

**State Implementation of Supreme Court Decisions: Abortion Rates Since
Roe v. Wade**



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SUSAN B. HANSEN

IN NINETEEN SEVENTY-THREE, the United States Supreme Court ruled in *Roe v. Wade* (410 U.S. 113) that access to abortion during the first three months of pregnancy was guaranteed by Constitutional provisions concerning privacy. But the Court's action did not remove the controversial question of abortion from the public to the private domain. Instead, *Roe* has contributed to continuing public debate over the implications of abortion for welfare policy, civil liberties, race relations, religion, and women's rights. Sufficient time has elapsed since the *Roe* decision that we can begin to examine the impact (if any) of that decision on the people most directly involved: American females of child-bearing age.

This paper will first discuss national trends in abortions, illegitimacy, maternal mortality rates, and birth rates since *Roe*. I then focus on state implementation of abortion policy. Has *Roe* resulted in equal access to abortion in all 50 states, at least during the first trimester? If not, what political, economic, and social factors account for variations in access to abortion? As I shall show, interstate differences in abortion rates have diminished considerably since 1973. Population factors such as race, poverty, and religion explain little of the variance in state abortion rates. But availability of medical services, Medicaid, and legislative support for liberalized abortion policies vary widely across states, resulting in considerable inequality of access for women, especially poor women, who seek abortions. A path analysis shows that political factors are central to

a causal model linking the need for abortion to its availability to women. Medicaid financing and access to abortion services are the most important factors directly influencing abortion rates.

THE IMPACT OF SUPREME COURT DECISIONS

Disadvantaged political groups, such as blacks and women, have long sought redress for their grievances through the courts, arguing that courts can and should bring about social change. The actual impact of court decisions, however, is difficult to assess. One must avoid the *post hoc ergo propter hoc* fallacy of attributing events subsequent to a decision to the actions of a court. One must also attempt to isolate specific results (if any) of court decisions from ongoing social processes and from the activities of other actors in the system.¹

Three competing views have been advanced concerning the impact of the Supreme Court's *Roe* decision. The first two anticipate considerable social change, but dispute its direction. Conservatives and "Right to Life" proponents anticipate unwelcome changes in family and child-bearing patterns: increased promiscuity, population decline, a loss of respect for human life, and the use of abortion as a means of birth control. Supporters of the Court's decision, groups such as Planned Parenthood, the National Organization for Women, and the National Abortion Rights Action League, expect different social consequences: superior life chances available to planned and wanted children, freedom of choice for women, lack of business for "back-alley butchers," and a resulting decline in deaths from illegal abortions. The availability of abortion, they argue, should also lead to fewer illegitimate births, with their attendant social and economic costs.

A third view is that Supreme Court decisions simply reflect ongoing social and political change, and have only a minor and gradual impact on society. Certainly recent scholarship has found results far different from those anticipated for school prayers, classroom integration, and antitrust enforcement.² A recent study of AFDC

¹ For discussion of methodological issues involved in assessing the implications of policies, see D. T. Campbell, "Reforms as Experiments," *American Psychologist* 24:4 (April 1969), 409-429; and D. T. Campbell and H. L. Ross, "The Connecticut Crackdown on Speeding: Time Series Data in Quasi-Experimental Analysis," *Law and Society Review*, 3 (1969), 33-53.

² Stephen L. Wasby, *The Impact of the United States Supreme Court* (Homewood, Ill.: Dorsey Press, 1970); Theodore Becker and Malcolm Feeley, *The Impact of*

found that decisions to have children were largely independent of governmental programs.³ This view would predict essentially no change in the reproductive behavior of American women which could be attributed to the *Roe* decision or its implementation.

The dispute among these opposing viewpoints on abortion policy is, in many respects, one of values and is not likely to be decided by statistical evidence. However, several public and private agencies have assiduously gathered data on abortion rates, fertility, out-of-wedlock births, and abortion-related deaths since 1973.⁴ Such data are inherently imperfect; despite legal requirements in most states for reporting abortions to the proper medical or political authorities, no doubt many cases go unreported because of social and religious stigmas attached to the whole question of abortion. But if we can assume no systematic bias across states in the reporting of legal abortions, these data may be used to compare the effects of the Supreme Court's action in the various states, and to assess our three competing hypotheses concerning the impact of *Roe*.

Prior to *Roe*, the assessment of the impact of abortion on fertility and illegitimacy rates in the United States was facilitated by a quasi-experimental situation. Sklar and Berkov⁵ thus analyzed the impact of abortion by comparing states where abortion was legal or illegal and where use of abortion was high or low. They concluded on the basis of both state and national data that legalized abortion produced decline in fertility rates, especially for single women.

Since *Roe*, that experimental condition no longer exists, so that the effects of *Roe* on national trends are more difficult to estimate. But, by looking at fertility, illegitimacy, birth rates, abortion rates, and maternal abortion deaths before and after 1973, we can deter-

Supreme Court Decisions: Empirical Studies (2nd ed.; New York: Oxford University Press, 1973).

³ Kristin A. Moore and Steven B. Caldwell, "The Effect of Government Policies on Out-of-Wedlock Sex and Pregnancy," *Family Planning Perspectives*, 9:4 (July-August 1977), 165-169.

⁴ The major data compilers are the Abortion Surveillance Bureau of the National Center for Disease Control in Atlanta and the Alan Guttmacher Institute, the research branch of Planned Parenthood. For discussion of problems of measurement, differences in state and national figures, and reporting lags, see Ellen Sullivan, Christopher Tietze, and Joy G. Dryfoos, "Legal Abortion in the U.S. 1975-1976," *Family Planning Perspectives*, 9:3 (May-June 1977), 116-132.

⁵ June Sklar and Beth Berkov, "Abortion, Illegitimacy, and the American Birth Rate," *Science* 185, (September 13, 1974), 909-915.

mine whether any sharp changes in long-term trend lines occurred subsequent to the Court's action. The major focus of our analysis, however, will be on state differences in abortion rates. Factors accounting for such differences should help explain the impact of *Roe*.

