chi-squared statistics discussed above show that among African-American and low-income women, restrictive laws have greater effects than enjoined laws. Unless enjoining a restrictive law reduces the amount of stigma associated with abortion significantly, selective under-reporting of abortion cannot explain the differential effects of these two types of laws.

On the other hand, we cannot reject the hypothesis that among white and high-income women, restrictive laws and enjoined laws have the same effect when the number of abortion providers is controlled for. Hence, it is possible that the results for these two groups merely reflect under-reporting. In fact, under-reporting induced by stigma provides an additional possible explanation for our finding that Medicaid funding policy seems to have an effect on birth probabilities among high-income women.

V. Discussion and Conclusions

Our results are consistent with recent work showing that laws restricting the Medicaid funding of abortion increase the probability that a pregnancy is carried to term, at least among some groups of women. But we find that these laws have little direct effect on birth weight, or on the incidence of low birth weight. However, they may have an impact on the number of abortion providers. A study of the determinants of abortion availability would be of great interest for future research.[13]

Our results regarding the effects of the law on birth weight appear to be in conflict with much of the previous literature. There are several possible reasons. First, some studies (c.f. Meier and McFarlane, 1994) do not examine the effects of laws per se. Rather, they examine a measure of the availability of publicly funded abortion more generally, and find that babies have higher mean birthweight in areas with a higher incidence of publicly funded abortion. If laws regarding the Medicaid funding of abortion are not the main determinant of availability, then this finding does necessarily contradict our conclusions.

Second, previous studies have not taken account of the potential endogeneity of Medicaid funding laws. Our results suggest that since restrictive laws have the same effect on birth weight whether they are enjoined or not, and often have greater estimated effects on high income than on low income women, the estimated effects reflect omitted characteristics of the state that are correlated with the passage of such laws, rather than a true effect of the restrictions.

Third, many previous studies rely on strong identifying assumptions in order to estimate structural models. Our approach is based on the simple observation that if restrictions on the Medicaid funding of abortion affect the distribution of birth weight, then this affect should be apparent in the data on births.

Endnotes

1. In 1978, 31 states restricted the Medicaid funding of abortion; this number had increased to 38 states by 1989.

2. We have not used the sample weights for two reasons. First, the weights are not directly relevant to our sample of pregnancies. Second, given that race and income are controlled for in the regressions, the use of weights based on these factors should have no impact on our estimates.

3. Preliminary work showed that the sample of hispanic births was not large enough to yield meaningful results and that it was more appropriate to group hispanics with whites than with African-Americans. In what follows, "white" refers to the white/hispanic group.

4. Over the sample period, the Medicaid income eligibility threshold for pregnant women rose dramatically. By 1989, the most generous states extended Medicaid eligibility to pregnant women with incomes less than or equal to 185% of the poverty line.

5. We have also tried including the following variables in our models: Whether there was an adult male in the household who worked when the respondent was 14, whether the child is the first born (in models of birth weight), and county-level data about the infant mortality rate; the birth rate; the percentage of women in the county with incomes below 185% of the poverty level; the number of WIC (Special Supplemental Feeding Program for Women, Infants and Children) centers in the county; the amount of AFDC (Aid to Families with Dependent Children) and Food Stamp income available to a woman with one child; and the fraction of births to women receiving inadequate prenatal care. The inclusion of these variables did not alter our conclusions regarding the effects of the law variables.

6. See Gold (1982) Table 2; Gold and Nestor (1984), Table 4; Gold and Nestor (1985) Table 4; Gold and Macias (1986) Table 3; Gold and Guardado (1988), Table 3; Gold and Daley (1991), Table 3.

7. Data on abortion providers for 1983 and 1986 were imputed by taking the mean value of providers in the two surrounding years; since the provider data ends in 1988, the 1988 value was

extended to 1989. For the years in which data on state laws is not available, we assign the law variable the value in the two surrounding years, provided the value is the same in these two years. In five instances in which there had been a change, we were able to find information on the timing of the law changes (see footnote 5 for data sources). A Data Appendix with more detailed information on the abortion funding law data is available from the authors.

8. In states that fund abortion under all "medically necessary" circumstances, a woman is usually required to find a doctor willing to certify that the pregnancy endangers her health. However, doctors may consider the woman's mental or emotional health when making this determination.

