

# The Effects of State Legislation on the Incidence of Abortion during the 1990s

*Michael J. New*

## ABSTRACT

Much of the academic literature that examines state level pro-life legislation focuses on the impact of parental involvement laws and Medicaid funding restrictions. However, the effects of some of the laws that received constitutional protection in the Supreme Court's *Casey vs. Planned Parenthood* decision, including informed consent laws and waiting periods, have only received scant attention. In this study I remedy this shortcoming by examining the effects of a variety of state level pro-life laws over a comprehensive dataset that spans fifteen years. I find that the enactment of parental involvement laws, public funding restrictions, partial-birth abortion bans, and informed consent laws are all correlated with declines in the incidence of abortion.

THE 1990S SAW both the election and re-election of a “pro-choice” President.<sup>1</sup> However, the “pro-life” movement made considerable gains at the state and local levels. Survey data indicate that by the end of the decade, more people supported restrictions on abortion and fewer supported discretionary abortion.<sup>2</sup>

Meanwhile, the actual number of abortions declined during the decade.

---

<sup>1</sup> Legislation intended to reduce legal barriers to abortion and those who support such legislation are often referred to as “pro-choice,” while legislation intended to reduce the number of abortions and those who support such legislation are often called “pro-life.” These widely accepted terms are used throughout this study.

<sup>2</sup> Lydia Saad, “Public Opinion About Abortion, An In-Depth Review,” Gallup Poll Special Report at [www.gallup.com/poll/specialreports/pollSummaries/sr020122.asp](http://www.gallup.com/poll/specialreports/pollSummaries/sr020122.asp).

For the 46 states reporting data to the Centers for Disease Control and Prevention in both 1990 and 1999,<sup>3</sup> the number of abortions fell from 1,035,573<sup>4</sup> to 854,416,<sup>5</sup> a decline of 17%. This decline translates into a reduction in the abortion rate from 20.61 to 16.62 abortions per 1,000 women between the ages of 15 and 44.<sup>6</sup>

What is the reason for this decline in the number of abortions? The economy, which grew at a brisk rate during the mid- to late-1990s, might be partly responsible. Studies indicate that abortion rates decline during periods of strong economic growth.<sup>7</sup> However, an even more directly related factor might be the impact of legislation intended to reduce the number of abortions.

This study used data from the Centers for Disease Control and Prevention (CDC) and the Alan Guttmacher Institute (AGI) to estimate how state-level “pro-life” legislation affected abortion rates and ratios.<sup>8</sup> This paper reports a number of findings based on these data. Among them:

- The states that adopted pro-life legislation during the 1990s experienced larger reductions in abortion rates and ratios than those states that did not.
- State laws restricting the use of Medicaid funds in paying for abortions reduced the abortion rate by 29.66 and the abortion ratio by 2.08.
- The CDC data indicate that states that adopted informed consent laws

---

<sup>3</sup> Alaska, California, New Hampshire, and Oregon did not report data in 1999.

<sup>4</sup> Centers for Disease Control and Prevention, “Morbidity and Mortality Weekly Report,” December 17, 1993, Vol. 42, pp. 34-35. Calculations by author.

<sup>5</sup> Laurie D. Elam-Evans, Lilo T. Strauss, Joy Herndon, Wilda Y. Parker, Sara Whitehead, and Cynthia J. Berg, “Abortion Surveillance—United States, 1999,” Centers for Disease Control and Prevention, “Morbidity and Mortality Weekly Report,” November 29, 2002, at [www.cdc.gov/mmwr/preview/mmwrhtml/ss5109a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5109a1.htm). Calculation by author.

<sup>6</sup> The abortion rate is the number of abortions per 1,000 women between the ages of 15 and 44.

<sup>7</sup> See Rebecca Blank, Christine George, and Rebecca London, “State Abortion Rates: The Impact of Policies Providers, Politics, Demographics, and Economic Environment,” *Journal of Health Economics* 15 (1996): 513-53.

<sup>8</sup> The abortion ratio is the number of abortions per 1,000 live births.

saw the abortion ratio drop by 11.69 and the abortion rate by 0.92. When AGI data are used, statistical analysis indicates that informed consent laws have an even greater effect, reducing the abortion ratio by 22.46 and the abortion rate by 1.57.