Number of Abortions

The number of American women receiving abortions has certainly increased, from 193,000 in 1970 to almost 1.3 million in 1977 (Figure 1). What is striking is the apparent lack of any sharp bend in the curve after *Roe*. Almost no legal abortions were performed in the United States before 1965; middle- and upper-class women could go to Mexico or Sweden, while poor women did without or suffered from self-induced or black-market abortions. After the thalidomide scare, the Sherri Finkbine case, and an epidemic of German measles, 15 states revised their nineteenth-century laws on abortion.⁶ Thousands of women took advantage of the easy availability of abortion in states such as New York, Washington and Colorado. Consequently, the largest increase in abortion occurred *before* the *Roe* decision, not after it.

Abortion rates may be viewed as a product of economic and demographic changes as well as legal and technological innovations. As of 1975, the U.S. abortion rate was in the middle range for industrial countries—below rates in Japan or Eastern Europe, but above France, England or Italy.⁷ In view of these data, the Court appears to be reflecting social change rather than legislating it as its conservative opponents have claimed.

Fertility and Illegitimate Births

Birth rates have undergone a long-term decline in most industrialized countries as a product of economic development, movement from farm to city, increase in the number of working women, preference for smaller families, and the increased probability of infants surviving into adulthood. The U.S., despite the "baby boom" of the 1940s and 1950s, is no exception to this overall trend. As Figure 2 illustrates, birth rates per 1000 women age 15 to 44 have continued to decline since 1960. But for both blacks and whites,

⁶ *Ibid.*, 909.

⁷ Sullivan et al., "Legal Abortion," 116.

FIGURE 1

NUMBER OF ABORTIONS AND CHANGE FROM PREVIOUS YEAR, 1970-77



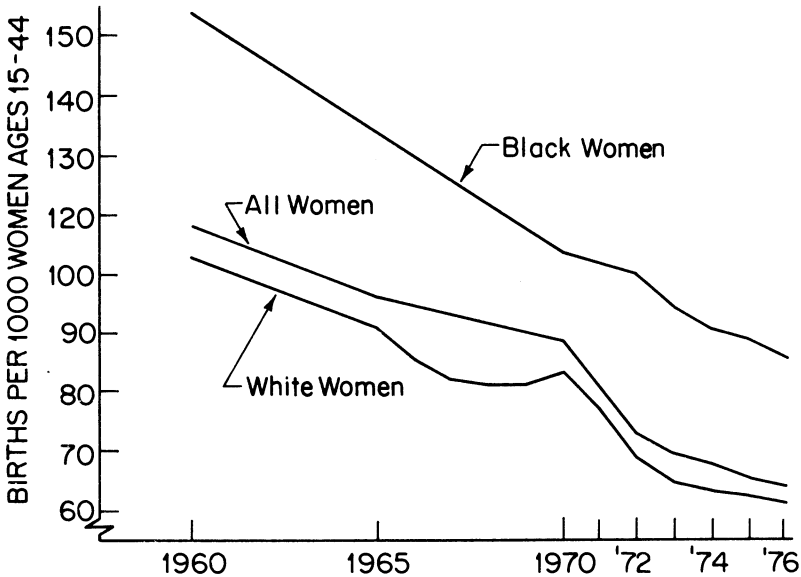
^a Figure estimated by Abortion Surveillance Bureau in their 1976 report. See Note 13 for data sources.

more rapid change occurred *before* rather than after 1973. More trend data would of course be desirable to explore this pattern more fully, but no precipitous decline of birth rates appears to have followed the *Roe* decision. The business recession of 1974-75, rather than the increased availability of abortion, may have produced the marginal decline which did take place.

The trend has in fact been the reverse for single women. Despite the greater availability of abortion, more unmarried pregnant women are choosing to keep their babies, and the number of healthy, white infants available for adoption has greatly decreased. As Figure 3 demonstrates, the long-term trend in births to unmarried women has declined since 1965. No sharp bend in the curve for either race appears to be associated with the *Roe* decision.

FIGURE 2

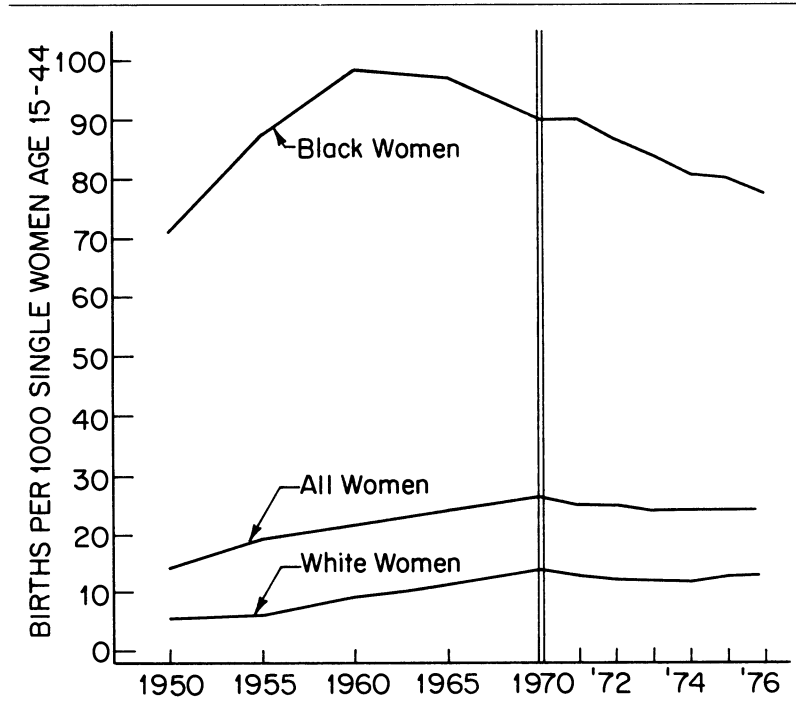
BIRTHS PER 1000 WOMEN AGE 15-44, BY RACE, 1960-1975



Source: U.S. National Center for Health Statistics, *Vital Statistics of the United States*, annual reports.