9. Pooling fetal losses and births had little effect on our estimates.

10. We recalculated these numbers excluding all women who reported pregnancies before our sample period on the grounds that if women are more likely to abort a first pregnancy, then excluding women with first pregnancies before the beginning of the sample could result in artificially low abortion rates. However, the numbers were almost identical to those reported above.

11. The calculation is based on the fact that the distribution of birth weights is approximately normal. For African-Americans, the mean birth weight in the NLSY is approximately 7 pounds, and the standard deviation is approximately 1.5 pounds. Hence, a change of 13 ounces would shift the distribution by approximately half of one standard deviation.

12. We focus on the resolution of existing pregnancies rather than on the possible effects of abortion restrictions on pregnancy rates. Moore and Caldwell (1977), Lundberg and Plotnick (1990), and Levine *et al*. (1994) find that government policy towards abortion has little impact on pregnancy rates. On the other hand, using county-level data, Staiger and Stock (1994) find that reducing the distance to an abortion provider increases teen births.

13. Over the 1980 to 1989 sample period used in this paper there were only 12 law changes. Hence, it is not surprising that it is difficult to detect the any effect of state laws in regressions that include both state and year dummies. A longer time series would permit a more compelling investigation

of this issue. Also, it would be useful to collect information about other determinants of the availability of abortion services, and to consider additional measures of availability such as distance to the nearest provider, or the percentage of the state's population living in a county with an abortion provider.

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TABLE I

Variable Definitions

Laws	
Restrictive	1 if state Medicaid funding of abortion is subject to restrictions, 0 if nonrestrictive voluntarily or nonrestrictive by court order.
Injunction	1 if state Medicaid funding of abortion is nonrestrictive by court order, 0 if nonrestrictive voluntarily or restrictive.
Community	
Abortion Providers	Percent of counties with abortion providers in state of residence, year of pregnancy.
Hospitals	Number of large hospitals (400+ births) with outpatient services and 1+ OB-GYNs in county, per 1000 births, 1987-1988.
Other Clinics	Number of community health centers with primary health care services and local health departments with direct prenatal care in county, per 1000 births, 1988.
OB-GYNs	Number of obstetrician-gynecologists in county, per 100 births, 1988.
GP-FPs	Number of general and family practice physicians in county, per 100 births, 1988.
Births-Unmarried	Fraction of total births in county that are to unmarried women, 1984-1986.
Subsidized Care	Number of local health departments with subsidized care in county, per 1000 births, in 1988.
Individual	
Birth	1 if pregnancy ended in birth, 0 if ended in abortion.
Birth Weight	Weight of infant at birth in ounces.
Low Birth Weight	1 if infant weighed less than 5 pounds at birth.
Income[a]	Mean real income over three years surrounding pregnancy: the interview year prior to the pregnancy (pre-interview), the year preceding pre-interview, and the year following pre-interview. In $1000's.
Age	Age in year of pregnancy.
Top Grade	Highest grade completed as of year pregnancy began.
Prior Loss	Number of pregnancy losses prior to this pregnancy.

Spouse/Partner	1 if spouse/partner present in household in year of pregnancy.
Height	Woman's height in inches, mean 1981, 1982, 1983, 1985.
AFQT Score[b]	Score on Armed Forces Qualifications Test (AFQT) normalized by mean score for age.
Siblings	Number of respondent's siblings, 1979.
Urban	1 if urban residence at age 14, 0 if rural.
African-American	1 if African-American, 0 if White or Hispanic.
Foreign Language	1 if foreign language spoken at home in respondent's childhood, 0 otherwise.
Adult Female Work	1 if adult female in respondent's household at age 14 worked, 0 otherwise.
Lived w/Both Parents	1 if respondent lived with both parents from age 0-18, 0 otherwise.
Education R's Mom	Highest grade completed by respondent's mother.
Religious Attendance	1 if was church attender in 1979, 0 if did not attend church.
Catholic	1 if raised as a Catholic, 0 otherwise.
South	1 if respondent born in the South, 0 otherwise.
Male	1 if infant is male, 0 if female.
Drink	1 if respondent drank alcohol in the 12 months prior to birth of child, 0 otherwise.
Smoke	1 if respondent smoked cigarettes during the 12 months prior to birth of child, 0 otherwise.

Notes:

[a] Income is measured as a three-year moving average in order to reduce the impact of measurement error. See Geronimus, Bound, and Neidert (1994) for a discussion of this issue.