#### BACKGROUND

During the 1990s, there was a substantial amount of pro-life legislative activity at the state level. For instance:

- In 1992,<sup>9</sup> virtually no states were enforcing informed consent laws.<sup>10</sup> By 2000, 27 states had informed consent laws in effect.<sup>11</sup>
- In 1992, no states had banned or restricted the procedure widely known as “partial-birth abortion.” By 2000, 12 states had bans or restrictions in effect.<sup>12</sup>
- In 1992, only 20 states were enforcing parental involvement statutes.<sup>13</sup> By 2000, 32 states were enforcing these laws.<sup>14</sup>

Two major factors led to this increase in pro-life legislation. First, in 1992, the U.S. Supreme Court in *Casey v. Planned Parenthood of Southeastern Pennsylvania* abandoned its trimester framework in favor of a doctrine of “undue burden.” In so doing, the Court found constitutional some of the policies contained in Pennsylvania’s Abortion Control Act. While the Supreme Court did not overturn *Roe v. Wade*, the decision did give pro-life legislators at the state level more freedom to enact laws designed to protect the unborn.

For instance, the only common forms of state-level legislation before the *Casey* decision that consistently withstood constitutional scrutiny were

---

<sup>9</sup> Prior to 1992, courts struck down most informed consent laws; however, a few fairly weak laws remained in effect.

<sup>10</sup> NARAL Foundation, “Who Decides?” (1992), p. 9.

<sup>11</sup> NARAL Foundation, “Who Decides?” (2000), p. 125.

<sup>12</sup> Ibid.

<sup>13</sup> NARAL Foundation, “Who Decides?” (1992), p. 125.

<sup>14</sup> NARAL Foundation, “Who Decides?” (2000), p. 125.

parental involvement requirements and restrictions on Medicaid funding of abortions. However, *Casey* gave constitutional protection to informed consent laws. These laws require abortion providers to inform pregnant women about the health risks associated with abortion, the development of their unborn children, and resources for pregnant women and young mothers. Additionally, a number of states passed “partial-birth abortion” bans before the Supreme Court struck down Nebraska’s ban in *Stenberg v. Carhart* in 2000.

Second, pro-life candidates made considerable and lasting gains in state legislatures during the 1990s. While it is well-known that Republicans obtained control of both the U.S. House of Representatives and the U.S. Senate in 1994, the gains they made in the states have received considerably less attention. Republicans obtained majority control in both chambers of 11 additional state legislatures in 1994.<sup>15</sup> Overall, the number of states where Republicans controlled both chambers of the state legislature increased from six in 1990 to 18 in 2000.<sup>16</sup> In 2001, Republican state party platforms for 48 of 50 states contained planks that supported restrictions on abortion.<sup>17</sup>

#### OTHER RESEARCH

What impact has all of this legislation had? Some academic studies provide insights. Much of the academic literature that examines the impact of state abortion policy focuses on parental consent legislation and the extent to which states fund abortion through Medicaid. Most of these studies argue that parental consent statutes and restrictions on Medicaid funding reduce the number of abortions that take place within the boundaries of a given state.<sup>18</sup> However, researchers are considerably more divided over whether

---

<sup>15</sup> Bureau of the Census, *Statistical Abstract of the United States: 2001* (Washington, D.C.: U.S. Government Printing Office, 2000), p. 249.

<sup>16</sup> *Ibid.*

<sup>17</sup> NARAL Foundation, “Who Decides?” (2001), pp. 262-263.

<sup>18</sup> Deborah Haas-Wilson, “The Impact of State Abortion Restrictions on Minors’ Demand for Abortions,” *The Journal of Human Resources* 31/1 (1996): 140-58;

or not these laws create overall reductions in the number of abortions. This is because it is possible for some people to circumvent these laws by obtaining abortions in other states where the laws are more permissive.