FIGURE 3

BIRTHS TO SINGLE WOMEN BY RACE, 1950—1976



Source: *Statistical Abstract of the United States 1978*, Table 91, p. 65.

Abortion Mortality

One dramatic result of the legalization of abortion has been a decrease in abortion-related maternal deaths. Cates and Roehart report that between 1940 and 1972, "More than 75 percent of abortion deaths were associated with criminal procedures."⁸ Legalizing abortion shifted pregnancy termination procedures to presumably safer legal facilities. The number of maternal deaths attributable to illegal abortion declined from 39 in 1972 to 19 in 1973, 5 in 1974, and 3 in 1975. The abortion death rate fell from 5.7 per million women of reproductive age between 1963 and 1973, to 0.5 per

⁸ Willard Cates, Jr. and Roger W. Roehart, "Illegal Abortions in the U.S., 1972-1974," *Family Planning Perspectives*, 8:2 (March-April 1976), 91.

million women of reproductive age in 1976.⁹ As a medical procedure, abortion is now far safer than tonsillectomy or normal childbirth.

Cates and Roehart attribute the decline in abortion-related maternal deaths specifically to the Supreme Court's 1973 decision and to the increased availability of abortion facilities which followed.¹⁰ Their reasoning is that victims of illegal abortions tend to be black, poor, or older mothers from rural areas—women unlikely to have funds to travel or knowledge of legal abortion opportunities outside their own countries. But increased availability of abortion facilities after *Roe* reduced the risk even for this group.

Abortion mortality rates, however, are higher in states where abortion is easily obtainable, and are highest of all in Washington D.C.¹¹ The explanation is that in states with liberal laws, more abortions are performed late in pregnancy when the risk is greater. Overall, a decline in abortion mortality has resulted from *Roe*. Legalization has also encouraged medical experimentation, better techniques, and safer procedures.

Despite the concerns of anti-abortion groups, abortion rates and illegitimacy have not shown an appreciable increase since 1973. Nor have fertility rates declined. Greater social changes were associated with the legalization of abortion in a few states around 1970 than with the Supreme Court's actions in *Roe*.

STATE TRENDS SINCE *Roe*

As most legal scholars now recognize, law does not end with a Court's decision. Laws must be implemented, and that necessity requires the cooperation of public officials at many levels of government, as well as provisions for funding and enforcement. In the case of abortion, as with many other issues involving sex, the family, and reproduction, policy responsibility rests primarily with the states, which can impede or facilitate implementation of Supreme Court decisions. When the Supreme Court's decisions go against the values and preferences of a considerable portion of the public in a state or region, implementation may be a difficult, lengthy, and expensive process.

⁹ Christopher Tietze and Sarah Lewit, "Legal Abortion," *Scientific American*, 236:1 (January 1977), 21.

¹⁰ Cates and Roehart, "Illegal Abortions."

¹¹ *Ibid.*, 91.

On the complex and controversial issue of abortion, one would expect variable enforcement rates. When policies depend on state implementation, we can compare outcomes across the states and analyze state characteristics to explain variations in compliance. This approach will be followed here. Abortions per 1000 women age 15-44, the standard demographic "abortion rate," will be examined to control for state differences in population of women of child-bearing age. After describing state abortion trends since *Roe*, I will explore interstate variations in social, economic, and political factors affecting abortion rates.

Equalization of State Abortion Rates

Conservatives since Calhoun have argued for a geographic solution to intense political preferences. In theory, if certain policies are available in some political units but not in others, people can move to find policies which suit their preferences. Nevertheless, freedom to move varies with socioeconomic status; inner-city residents cannot easily escape the vicious cycle of high taxes and bad public services. Similarly, poor women in need of abortion are unlikely to have the means to travel to other areas for medical attention, and may not even know about the availability of such services. This pattern holds between states as well as within a state.¹² A primary result of *Roe*, therefore, should have been an equalization of abortion rates across states.

This equalization has indeed been the case. Table 1 compares abortion rates from 1972 through 1976 for states grouped according to their pre-*Roe* abortion policies. The percentage of total abortions performed by the least restrictive states (Alaska, District of Columbia, New York, Hawaii and Washington) fell from 84 percent in 1972 to 35 percent in 1976. But abortions performed by the most restrictive states rose from 0.1 percent in 1972 to 35 percent in 1976). Three years after *Roe*, three states (Louisiana, North Dakota, and South Dakota) had no hospitals, public or private, which performed abortions. By 1976, however, all states reported at least some abortions (the lowest number being 600 in

¹² M. S. Monmonier and A. V. Williams, "Abortion and Spatial Interaction: Temporary Migration to New York," *Proceedings of the American Geographers* (1973), 177; James D. Shelton, Edward A. Brown, and Kenneth F. Schultz, "Abortion Utilization: Does Travel Distance Matter?" *Family Planning Perspectives*, 8:6 (November-December 1976), 260-262.

Wyoming).¹³ Further, the proportion of abortions performed outside women's home states fell from 45 percent in 1972 to only 10 percent in 1976.¹⁴ While the mean abortion rate across states rose from 10.2 to 18.4 from 1973 to 1976, the standard deviation declined from 9.66 to 8.8.

TABLE 1
PERCENT OF TOTAL ABORTIONS IN MOST AND LEAST RESTRICTIVE STATES
1972—1976^a

| | Pre-Roe State Laws | | |
|-------------------|------------------------------------|-------------------------------|---------------------|
| | Abortion ^b on Demand | Reformed ^c Laws | Restrictive Laws |
| 1972 | 84% | 16% | .1% |
| 1973 | 57 | 24 | 19 |
| 1974 | 42 | 29 | 29 |
| 1975 | 38 | 30 | 32 |
| 1976 | 35 | 30 | 35 |
| Total N of states | 4 | 22 | 24 |

^a Figures for 1972 through 1975 borrowed from Sullivan et al. (1977). 1976 figures based on Abortion Surveillance Report (1978).