[b] Since all of the AFQT scores were administered at the same time, the women were of different ages when they took the test. We have standardized the scores using the mean score for each year of age.

TABLE II

Variable Means and Standard Deviations[a]

	ALL	AFRICAN-AMERICAN	WHITE/HISPANIC	LOW[b] INCOME	HIGH[b] INCOME
Outcomes					
Birth	.883	.879	.884	.886	.881
	(.322)	(.326)	(.320)	(.318)	(.323)
Birth Weight[c]	116.860	111.678	118.609	113.731	118.057
	(21.463)	(22.247)	(20.907)	(22.510)	(20.931)
Low Birth Weight[c]	.081	.121	.068	.105	.072
	(.273)	(.327)	(.251)	(.306)	(.259)
Laws					
Restrictive	.557	.629	.533	.617	.535
	(.497)	(.483)	(.499)	(.486)	(.499)
Injunction	.261	.181	.288	.215	.278
	(.439)	(.385)	(.453)	(.411)	(.448)
Community					
Abortion Providers	.336	.280	.354	.296	.351
	(.277)	(.254)	(.281)	(.266)	(.279)
Hospitals	.486	.526	.473	.473	.491
	(.445)	(.452)	(.442)	(.444)	(.445)
Other Clinics	1.039	1.346	.935	1.242	.962
	(2.107)	(2.232)	(2.053)	(1.951)	(2.160)
OB-GYNs	.609	.685	.583	.583	.619
	(.353)	(.377)	(.340)	(.372)	(.345)
GP-FPs	1.392 1.238	1.445	1.382	1.396	
	(.636)	(.511)	(.666)	(.638)	(.636)
Births-Unmarried	.232	.297	.210	.252	.224
	(.099)	(.100)	(.088)	(.103)	(.096)
Subsidized Care	.158	.109	.175	.216	.136
	(.789)	(.565)	(.851)	(.957)	(.714)
Individual					
Income	3.226	2.416	3.501	1.139	4.019
	(2.601)	(2.391)	(2.613)	(.540)	(2.636)
Age	22.841	22.376	22.999	22.095	23.121
	(3.414)	(3.339)	(3.425)	(3.391)	(3.378)
Top Grade	11.974	11.994	11.967	10.953	12.365
	(2.176)	(1.802)	(2.290)	(1.961)	(2.124)
Prior Loss	.179	.130	.196	.136	.195
	(.482)	(.383)	(.511)	(.409)	(.506)
Spouse/Partner	.564	.305	.652	.407	.622
	(.496)	(.460)	(.477)	(.491)	(.485)
R's Height	64.066	64.163	64.033	63.860	64.144
	(2.622)	(2.766)	(2.570)	(2.650)	(2.606)
AFQT Score	.850	.514	.964	.502	.983
	(.657)	(.445)	(.678)	(.503)	(.661)
Siblings	4.159	4.904	3.906	4.949	3.858
	(2.683)	(3.080)	(2.485)	(3.022)	(2.478)
Urban	.798	.804	.796	.784	.803
	(.401)	(.397)	(.403)	(.412)	(.398)
African-American	.253			.405	.196
	(.435)			(.491)	(.397)
Hispanic	.192			.210	.186

	(.395)			(.408)	(.389)
Foreign Language	.246	.039	.316	.235	.250
	(.431)	(.194)	(.465)	(.424)	(.433)
Adult Female Work	.507	.565	.487	.452	.528
	(.500)	(.496)	(.500)	(.498)	(.499)
Lived w/Both Parents	.515	.408	.553	.393	.563
	(.500)	(.492)	(.497)	(.488)	(.496)
Education R's Mom	9.808	9.698	9.846	8.602	10.269
	(3.919)	(3.746)	(3.975)	(3.916)	(3.819)
Religious Attendance	.847	.903	.828	.840	.849
	(.360)	(.295)	(.378)	(.367)	(.358)
Catholic	.351	.069	.447	.275	.380
	(.477)	(.253)	(.497)	(.447)	(.485)
South	.335	.581	.251	.430	.299
	(.472)	(.494)	(.434)	(.495)	(.458)
Male[c]	.512	.492	.519	.520	.510
	(.500)	(.500)	(.500)	(.500)	(.500)
Drink[c]	.439	.343	.472	.334	.479
	(.025)	(.475)	(.499)	(.472)	(.500)
Smoke[c]	.333	.278	.351	.383	.313
	(.026)	(.448)	(.477)	(.486)	(.464)
# Pregnancies	5844	1481	4363	1607	4233
# Births[c]	5159	1302	3857	1424	3731

NOTES:

a) Standard deviations in parentheses.

b) Low income refers to income below 185% of the federal poverty line for the relevant family size in the pregnancy year; high income refers to income at or above this level; the income cutoff is not defined for 4 cases due to missing family size data.

c) Birth Weight, Low Birth Weight, Male, Drink, and Smoke are only observed for live births.