In “Mandatory Parental Involvement in Minors’ Abortions: Effects of the Law in Minnesota, Missouri, and Indiana,” Charlotte Ellertson, the President and Chief Executive Officer of Ibis Reproductive Health, pays special attention to the impact of Missouri’s parental consent law.<sup>19</sup> She finds that the number of abortions performed on minors decreased in Missouri after the passage of the parental consent law.<sup>20</sup> However, she also found that minors were more likely to travel to other states to obtain abortions.<sup>21</sup> In the article, Ellertson argues that this increase in travel could be large enough to offset the reduction in the number of abortions in Missouri.<sup>22</sup>

Conversely, other studies arrive at different conclusions. One study indicates that the number of abortions performed on Mississippi residents, both in state and out of state, declined after the state’s parental consent statute was passed.<sup>23</sup> Similarly, other studies that have examined

---

Deborah Haas-Wilson, “The Economic Impact of State Policy Restrictions on Abortion: Parental Consent and Notification Laws and Medicaid Funding Restrictions,” *Journal of Policy Analysis and Management* 12/3 (1993): 498-511; Patricia Donovan, “Judging Teenagers: How Minors Fare When They Seek Court Authorized Abortions,” *Family Planning Perspectives* 15/6 (1983): 259-67; Rebecca Blank, Christine George, and Rebecca London, “State Abortion Rates: The Impact of Policies Providers, Politics, Demographics, and Economic Environment,” National Bureau of Economic Research Working Paper No. 4853 (1994); and Robert Ohsfeldt and Stephan Gohman, “Do Parental Involvement Laws Reduce Adolescent Abortion Rates?” *Contemporary Economic Policy*, 12/2 (1994): 65-76.

<sup>19</sup> Charlotte Ellertson, “Mandatory Parental Involvement in Minors’ Abortions: Effects of the Laws in Minnesota, Missouri, and Indiana,” *American Journal of Public Health* 87/8 (1997): 1367-74.

<sup>20</sup> *Ibid.*, p. 1373.

<sup>21</sup> *Ibid.*

<sup>22</sup> *Ibid.*, pp. 1371-1372.

<sup>23</sup> Stanley K. Henshaw, “The Impact of Requirements for Parental Consent on Minor’s Abortions in Mississippi,” *Family Planning Perspectives* 27/3 (1995): 120-

Minnesota's parental notification law have found little evidence that minors are leaving the state in great numbers to obtain abortions.<sup>24</sup>

While these studies shed light on the abortion patterns of the 1990s, many shortcomings exist. First and foremost, none of the studies examines the impact of "partial-birth abortion" bans or informed consent statutes. Of course, some of the earlier studies examine a time frame where few, if any, states had such laws. However, even some of the later studies neglect to analyze their impact.<sup>25</sup>

Second, state abortion data come from two sources, the Centers for Disease Control and Prevention and the Alan Guttmacher Institute.<sup>26</sup> Most studies are limited because they use only one of these data sources, each of which has shortcomings. The Guttmacher Institute receives its data from surveys of abortion clinics. While its method of data collection is more consistent than the CDC's, the AGI does not collect data every year. Conversely, the CDC does provide annual data, but its data typically come from state health agencies. Since state health agencies often change their methods for collecting and disseminating data, their data may be somewhat less reliable. Finally, many of these studies have a very limited scope, examining only a small number of states that have enacted these policies.<sup>27</sup>

---

22.

<sup>24</sup> Patricia Donovan, "Judging Teenagers: How Minors Fare When They Seek Court Authorized Abortions," *Family Planning Perspectives* 15/6 (1983): 259-67; Robert Blum, Michael Resnick, and Trisha Stark, "The Impact of a Parental Notification Law on Adolescent Abortion Decision Making," *American Journal of Public Health* 77/5 (1987): 619-20.

<sup>25</sup> Rebecca Blank, Christine George, and Rebecca London, "State Abortion Rates: The Impact of Policies Providers, Politics, Demographics, and Economic Environment," *Journal of Health Economics* 15 (1996): 513-53; Anita Prichard and Sharon Kay Parsons, "The Effects of State Abortion Policies on States' Abortion Rates," *State and Local Government Review* 31/1 (1999): 43-52.

<sup>26</sup> The Alan Guttmacher Institute, named for a former president of Planned Parenthood, is a nonprofit organization focused on sexual and reproductive health research. Its mission includes the advancement of reproductive rights.