^b Includes District of Columbia, New York, Alaska, Hawaii, and Washington State.

^c Includes Arizona, California, Colorado, Delaware, Georgia, Kansas, Maryland, New Mexico, North Carolina, Oregon, South Carolina, and Virginia.

Despite this trend toward reduced variance, abortion rates for women of child-bearing age still differ considerably. In 1976, abortion rates ranged from lows of six or less per 1000 women of child-bearing age in West Virginia and Mississippi, to highs of 42.6 in New York, 39.0 in California, and 192.0 in Washington D.C. (Table 2). Some of this variation is no doubt the result of differing needs or demand for abortion in different areas of the country; urban areas

¹³ Rates for 1972 through 1973 are reported by states in the *Statistical Abstract of the United States*, 1977, Table 93, p. 64, based on surveys of hospitals, clinics, and physicians conducted by the Alan Guttmacher Institute. Rates for 1976, from similar surveys, are available from the Abortion Surveillance Bureau, "Abortion Surveillance—United States, 1976," (Atlanta, GA.: Bureau of Epidemiology, 1978). Each year's figures are for July 1 of that year through June 30 of the following year.

¹⁴ Abortion Surveillance Bureau, 1978.

with large proportions of poor or black residents and high rates of illegitimacy tend to have higher abortion rates. Catholic Louisiana and Mormon Utah have very low rates, since religious opposition has resulted in few abortion facilities and lack of public funding.

TABLE 2

ABORTION RATES PER 1000 WOMEN AGE 15—45 BY STATE, 1976

| | | | |
|----------------|------|----------------|------|
| New York | 42.6 | Delaware | 18.8 |
| California | 39.0 | Alaska | 17.2 |
| Hawaii | 31.0 | Minnesota | 17.1 |
| Florida | 30.3 | Arizona | 15.9 |
| Massachusetts | 29.2 | Wisconsin | 13.8 |
| Illinois | 29.0 | New Hampshire | 13.6 |
| Nevada | 27.7 | Nebraska | 13.5 |
| Washington | 27.7 | Kentucky | 13.4 |
| Kansas | 25.6 | Missouri | 12.8 |
| Vermont | 25.0 | Oklahoma | 12.5 |
| New Jersey | 24.9 | North Dakota | 11.9 |
| Colorado | 24.2 | Maine | 11.5 |
| Oregon | 24.2 | South Dakota | 11.0 |
| Maryland | 24.2 | Iowa | 10.8 |
| Tennessee | 24.0 | Alabama | 10.2 |
| Michigan | 23.6 | Montana | 10.0 |
| Georgia | 22.4 | Louisiana | 9.9 |
| Connecticut | 22.3 | Arkansas | 9.4 |
| Pennsylvania | 22.0 | Utah | 9.1 |
| Virginia | 22.0 | South Carolina | 9.0 |
| Ohio | 21.9 | Indiana | 7.2 |
| New Mexico | 21.6 | Idaho | 7.2 |
| Texas | 21.4 | Wyoming | 6.5 |
| Rhode Island | 19.6 | Mississippi | 3.3 |
| North Carolina | 19.1 | West Virginia | 2.5 |

Explanations for State Differences

In addition to population factors, abortion rates should also vary with the availability of services, public funding, and political support for liberalized abortion policies. If a state's election officials are opposed to *Roe*, numerous institutional roadblocks (funding limitations, legal challenges, withholding of licenses for medical facilities or personnel) can be devised to delay implementation, forcing pregnant women to travel to other states or to forego the pro-

cedure altogether. But abortion rates should be higher in states which had permitted abortions before *Roe*. This could reflect more supportive attitudes by the public and elected officials, as well as greater availability of abortion services in previously established facilities.

Is political support for abortion simply a result of population factors, or do political variables produce abortion rates higher or lower than might be predicted on the basis of population demand for such services? Before evaluating such conditional relationships, let us first consider bivariate Pearson correlations (Table 3) between state abortion rates, 1973-76, and the variables used here to indicate abortion demand, supply of services, and political support for legalized abortion.

TABLE 3

Pearson Correlations: Population Factors, Availability of Services, Legislative Support, and State Abortion Rates 1973—1976

| Population Factors | 1973 | 1974 | 1975 | 1976 |
|---|------|------|------|------|
| % Poor, 1975 | -.32 | -.38 | -.41 | -.35 |
| % Black, 1975 | -.10 | -.06 | -.10 | -.03 |
| % Catholic, 1971 | .16 | .17 | .18 | .33 |
| % Mormon, 1971 | .03 | .03 | .05 | -.19 |
| Unwanted Fertility Rate, 1974 | -.20 | -.23 | -.27 | -.33 |
| <u>Availability of Services</u> | | | | |
| % Hospital Suppliers, 1975-6 | — | .68 | .68 | .71 |
| % Metropolitan, 1975 | .42 | .60 | .63 | .61 |
| Medicaid funds per capita for family planning, 1976 | — | — | — | .48 |
| <u>Legislative Support</u> | | | | |
| % Pro-Abortion in Congressional delegation | — | — | — | .24 |
| Abortion legalized before 1973 | .70 | .63 | .59 | .48 |

State population characteristics proved to be generally poor predictors of abortion rates; correlations are weak, and the signs are the reverse of those hypothesized. Thus abortion rates tend to be low in states where a high proportion of poor families, who are less

able to support children and whose family life is more likely to be unstable, should indicate greater need for abortion facilities.¹⁵

Neither does the racial composition of a state affect abortion rates. Although most women who obtain abortions are white, Tietze found that abortion rates for black women were over twice as high as those for whites,¹⁶ because of the poverty, unemployment, and high rates of illegitimacy which so often afflict young black women. But this individual-level relationship does not hold when we compare states with different proportions of black residents. A closer look at the state data indicates considerable variability. Mississippi, with a large, poor, black population, has very low rates, while many other rural southern states have high rates. Washington D.C., over 80 percent black, has the highest rates in the country (although many of the city's abortions are not performed on local residents). The weak correlation between percent black and 1976 abortion rates may also result because many Southern states spend relatively little on welfare or Medicaid for their large black populations.¹⁷

A third indicator of abortion need is the estimated unwanted fertility rate for women age 15-19 in each state.¹⁸ But the higher the unwanted fertility rate, the *lower* the abortion rate. The young women most in need of abortions seem least able to obtain them.