TABLE IIIa

Birth Weight Random Effects Model Results

	ALL	AFRICAN-AMERICAN	WHITE/HISPANIC	LOW[b] INCOME	HIGH[b] INCOME
Laws					
Restrictive	-.471[a]	-.907	-.398	1.715	-1.201
	(1.087)	(2.451)	(1.230)	(2.318)	(1.233)
Injunction	-1.855*	-3.450	-1.091	.865	-2.845*
	(1.090)	(2.420)	(1.249)	(2.271)	(1.240)
Community					
Abortion Providers	5.514*	12.959*	2.505	9.139	3.861
	(2.453)	(5.132)	(2.874)	(5.132)	(2.798)
Hospitals	1.115	3.785*	-.190	2.555	.322
	(.691)	(1.400)	(.819)	(1.477)	(.791)
Other Clinics	-.109	.056	-.087	-.254	-.147
	(.146)	(.379)	(.161)	(.395)	(.162)
OB-GYNs	-.945	-.656	-.645	-2.526	-.484
	(1.030)	(1.927)	(1.286)	(1.967)	(1.208)
GP-FPs	.200	-.074	-.012	-1.533	.782
	(.535)	(1.477)	(.587)	(1.085)	(.605)
Births-Unmarried	-6.152	-6.514	-4.551	-13.744	-3.313
	(3.716)	(7.041)	(4.672)	(7.295)	(4.325)
Subsidized Care	-.475	-1.147	-.373	-.176	-.700
	(.375)	(1.126)	(.403)	(.644)	(.470)
Individual					
Income	.278*	.459	.193	1.265	.241
	(.136)	(.346)	(.148)	(1.247)	(.149)
Age	.032	-.342	.164	.283	-.132
	(.158)	(.337)	(.181)	(.311)	(.183)
Top Grade	-.042	.775*	-.225	.186	-.045
	(.201)	(.490)	(.222)	(.398)	(.233)
Prior Loss	.417	1.241	.296	-.211	.392
	(.631)	(1.695)	(.680)	(1.483)	(.694)
Spouse/Partner	2.422*	3.865*	1.931*	1.026	3.091*
	(.675)	(1.453)	(.765)	(1.425)	(.795)
R's Height	1.248*	1.311*	1.197*	1.094*	1.313*
	(.125)	(.242)	(.149)	(.240)	(.143)
AFQT Score	1.648*	-.721	2.032*	2.010	1.232
	(.709)	(1.907)	(.767)	(1.664)	(.784)
Siblings	.045	-.018	.095	.099	-.018
	(.129)	(.232)	(.159)	(.224)	(.156)
Urban	-.952	-1.748	-.658	-3.108*	-.225
	(.813)	(1.754)	(.931)	(1.597)	(.926)
African-American	-4.315*			-4.715*	-3.681*
	(1.015)			(1.931)	(1.197)
Hispanic	.268			.321	.692
	(1.460)			(3.604)	(1.578)
Foreign Language	.961	2.428	.994	-.485	1.153
	(1.267)	(3.848)	(1.116)	(3.283)	(1.346)
Adult Female Work	-.477	-1.919	.086	.468	-.819
	(.648)	(1.378)	(.746)	(1.303)	(.738)
Lived w/Both Parents	-.119	-.612	.089	-.862	-.056
	(.694)	(1.396)	(.815)	(1.344)	(.805)
Education R's Mom	-.075	-.107	-.067	-.424	.052