<sup>27</sup> Virginia Cartoof and Lorraine Klerman, "Parental Consent for Abortion: Impact of the Massachusetts Law," *American Journal of Public Health* 76/4 (1986): 397-

This can lead to problems of selection bias. Still others consider only data from relatively few years.<sup>28</sup> As a result, these studies may not have sufficient data to draw statistically meaningful comparisons.

This analysis attempts to overcome these limitations. It presents data on abortion rates and ratios in every state from 1985 to 1999, using data from both the CDC and the AGI. Furthermore, it takes into account the impact of informed consent laws and “partial-birth abortion” bans. Finally, it holds constant economic and demographic factors that might cause fluctuations in the number of abortions.

#### METHODOLOGY

The empirical test of the effectiveness of pro-life legislation involves a series of regressions on a dataset that includes statistics on abortions for the years 1985 through 2000. Regression analysis is well-suited to this type of research because it simultaneously examines the effects of various factors on the number of abortions in each state.

Separate regressions were run on four dependent variables measuring the number of abortions within a given state. The first set of dependent variables measure the state abortion ratio as indicated by the CDC and Alan Guttmacher Institute, respectively. The abortion ratio measures the number of abortions for every 1,000 births. The second set of dependent variables measure the state abortion rate as indicated by the CDC and AGI. These variables measure the number of abortions per 1,000 women between the ages of 15 and 44. Combined, these four dependent variables should help determine the impact of various forms of pro-life legislation. A variety of

---

400; Patricia Donovan, “Judging Teenagers: How Minors Fare When They Seek Court Authorized Abortions,” *Family Planning Perspectives* 15/6 (1983): 259-67; Robert Blum, Michael Resnick, and Trisha Stark, “The Impact of a Parental Notification Law on Adolescent Abortion Decision Making,” *American Journal of Public Health* 77/5 (1987): 619-20; James Rogers, Robert Boruch, George Storms, and Dorothy DeMoya, “Impact of the Minnesota Parental Notification Law on Abortion and Birth,” *American Journal of Public Health* 81/3 (1991): 294-98.

<sup>28</sup> Deborah Haas-Wilson, “The Economic Impact of State Policy Restrictions on Abortion: Parental Consent and Notification Laws and Medicaid Funding Restrictions,” *Journal of Policy Analysis and Management* 12/3 (1993): 498-511.

economic and demographic factors are held constant. To capture the impact of the economy, this study includes each state's per capita personal income growth in the regression model. Additionally, a series of state-level variables measuring the racial composition of women between the ages of 15 and 44 are included in the model as well.

Three separate variables measure the percentage of women of childbearing age<sup>29</sup> who are between the ages of 15 to 19, 20 to 25, and 25 to 29, respectively. The hypothesis is that younger women facing unexpected pregnancies would be more likely to seek abortions than their older counterparts. As a result, holding other factors constant, relatively higher percentages of younger women would lead to increases in both abortion rates and abortion ratios.

Finally, a fertility variable, measuring the number of births per 1,000 women between the ages of 15 and 44, is included in the model. This variable serves as a proxy for the number of pregnancies that are occurring. Fewer pregnancies would result in fewer abortions. Similarly, if the fertility variable is low, it might indicate that a higher proportion of pregnancies are planned, which would also result in fewer abortions.

Of more interest in this study is the effect of different types of state policies that deal directly with access to abortion. The regression analysis includes four separate variables indicating the presence or absence of a particular type of policy. The first of these variables is the presence of a parental involvement requirement.<sup>30</sup> Parental notification requirements require minors either to notify or to receive consent from one or both parents before receiving an abortion. The second policy variable is whether or not a state restricts funding of therapeutic abortions through Medicaid. Most states will fund abortions through Medicaid when the pregnancy is the result of rape. Similarly, most states fund abortions that are necessary to preserve the life of the mother. However, states differ as to whether they fund therapeutic abortions. Third is whether or not a state has an informed

---

<sup>29</sup> For the purposes of this study, women of childbearing age are defined as those women between the ages of 15 and 44.