These puzzling relationships nicely illustrate the hazards of using ecological data to predict the behavior of individuals. Measurement problems and grouping effects are two possible reasons for differences between individual and aggregate-level results, but a more serious difficulty is that of model specification.¹⁹ As Rakoff and Schaefer have argued, environmental variables do not constitute

¹⁵ Persons below poverty level, 1975, Table 741, p. 458; Population by Race—States, 1975, Table 35, p. 31, both in *Statistical Abstract of the U.S.*, 1977 (Washington, D.C.: U.S. Government Printing Office).

¹⁶ Christopher Tietze, "Legal Abortions in the U.S.: Rates and Ratios by Race and Age, 1972-1974," *Family Planning Perspectives*, 9:1 (January-February 1977).

¹⁷ Sklar and Berkov, "Abortion," 912.

¹⁸ Intended and unintended fertility rates by state are reported in the Center for Disease Control, *Morbidity and Mortality Weekly Report*, 7:16 (April 21, 1978), 1. The figures are based on surveys of teenage mothers 15-19 by the Family Planning Evaluation Division of the Center for Disease Control, weighted by state data on age, race, and marital status.

¹⁹ See discussion by Eric Hanushek et al, "Model Specification, Aggregate Data, and the Ecological Correlation Fallacy," *Political Methodology*, 1:1 (Winter 1974), 87-106.

“demands” in and of themselves.²⁰ They must be perceived and dealt with by individuals and institutions in the political system. Aggregate data can be used to explore individual and group behavior, but the researcher must specify an appropriate model linking variables across different periods of time and levels of analysis. In this case, politics and the availability of abortion services may intervene between an unplanned, unwanted pregnancy and a woman’s ability to obtain an abortion; a causal model of this pattern will be explored below.

Concerning the relationship between the Catholic population of a state and abortion rates, the problem of model specification is also apparent. Abortion rates are higher, not lower, the larger the proportion of Catholics in a state;²¹ and the strength of this reversed relationship has increased over time. A state-by-state analysis suggests one explanation: Catholic influence in a state, rather than the absolute proportion of Catholics.²² The urban, industrialized states of the Northeast with large Catholic populations are characterized by religious and ethnic diversity, active women’s groups, and strong demand for abortion from large numbers of black and poor residents. In Louisiana, the percent of Catholics is about the same as New York’s or New Jersey’s. Since the Catholic Church is in a politically more dominant position in that conservative, rural state, however, abortion facilities are very scarce.

The Mormon population of a state is negatively linked to abortion rates in 1973, 1974, and 1975, although in 1976 the correlation is somewhat larger and in the predicted direction. Two states with very low abortion rates (Utah and Idaho) do have large Mormon populations. But the many states with very small Mormon populations vary so much in other respects that the overall relationship is weak.

Differences in public preferences might well account for interstate differences in abortion rates. Harris Poll data from 1976 sug-

²⁰ Stuart H. Rakoff and Guenther F. Schaefer, “Politics, Policy, and Political Science,” *Polity*, 1:1 (Winter 1969), 51-77.

²¹ The proportion of Catholics and Mormons in a state is based on Douglas W. Johnson, Paul R. Picard, and Bernard Quin, *Churches and Church Membership in the U.S.* (Washington, D.C.: Glenmary Research Center, 1971).

²² Harmon Zeigler and Hendrik van Dalen note that an interest group’s impact depends on other organized groups in a state and on the structure of the parties. See their “Interest Groups in State Politics,” in *Politics in the American States*, ed. Herbert Jacob and Kenneth Vines (3rd ed.; Boston: Little, Brown), 51-92.

gest some variation in opinions by region, with support for liberal abortion policies lowest in the South (39 percent in favor) and highest in the West (64 percent in favor).²³ Unfortunately, survey data on abortion are not available for every state, and cannot be predicted on the basis of demographic factors such as church membership; opinions of Catholics and Mormons do not differ greatly from those of Protestants.²⁴ Supportive public opinion alone, however, is not sufficient to insure abortion availability; in Massachusetts and Michigan only the governor's veto has prevented state legislatures from cutting off Medicaid funds, despite popular majorities in favor of liberal abortion.

Predictions based on "supply" factors performed considerably better than population characteristics in predicting abortion rates. The proportion of a state's hospitals performing abortions, Medicaid funds for family planning, and the population of a state residing in SMSA's all showed strong correlations with state abortion rates from 1973 to 1976.²⁵

To index the effect of pre-*Roe* abortion legalization on current abortion rates, states where abortion was illegal before 1973 were coded 0; states with limited access to abortion, 1; and states with abortion on demand, 2.²⁶ Positive correlations with the index show higher abortion rates in states which had liberalized their abortion laws before *Roe*. The impact of this early liberalization has declined between 1973 and 1976, however, as other states have taken steps to implement abortion services.

Ideally, state legislators' votes or opinions could be used as indicators of political support for abortion. Since this information is

²³ Jeanne Bell Nicholson and Debra Stewart, "The Supreme Court, Abortion Policy, and State Response: A Preliminary Analysis," *Publius* 14 (Winter 1978), 159-178.

²⁴ See William R. Arney and William H. Trescher, "Trends in Attitudes Toward Abortion: 1972-1975," *Family Planning Perspectives* 8:3 (May-June 1976).