	(.131)	(.296)	(.146)	(.249)	(.152)
Religious Attendance	1.129	-.105	1.490	.221	1.422
	(.919)	(2.363)	(1.004)	(1.771)	(1.058)
Catholic	.118	2.406	-.295	1.831	-.282
	(.868)	(2.842)	(.898)	(2.075)	(.940)
South	1.024	5.017*	-.317	3.967*	-.232
	(1.107)	(2.375)	(1.267)	(2.088)	(1.284)
Male	3.999*	3.660*	4.207*	5.056*	3.686*
	(.553)	(1.195)	(.623)	(1.155)	(.639)
Drink	.174	.466	.154	.205	.222
	(.633)	(1.387)	(.717)	(1.331)	(.725)
Smoke	-6.092*	-4.006*	-6.570*	-6.842*	-5.532*
	(.699)	(1.517)	(.795)	(1.351)	(.820)
Constant	23.755*	15.372	25.859*	27.887*	23.075*
	(7.159)	(16.104)	(7.738)	(14.585)	(8.143)
Region dummies	[9]	[9]	[9]	[9]	[9]
Year dummies	[9]	[9]	[9]	[9]	[9]

# Observations	5159	1302	3857	1424	3731
R-squared	.086	.091	.075	.116	.082
Adj R-squared	.076	.053	.062	.081	.069

F-tests:					
Restrict=Injunct=0	1.46	1.06	0.38	0.28	2.68
Prob>F	[.233]	[.348]	[.681]	[.755]	[.069]
Restrict=Injunct	1.20	0.97	0.22	0.11	1.26
Prob>F	[.274]	[.326]	[.640]	[.743]	[.263]

NOTES:

a) Standard errors in parentheses. An asterisk indicates that the coefficient is statistically significant at the 95% level of confidence. Equations also include dummy variables for missing data for the following: AFQT Score, Adult Female Work, Lived w/Both Parents, Education R's Mom, South.

b) Low income refers to income below 185% of federal poverty line. High income refers to income above this cutoff.

TABLE IIIb
Law Coefficients from Models of Birth Weight Excluding Abortion Providers Variable

	ALL	AFRICAN-AMERICAN	WHITE/ HISPANIC	LOW[b] INCOME	HIGH[b] INCOME
(a) BIRTH WEIGHT					
Restrictive	-1.789[a]	-4.561*	-.959	-.494	-2.135*
	(.916)	(1.977)	(1.048)	(1.960)	(1.031)
Injunction	-1.368	-3.543	-.792	1.500	-2.463*
	(1.068)	(2.422)	(1.201)	(1.245)	(1.209)
F-tests:					
Restrict=Injunct=0	1.95	2.70	0.44	0.49	2.79
Prob>F	[.142]	[.067]	[.643]	[.614]	[.061]
Restrict=Injunct	0.19	0.22	0.02	0.96	0.09
Prob>F	[.666]	[.640]	[.879]	[.327]	[.768]
# Observations	5159	1302	3857	1424	3731

NOTES:
a) Standard Errors in parentheses. An asterisk denotes significance at the 95% level of confidence. Except for the exclusion of the Abortion Providers variable, the specifications include all explanatory variables reported in corresponding Tables 3-5.
b) Low income refers to income below 185% of federal poverty line. High income refers to income above this cutoff.