<sup>30</sup> Both parental consent and parental notification statutes are considered parental involvement requirements.



consent statute. In *Casey v. Planned Parenthood* (1992), the Supreme Court found that informed consent statutes were constitutional. Informed consent statutes differ from state to state. However, they all require women seeking abortions to receive information about the abortion procedure. This can include information about fetal development, the health risks involved with obtaining an abortion, and the public and private sources of support for single mothers. The fourth and final policy variable is whether a state has a ban on “partial-birth abortions.” About 12 states had “partial-birth abortion” bans in effect between 1996 and 2000 before the Supreme Court struck down Nebraska’s “partial-birth abortion” ban in *Stenberg v. Carhart* in 2000.

The regression model used is a fixed effects model,<sup>31</sup> in which separate indicator variables are included for every state and year. Table 1 shows the estimated effects of each of the four policies. The complete regression results are in Table 2 in Appendix A.

The figures in Table 1 measure the predicted change in a state’s abortion rate or abortion ratio after a particular piece of legislation is passed. For instance, when data from the Centers for Disease Control are used, the regression model predicts that the passage of an informed consent law will lower the state abortion ratio by 11.69 abortions for every 1,000 births and will lower the state abortion rate by 0.92 abortions per 1,000 women between the ages of 15 and 44. When data from the Alan Guttmacher Institute are used, the regression model predicts that the passage of an informed consent law will lower the state abortion ratio by 22.46 abortions for every 1,000 births and will lower the state abortion rate by 1.57 abortions per 1,000 women between the ages of 15 and 44.<sup>32</sup>

---

<sup>31</sup> A fixed effect model allows examination of the within-state effects of pro-life legislation. By holding the individual states constant, the regression compares the abortion rate after legislation was passed to the abortion rate before legislation was passed and determines whether the differences are statistically significant.

<sup>32</sup> The regression models that use AGI data predict that partial-birth abortion bans result in much larger reductions in abortion rates and ratios than are predicted by the regression models that use CDC data. This is likely because the AGI data consist of only one year (2000) during which partial-birth abortion bans were in effect. As a result, it is possible that the partial-birth abortion ban variable is picking

Table 1		CDA 04-01		
<b>The Impact of "Pro-Life" Legislation</b>				
Policy Variable	Abortion Ratio	Abortion Rate	Abortion Ratio	Abortion Rate
Data Source	CDC	CDC	AGI	AGI
Parental Involvement	-7.22	-0.54	-3.50	-0.39
Informed Consent	-11.69**	-0.92***	-22.46***	-1.57***
Medicaid Funding Restrictions	-29.66***	-2.08***	-32.40***	-2.34***
Partial-Birth Abortion Ban	-3.07	-0.72	-39.84**	-2.62***

\*\* Significant at the 5 percent level.  
 \*\*\* Significant at the 1 percent level.

**Notes:** The abortion ratio is the number of abortions per 1,000 live births. The abortion rate is the number of abortions per 1,000 women between the ages of 15 and 44.

**Sources:** The Centers for Disease Control and Prevention (CDC) and the Alan Guttmacher Institute (AGI).

up reductions caused by unaccounted for factors or random effects. Conversely, the CDC dataset includes data from three years where states had enacted partial-birth abortion bans (1997, 1998, 1999). Since the CDC dataset contains more years, it is believed that their prediction about the impact of partial-birth abortion bans is more accurate.

**EXPLAINING THE DATA**

Among the four policy variables in this study, Medicaid funding restrictions had the largest impact on abortion rates and ratios. On average, restrictions on Medicaid funding reduced a state's abortion ratio by 29.66 abortions per 1,000 live births, according to data from the Centers for Disease Control and Prevention (CDC), and by 32.40, according to data from the Alan Guttmacher Institute (AGI). Medicaid funding restrictions reduced a state's abortion rate by 2.08 abortions per 1,000 women ages 15–44, according to the CDC, and 1.57, according to the AGI.

Informed consent policies reduced the abortion ratio by 11.69 abortions per 1,000 live births and the abortion rate by 0.92 abortions per 1,000 women between the ages of 15 and 44, according to CDC data. When AGI data are used, the abortion ratio is reduced by 22.46 abortions and the abortion rate by 1.57 abortions per 1,000 women ages 15–44.