²⁵ The proportion of hospitals which perform abortions in each state is reported in Sullivan et al., "Legal Abortion," 117. Medicaid expenditures for abortions are unpublished preliminary data from the Department of Health, Education, and Welfare, Medicaid Bureau, for FY 1977. For this analysis, abortion expenditures were percentaged by the number of women age 15-44 in a state. The metropolitan percent of the population (those residing in SMSA's) is from the *Statistical Abstract of the U.S.*, 1977, Table 17, p. 17.

²⁶ Coding is based on Sklar and Berkov's (1974) interpretation of pre-*Roe* laws. Alaska, Hawaii, New York, and Washington had the most liberal laws, with Arizona, California, Colorado, Delaware, Kansas, Maryland, New Mexico, North Carolina, Oregon, South Carolina, and Virginia allowing abortion under certain conditions.

not available in a comparable form across states, abortion votes by each state's congressional delegation, as reported in *Congressional Quarterly*, will be used.²⁷ Table 3 shows that congressional delegation support for liberal funding policies was positively associated with state abortion rates in 1976. The weak value of this measure ($R = .24$) might well be a direct result of *Roe*, whereby the Supreme Court guaranteed access to abortion independent of political support for the issue.

On the basis of these correlations, one might reasonably conclude that abortion rates are functions of the greater availability of abortion services in metropolitan states; political support and demographic factors have very little effect. But we are then faced with a more fundamental question: what factors affect the availability of medical services? And do these services have an impact independent of population demand or political support for abortion? To answer such questions, causal and interactive patterns in these data must be considered.

A CAUSAL MODEL OF STATE ABORTION RATES

The relative importance of factors explaining a given dependent variable depends not only on their contribution to the explained variance, but on their position in some specific causal context. Path analysis is one means of testing the predictive power of causal paths among a set of variables. A given dependent variable can be evaluated in terms of the direct and indirect effects of causally prior variables in a model. While path analysis cannot select among the whole range of logically possible causal chains in a set of variables, it does enable the researcher to estimate a model selected *a priori*, either on theoretical grounds or because of temporal ordering of variables.²⁸ The model of the state abortion rates to be estimated here is as follows:

²⁷ Because of the very great stability of abortion votes over time, as noted in Mary E. Eccles, "Abortion: How Members Voted in 1977" (*Congressional Quarterly Weekly Reports*, February 4, 1978), 1977 votes will be used to explain state abortion rates for the July 1976-June 1977 period. The index used here is the percent of a delegation opposing abortion funding in the HEW appropriations bill, based on the state's final 1977 vote on that controversial question (H. J. Res. 662, passed 181-167, December 7).

²⁸ For a full exposition, see Otis Dudley Duncan, "Path Analysis: Sociological Examples," in Herbert M. Blalock, Jr., ed., *Causal Models in the Social Sciences* (Chicago: Aldine-Atherton, 1971), 115-138. Path coefficients are partial betas, or

(1) Population characteristics (poverty, race, religion, metropolitanism) are taken as given, that is, their causes are exogenous to the model and are assumed to be temporally prior to other variables in the model. Some impact of state policies on population characteristics is of course possible. Such feedback may be assumed to be negligible over a brief time span, and will not be considered here.²⁹

(2) Legislative support for abortion increases with population demand, as indexed by unwanted fertility rates and by the proportion of blacks in a state.³⁰ Support for abortion should be lower the larger the proportion of Catholics or Mormons, because of the organized opposition of these groups to liberal abortion laws.

(3) Medicaid payments for family planning should depend on support by elected officials and (to a lesser extent) on population demand and support for abortion.

(4) The greater the legislative and financial support for abortion, the more hospitals in a state should provide abortion services, since state governments exert considerable control over funding of hospitals, welfare services, and the licensing of facilities and personnel. In addition, urban states and states which legalized abortion before *Roe* should be more likely to have established medical facilities to perform abortions. But population factors should have little direct impact on the availability of abortion services.

(5) Abortion rates should be directly affected by the availability of Medicaid funding and hospital services.

This model can be estimated by computing a series of regression equations, with each variable in the model (except those whose causes are taken as exogenous) defined in terms of causally prior variables. If the model is appropriate for these data, path coefficients should be substantial for the causal links postulated here, but coefficients for links between other variables should be close to zero. In particular, demographic characteristics should have little direct

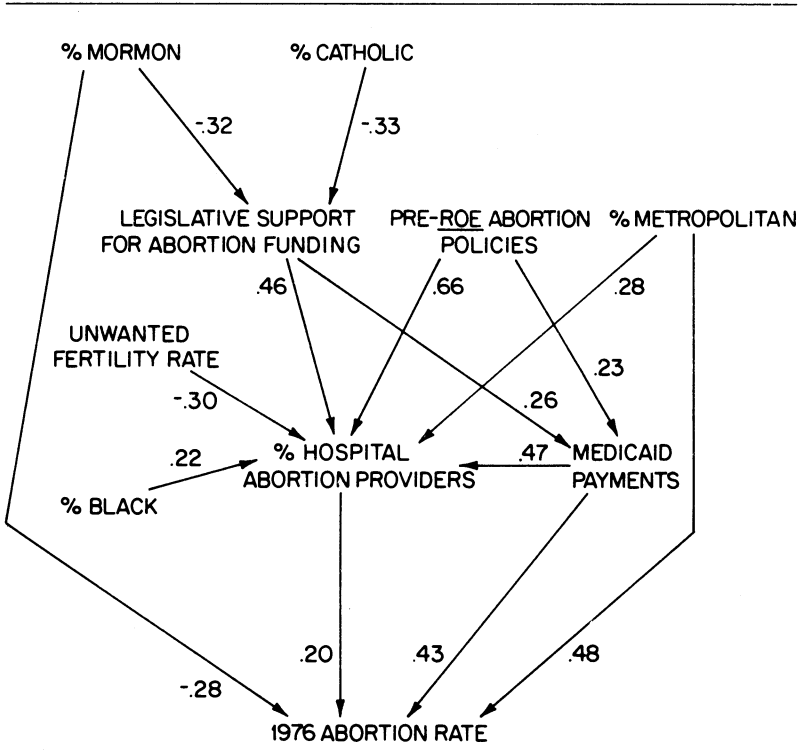
standardized regression coefficients, which indicate the amount of positive or negative change (in standard deviation units) in a dependent variable given a change of one standard deviation in an independent variable, while holding other variables constant.