TABLE IVa
Low Birth Weight Probit Results

	ALL	AFRICAN-AMERICAN	WHITE/HISPANIC	LOW[b] INCOME	HIGH[b] INCOME
Laws					
Restrictive	-.020[a]	-.095	.012	-.228	.090
	(.096)	(.193)	(.116)	(.187)	(.117)
Injunction	.081	.093	.060	.107	.080
	(.096)	(.184)	(.119)	(.185)	(.117)
Community					
Abortion Providers	-.170	-.437	-.062	-1.034*	.169
	(.217)	(.395)	(.275)	(.420)	(.262)
Hospitals	-.036	-.174	.039	-.169	-.012
	(.064)	(.138)	(.078)	(.140)	(.075)
Other Clinics	-.011	-.033	-.002	-.060	.001
	(.015)	(.031)	(.017)	(.035)	(.016)
OB-GYNs	-.039	.012	-.078	.154	-.158
	(.086)	(.139)	(.117)	(.149)	(.111)
GP-FPs	.044	-.032	.075	.162	.004
	(.047)	(.113)	(.053)	(.093)	(.056)
Births-Unmarried	.799*	1.240*	.607	1.489*	.615
	(.316)	(.530)	(.437)	(.579)	(.395)
Subsidized Care	.021	.110	.006	-.050	.055
	(.030)	(.075)	(.035)	(.061)	(.037)
Individual					
Income	-.020	-.014	-.015	.094	-.022
	(.015)	(.034)	(.018)	(.106)	(.018)
Age	.012	.012	.012	-.024	.023
	(.014)	(.025)	(.017)	(.026)	(.017)
Top Grade	-.034	-.063	-.023	-.009	-.048*
	(.018)	(.037)	(.021)	(.033)	(.022)
Prior Loss	.059	.114	.033	.243*	.008
	(.054)	(.122)	(.062)	(.110)	(.064)
Spouse/Partner	-.194*	-.383*	-.130	-.211	-.203*
	(.062)	(.123)	(.075)	(.122)	(.076)
R's Height	-.049*	-.030	-.057*	-.036*	-.057*
	(.011)	(.018)	(.014)	(.019)	(.013)
AFQT Score	-.107*	-.082	-.124	-.238*	-.053
	(.063)	(.146)	(.074)	(.147)	(.073)
Siblings	.005	.008	.001	.001	.006
	(.011)	(.017)	(.014)	(.018)	(.014)
Urban	.039	-.060	.071	-.046	.063
	(.070)	(.130)	(.087)	(.130)	(.086)
African-American	.116			.133	.109
	(.084)			(.161)	(.102)
Hispanic	-.002			.131	-.112
	(.127)			(.285)	(.148)
Foreign Language	.007	-.270	.028	.138	-.016
	(.112)	(.328)	(.100)	(.266)	(.126)
Adult Female Work	.055	.047	.035	.050	.046
	(.055)	(.102)	(.068)	(.104)	(.067)
Lived w/Both Parents	.063	.217*	-.020	.159	.020
	(.059)	(.103)	(.073)	(.108)	(.073)
Education R's Mom	.014	.037	.008	.036	.002
	(.011)	(.022)	(.013)	(.020)	(.014)

Religious Attendance		.009	.185	-.030	.068	-.010
		(.077)	(.192)	(.087)	(.148)	(.094)
Catholic		-.078	-.184	-.053	-.246	-.034
		(.077)	(.233)	(.083)	(.180)	(.088)
South		-.063	-.134	-.033	-.259	.028
		(.093)	(.185)	(.110)	(.174)	(.113)
Male		-.111	-.108	-.124	-.187	-.065
		(.053)	(.096)	(.065)	(.099)	(.064)
Drink		.018	.034	.003	.041	.008
		(.433)	(.109)	(.071)	(.112)	(.070)
Smoke		.161	.112	.169	.337	.083
		(.061)	(.114)	(.074)	(.112)	(.076)
Constant		1.746	.748	2.034	1.504	2.113
		(.790)	(1.436)	(.998)	(1.471)	(.973)
Region dummies		[9]	[9]	[9]	[9]	[9]
Year dummies		[9[9]	[9]	[9]	[9]	
# Observations	5159	1302	3857	1424	3731	
Log Likelihood		-1364.527	-444.609	-902.379	-420.568	-911.149

Chi-sq Tests:						
Restrict=Injunct=0		0.99	0.92	0.26	2.95	0.83
Prob>Chi-sq		[.611]	[.631]	[.880]	[.228]	[.661]
Restrict=Injunct	0.83	0.92	0.12	2.82	0.00	
Prob>Chi-sq		[.361]	[.338]	[.734]	[.093]	[.945]

NOTES:

a) Standard Errors in parentheses. An asterisk denotes significance at the 95% level of confidence. Equations also include dummy variables for missing data for the following: AFQT Score, Adult Female Work, Lived w/Both Parents, Education R's Mom, South.

b) Low income refers to income below 185% of federal poverty line.

TABLE IVb
Law Coefficients from Models of Low Birth Weight Excluding Abortion Providers Variable

	ALL	AFRICAN-AMERICAN	WHITE/HISPANIC	LOW[b] INCOME	HIGH[b] INCOME
Laws					
Restrictive	.021[a]	.032	.026	.004	.048
	(.081)	(.156)	(.099)	(.163)	(.096)
Injunction	.069	.099	.053	.061	.096
	(.095)	(.184)	(.114)	(.194)	(.114)
F-tests:					
Restrict=Injunct=0	0.29	0.17	0.06	0.12	0.21
Prob>F	[.588]	[.682]	[.800]	[.732]	[.650]
Restrict=Injunct	0.27	0.15	0.11	0.07	0.36
Prob>F	[.765]	[.860]	[.899]	[.930]	[.700]
# Observations	5159	1302	3857	1424	3731

NOTES:
a) Standard Errors in parentheses. An asterisk denotes significance at the 95% level of confidence. Except for the exclusion of the Abortion Providers variable, the specifications include all explanatory variables reported in corresponding Tables 3-5.
b) Low income refers to income below 185% of federal poverty line. High income is income above that cutoff.