²⁹ See discussion in Robert H. Strotz and H. O. A. Wold, "Recursive versus Nonrecursive Systems: An Attempt at Synthesis," in Blalock, *Causal Models*, 179-189.

³⁰ Because of its close association with both percent black and the unwanted fertility rate, the number of poor persons in a state was omitted from the regression equations. Except for this variable, however, multi-collinearity did not appear to be a significant problem for other combinations of variables in the analysis.

effect on abortion rates or the provision of medical services; legislative support for abortion should affect the availability of services but not abortion rates. The regression equations used to estimate this model are shown in Table 4. The model derived from these equations, showing only path coefficients larger than .20,³¹ is diagrammed in Figure 4.

FIGURE 4
PATH DIAGRAM OF STATE ABORTION RATES, 1976



Model based on Table 4, showing only path coefficients larger than ± .20.

³¹ A T-test is not an appropriate test of significance here because we are dealing with a population rather than a sample. The value is simply used here to distinguish substantial from less substantial relationships among variables in the population of states.

TABLE 4
PATH COEFFICIENTS FOR MODEL OF STATE ABORTION RATES, 1976

| Independent Variables: | Legislative Support | Medicaid Funds FY 1976 | % Hospital Suppliers | Abortion Rates |
|-------------------------|---------------------|------------------------|----------------------|----------------|
| % Catholic | -.33* | .11 | .11 | .08 |
| % Mormon | -.32* | .03 | .16 | -.28 |
| Unwanted fertility Rate | -.12 | .00 | -.30 | .05 |
| % Black | -.06 | -.03 | .22 | -.14 |
| % Metropolitan | .13 | .22 | .28 | .48 |
| Legislative Support | | .26 | .46 | -.06 |
| Pre-Roe Abortion | | .23 | .66 | .18 |
| Medicaid Funds, FY 1976 | | | .47 | .43 |
| % Hospital Suppliers | | | | .20 |
| R ² | .16 | .25 | .77 | .72 |
| F-Value | 1.61 | 1.72 | 15.44 | 9.90 |

Let us begin by considering legislative support, the first link in our hypothesized model. One might have anticipated positive coefficients here for unwanted fertility or the state's black population. Their lack of impact is not altogether surprising, since these groups are much less well organized and financed than is the Right-to-Life movement.³² The larger coefficients for religious factors make more political sense; the percent of Catholic and Mormon adherents in a state is *negatively* related to legislative support. Overall, however, legislative support is not very well explained by factors in this model. Legislators' own values have been found to predict votes on abortion better than district characteristics do,³³ though indicators of these values for state legislators are not available for this analysis.

The next link in this model, Medicaid funds for family planning, shows little impact from population characteristics. Such expenditures are somewhat higher ($B = .22$) the stronger the support for public funding of abortion in a state's congressional delegation. Medicaid funds are more readily available in urban states which

³² The moderate negative coefficient for the path between percent black and 1976 abortion rates may be due to low abortion rates in many Southern states, which spend relatively little on welfare or Medicaid for their large black populations. See Sklar and Berkov, "Abortion."

³³ Eccles, "How Members Voted."

had legalized abortion before *Roe*, regardless of current levels of legislative support, population demand, or religious opposition. But only about a quarter of the variance in Medicaid funding is accounted for by this model.

Provision of hospital abortion services depends on Medicaid and legislative support as well as on passage of liberal abortion laws before 1973.³⁴ Metropolitanism also contributes somewhat to hospital services; hospitals in large metropolitan areas have the staffs, the resources, and the demand for abortion facilities to counteract absence of legislative support in either Congress or state legislatures. Hospital services are largely independent of a state's population characteristics (except for unwanted fertility rate), perhaps because large metropolitan hospitals attract many out-of-state patients. The third equation in Table 4 thus explains approximately 77 percent of the variance in hospital provision of abortions.

The final equation in this model shows substantial path coefficients among hospital services, Medicaid funds, and a state's abortion rate. Although little impact of population characteristics had been hypothesized, a state's Mormon population shows a substantial (negative) path to the 1976 abortion rate. The metropolitan population in a state has a direct effect on abortion rates in addition to its indirect effect through the path from hospital services. Legislative support and pre-*Roe* abortion policies have minimal effect. Overall, this model accounts for over seventy percent of the variation in abortion rates across states.

In the final equation, the path coefficient for Medicaid abortion payments is moderate ($B = .43$). Since the Medicaid funding variable and the dependent variable (abortion rates) were both expressed as rates per 1000 women age 15-44, the possibility exists that the positive regression coefficient is a result of the common divisor.³⁵ To check for this, total Medicaid funding and a state's population of women of child-bearing age were entered as separate variables. In the resulting regression equation, population proved to have con-

³⁴ Because of the relatively few degrees of freedom in this set of variables for 50 cases, I preferred to simplify the model by using the pre-*Roe* index as an ordinal variable (assuming equal intervals) rather than recording it as a dummy variable. Rerunning equations with the pre-*Roe* index treated as a dummy variable showed no change in R^2 . See also Richard T. Boyle, "Path Analysis and Ordinal Data," in Blalock, *Causal Models*, 432-452.

³⁵ See discussion by Eric M. Uslaner, "The Pitfalls of Per Capita," *American Journal of Political Science*, 20:1 (February 1976), 125-234.

siderable impact ($B = .30$) on a state's abortion rates, but the effect of Medicaid alone was weak and negative ($B = -.05$). In short, populous states (California in particular) had higher abortion rates, regardless of the amount of Medicaid funding they provided for abortion services.

As suggested by the simple correlations reported earlier, pre-*Roe* abortion policies had little direct effect on abortion rates by 1976. The model specified here cannot explain the adoption of liberal abortion laws before *Roe* since causation assumes temporal priority, and the political and demographic variables in the model are measured for the mid-1970s. Further research is needed on the political background of pre-*Roe* abortion laws, which have been defined here as exogenous and are not related to population or supply factors in the model.

Time-series data are also needed to explicate the role of Medicaid funding. The availability of federal funds has encouraged doctors and hospitals to supply abortions.³⁶ This fact makes abortion services more available to poor women, and more of them apply for Medicaid coverage. A reciprocal relationship is therefore plausible between Medicaid funds and hospital services, but over-time data, with appropriate lag factors, are necessary to specify such a model. On the basis of the cross-section data presented here, the availability of Medicaid funds, hospital services, and metropolitanism are the most important factors accounting for state abortion rates as of 1976.

CONCLUSION

The redistributive implications of abortion policy have merited almost as much attention as the moral dilemmas raised by this highly salient issue. The most vocal groups supporting liberalized abortion laws have been middle- and upper-class white women, but primary beneficiaries of such laws have been poor and black women. Women with economic means have always been able to obtain abortions, illegally in the U.S. or legally abroad. But medically safe, legal abortions were denied to disadvantaged American women in most states until after *Roe*.

³⁶ According to a Maryland survey, Medicaid payments coverage was the most important element in doctors' decisions to perform abortions. "Patients' Ability to Pay Key to Whether Doctor Performs Abortions," *Family Planning Perspectives* 10:6 (Sept.-Oct. 1978), 362.

Five years after *Roe*, changes in access to abortion have been apparent throughout the U.S. The trend over time has been toward greater equalization of access with the largest increases in abortion rates in the most restrictive states. But rates in New York and Washington D.C. remain many times as high as those in Louisiana, Mississippi, or the Dakotas. This analysis has accounted for some of these differences in terms of interstate variations in funding, hospital services, metropolitan population, religion, and political support for liberal abortion laws.

One additional factor affecting access to abortion is the availability of abortion services in neighboring states. This analysis has been based only on abortions performed within particular states, and has not considered flows across state boundaries. Overall, only ten percent of abortions are performed on nonresidents.³⁷ But many states' abortion rates are substantially higher or lower than one might predict on the basis of population factors or religious preference. An analysis of the residuals from the final path model found that several northern industrialized states (Connecticut, Delaware, Pennsylvania, and Indiana) had abortion rates lower than predicted. Proximity to New York or Chicago might explain why these states have been slow to develop abortion services.

In an open political system, variability in access to abortion may in fact offer advantages. When much of a state's population opposes abortion, policy outcomes can be congruent with popular preferences without seriously disadvantaging women in need of abortion. Women from poor, rural states may receive better medical care in better trained, better equipped clinics in metropolitan areas. Many women may also prefer the anonymity of a large city away from their home communities. Such considerations notwithstanding, abortion remains a highly redistributive issue. Middle-class women have the funds and knowledge to seek abortion opportunities outside their home states. But poor women will continue to be denied access to the abortion services many of them want and need unless and until all states provide adequate services.

The Supreme Court decided in June 1977 that states are not obliged to provide funding for abortions under Medicaid programs. Congress in 1976, 1977, and 1978 adopted restrictive amendments to the HEW appropriations bill, limiting most federal funds for

³⁷ *Morbidity and Mortality Weekly Report* 7:16, 1.

abortions except under conditions threatening the life or health of the mother. Poorer states cannot easily pick up the 90 percent federal portion of Medicaid funding for abortions. Poor women will no doubt have difficulty paying for their abortions, since their average cost in 1976 was more than the entire average monthly welfare payment per family; and medical costs have increased faster than other prices.

Limits on public financing appear likely to accentuate the redistributive implications of abortion policies. But the overall impact of these new limits on abortion availability remains unknown. The current debate over legal issues, funding formulas, and administrative discretion has resulted in such frequent policy changes that policy outcomes are difficult to determine. Nicholson and Bell note a "sharp decline" in some states, but in others such as Missouri, abortions actually increased between 1976 and 1978 despite a cutoff in public financing.³⁸ The analysis reported above indicated that abortion rates were indeed higher in states with large amounts of Medicaid funding, but this association could be explained by size of population and the extreme case of California, which spends the most public monies on abortions and also has a high abortion rate. Fifteen states and the District of Columbia still provide full or partial coverage for abortions for women on welfare; these states accounted for almost sixty percent of all abortions in 1976. Private sources such as Planned Parenthood offer direct aid or loans, and have continued to fund legal challenges to attempts at cutoffs in state aid. Even without public financing, the availability of safe, legal abortion services provides women with a far greater range of options than were available before *Roe*, even if travel to another state is necessary. Certainly no surge in abortion-related maternal deaths has been observed, indicating that few women have been forced to find illegal means of terminating their pregnancies.

In February 1980, the Supreme Court struck down congressional restrictions on Medicaid abortions pending full Court review. The effects of this action are as yet unknown. Trend data over a longer time period will be necessary to ascertain fully the impact of *Roe v.*

³⁸ Since Medicaid abortion records reflect dates of payment rather than dates when medical procedures were performed, it is difficult to pinpoint changes since federal funds were cut. Nevertheless, Missouri, Kentucky, and Maryland all show stable or increasing abortion rates since 1976 (data based on correspondence with the Boards of Health for those states), while Illinois showed a decrease. The Alan Guttmacher Institute is currently working on a survey to analyze effects across states.

Wade. Sophisticated court-watchers might have predicted that the Supreme Court's 1973 decision would have less impact than its opponents feared or its advocates hoped. An issue with so many implications for civil rights, religion, feminism, and welfare policy cannot be settled by a single court decision.