TABLE Va
Birth Probability Probit Results

	ALL	AFRICAN-AMERICAN	WHITE/HISPANIC	LOW[b] INCOME	HIGH[b] INCOME
Laws					
Restrictive	.270[a]*	.610*	.158	.314*	.234*
	(.081)	(.170)	(.097)	(.160)	(.098)
Injunction	.045	.023	.054	-.058	.067
	(.074)	(.146)	(.090)	(.148)	(.088)
Community					
Abortion Providers	-.176	.265	-.387	-.195	-.146
	(.175)	(.339)	(.216)	(.348)	(.208)
Hospitals	.086	.112	.083	-.030	.158
	(.064)	(.137)	(.075)	(.112)	(.083)
Other Clinics	.058*	.053	.063*	.001	.102*
	(.022)	(.039)	(.031)	(.036)	(.034)
OB-GYNs	-.277*	-.408*	-.207*	-.337*	-.252*
	(.076)	(.138)	(.096)	(.148)	(.092)
GP-FPs	-.032	-.183	.015	-.038	.006
	(.043)	(.117)	(.048)	(.080)	(.053)
Births-Unmarried	-.345	-.243	-.404	.202	-.561
	(.284)	(.544)	(.356)	(.589)	(.337)
Subsidized Care	.209*	.523	.196*	.157	.257*
	(.080)	(.392)	(.083)	(.114)	(.124)
Individual					
Income	-.014*	-.038*	-.003	.052	-.028
	(.009)	(.018)	(.012)	(.100)	(.010)
Age	-.015	-.051*	.002	-.070*	.006
	(.012)	(.023)	(.014)	(.023)	(.014)
Top Grade	-.014	-.028	.028	.012	.001
	(.016)	(.037)	(.018)	(.030)	(.019)
Prior Loss	.148*	.213	.124*	.131	.164*
	(.059)	(.141)	(.066)	(.137)	(.068)
Spouse/Partner	.690*	.273*	.808*	.356*	.805*
	(.053)	(.114)	(.060)	(.115)	(.063)
R's Height	.008	.009	.008	-.015	.018
	(.009)	(.018)	(.011)	(.018)	(.011)
AFQT Score	-.224*	-.002	-.259*	-.433*	-.174*
	(.050)	(.126)	(.056)	(.107)	(.059)
Siblings	.017	.005	.027*	.013	.017
	(.010)	(.017)	(.013)	(.018)	(.012)
Urban	-.100	-.264	-.046	-.305*	-.048
	(.067)	(.152)	(.077)	(.141)	(.079)
African-American	.025			.121	-.014
	(.073)			(.144)	(.087)
Hispanic	-.017			-.054	-.001
	(.101)			(.244)	(.116)
Foreign Language	-.131	-.476*	-.123	-.010	-.137
	(.086)	(.222)	(.079)	(.218)	(.097)
Adult Female Work	-.039	-.135	-.012	-.035	-.018
	(.049)	(.103)	(.057)	(.099)	(.058)
Lived w/Both Parents	.148*	.193*	.115*	.140	.171*
	(.051)	(.102)	(.062)	(.105)	(.062)
Education R's Mom	-.030*	.011	-.041*	-.027	-.034
	(.010)	(.022)	(.011)	(.019)	(.012)
Religious Attendance	.191*	.174*	.182*	.018	.235*

		(.062)	(.146)	(.071)	(.130)	(.073)
Catholic		.041	-.000	.026	-.001	.056
		(.063)	(.180)	(.068)	(.143)	(.073)
South		.010	.076	-.051	.168	-.005
		(.084)	(.170)	(.010)	(.160)	(.102)
Constant		1.208	2.217	.711	5.021*	-.140
		(.692)	(1.406)	(.832)	(1.363)	(.838)
Region dummies		[9]	[9]	[9]	[9]	[9]
Year dummies		[9]	[9]	[9]	[9]	[9]

# Observations		5844	1481	4363	1607	4233
Log Likelihood		-1824.56	-472.76	-1310.82	-482.82	-1285.68

<u>Chi-sq Tests:</u>						
Restrict=Injunct=0		11.09	14.62	2.73	4.94	5.79
Prob>chi-sq		[.004]	[.001]	[.256]	[.085]	[.055]
Restrict=Injunct	5.79	11.08	0.81	4.21	2.21	
Prob>chi-sq		[.016]	[.001]	[.367]	[.043]	[.137]

<u>NOTES:</u>

a) Standard Errors in parentheses. An asterisk denotes significance at the 95% level of confidence. Equations also include dummy variables for missing data for the following: AFQT Score, Adult Female Work, Lived w/Both Parents, Education R's Mom, South.

b) Low income refers to income below 185% of federal poverty line.

TABLE Vb
Law Coefficients from Models of Birth Probabilities Excluding Abortion Providers Variable

	ALL	AFRICAN-AMERICAN	WHITE/HISPANIC	LOW[b] INCOME	HIGH[b] INCOME
Laws					
Restrictive	.314[a]*	.532*	.250*	.362*	.271*
	(.068)	(.138)	(.081)	(.134)	(.082)
Injunction	.031	.023	.010	-.071	.054
	(.072)	(.146)	(.086)	(.146)	(.086)
Chi-sq Tests:					
Restrict=Injunct=0	25.23	18.52	11.66	11.52	11.99
Prob>Chi-sq	[.000]	[.000]	[.003]	[.002]	[.003]
Restrict=Injunct	15.37	12.20	7.67	9.24	6.27
Prob>Chi-sq	[.000]	[.001]	[.006]	[.003]	[.012]
# Observations	5844	1481	4363	1607	4233

NOTES:
a) Standard Errors in parentheses. An asterisk denotes significance at the 95% level of confidence. Except for the exclusion of the Abortion Providers variable, the specifications include all explanatory variables reported in corresponding Tables 3-5.
b) Low income refers to income below 185% of federal poverty line.

APPENDIX TABLE A
Law Coefficients

	ALL	AFRICAN-AMERICAN	WHITE/HISPANIC	LOW[b] INCOME	HIGH[b] INCOME
(a)BIRTH WEIGHT					
Restrictive	-.241[a]	-1.234	-.048	1.306	-.809
	(1.097)	(2.450)	(1.242)	[2.329]	[1.242]
Injunction	-1.743	-3.580	-1.056	.615	-2.628
	(1.099)	(2.411)	(1.262)	[2.274]	[1.250]
F-tests:					
Restrict=Injunct=0	1.31	1.12	0.37	0.16	2.21
Prob>F	[.271]	[.328]	[.689]	[.852]	[.110]
Restrict=Injunct	1.39	0.83	0.46	0.07	1.52
Prob>F	[.238]	[.362]	[.499]	[.790]	[.218]
# Observations	5159	1302	3857	1424	3731
(b)LOW BIRTH WEIGHT					
Restrictive	-.024	-.072	.008	-.226	.094
	(.096)	(.189)	(.115)	(.182)	(.115)
Injunction	.085	.124	.064	.118	.074
	(.095)	(.181)	(.118)	(.180)	(.116)
F-tests:					
Restrict=Injunct=0	1.13	1.11	0.30	3.19	0.84
Prob>F	[.323]	[.575]	[.692]	[.203]	[.657]
Restrict=Injunct	0.98	1.06	0.16	3.09	0.02
Prob>F	[.323]	[.303]	[.862]	[.079]	[.884]
# Observations	5159	1302	3857	1424	3731
(c) BIRTH PROBABILITY					
Restrictive	.264	.621	.162	.325	.234
	(.079)	(.168)	(.092)	(.158)	(.093)
Injunction	.047	-.001	.059	-.084	.068
	(.072)	(.144)	(.086)	(.146)	(.084)
Chi-sq tests:					
Restrict=Injunct=0	11.27	16.08	3.17	5.83	6.28
Prob>Chi-sq	[.004]	[.000]	[.205]	[.054]	[.043]
Restrict=Injunct	5.78	12.71	0.88	5.21	2.40
Prob>Chi-sq	[.016]	[.000]	[.349]	[.022]	[.121]
# Observations	5844	1481	4363	1607	4233

NOTES:
a) Standard errors in parentheses. The specifications reported here include the explanatory variables reported in corresponding Tables 3-5 except for the following variables: Age, Top Grade, Prior Loss, Spouse/Partner, Religious Attendance, Drink, Smoke.
b) Low income refers to income below 185% of federal poverty line.