Partial-birth abortion bans reduced the abortion ratio by 3.07 abortions per 1,000 live births and the abortion rate by 0.72 abortions per 1,000 women ages 15–44 (CDC). AGI data, however, indicate a reduction in the abortion ratio of 39.84 abortions per 1,000 live births and a reduction in the abortion rate of 2.62 abortions per 1,000 women ages 15–44.

Parental involvement laws reduced the abortion ratio by 7.2 abortions and the abortion rate by 0.54 abortions per 1,000 women ages 15–44, according to CDC data. According to AGI, parental notification laws reduced the abortion ratio by 3.5 abortions per 1,000 live births and the abortion rate by 0.39 abortions per 1,000 women ages 15–44. However, these data may understate the full impact of parental involvement legislation because parental involvement legislation applies only to minors seeking abortions, a small fraction of the total number of women included in the data.

While this paper's findings provide evidence that parental notification laws and "partial-birth abortion" bans do reduce abortions, more data are needed to measure the full impact of these two policies effectively.

Table 2					CDA 04-01				
The Impact of "Pro-Life" Legislation									
Dependent Variable	Model 1	Model 2	Model 3	Model 4					
	Abortion Ratio	Abortion Rate	Abortion Ratio	Abortion Rate					
<i>Data Source</i>	CDC	CDC	AGI	AGI					
<b>Number of Observations</b>	649	649	384	384					
<b>Income Growth</b>	-0.94 (0.65)	-0.10* (0.05)	0.05 (1.12)	-0.02 (0.08)					
<b>Percent Black</b>	8.07** (4.06)	0.77** (0.32)	19.63*** (4.05)	1.05*** (0.27)					
<b>Percent Native American</b>	-0.32 (2.45)	0.16 (0.19)	-2.93 (15.77)	-0.13 (1.06)					
<b>Percent Hispanic</b>	9.08*** (2.18)	0.38** (0.17)	3.37 (2.21)	-0.21 (0.15)					
<b>Percent Asian</b>	-27.49*** (5.05)	-1.61*** (0.39)	-27.02*** (5.32)	-1.67*** (0.36)					
<b>Percent 15-19</b>	-7.71* (4.16)	-0.43 (0.33)	-6.70 (4.34)	-0.24 (0.29)					
<b>Percent 20-25</b>	1.62 (3.13)	0.24 (0.25)	-5.20 (3.25)	-0.19 (0.22)					
<b>Percent 25-29</b>	1.49 (3.91)	0.05 (0.31)	-5.03 (4.14)	-0.32 (0.28)					
<b>Fertility Rate</b>	-3.53*** (0.77)	0.14** (0.06)	-2.45*** (0.82)	-0.19*** (0.06)					
<b>Parental Involvement</b>	-7.22 (5.17)	-0.54 (0.41)	-3.50 (6.07)	-0.39 (0.41)					
<b>Informed Consent</b>	-11.69** (4.41)	-0.92*** (0.35)	-22.46*** (5.56)	-1.57*** (0.38)					
<b>Medicaid Funding Restriction</b>	-29.66*** (6.88)	-2.08*** (0.54)	-32.40*** (8.32)	-2.34*** (0.56)					
<b>Partial-Birth Abortion Ban</b>	-3.07 (9.32)	-0.72 (0.74)	-39.84** (18.72)	-2.62*** (1.27)					
<b>R Squared</b>	0.968	0.994	0.996	0.990					

\*significant at the 10 percent level.  
 \*\*significant at the 5 percent level.  
 \*\*\*significant at the 1 percent level.

**Notes:** Standard errors are in parentheses. R Squared measures how well the regression model "fits" the data. A high R squared (approaching 1.00) indicates the model fits the data well, and a low R squared (approaching zero) indicates the regression model fits the data poorly. In more technical terms, R squared measures the percentage of the variance within the dependent variable that is explained by the regression model. For example, Model 1 explains 96.8 percent of the variance in state abortion ratios from 1985 to 1999.

**Sources:** The Centers for Disease Control and Prevention (CDC) and the Alan Guttmacher Institute (AGI).

## DISCUSSION

Overall, the results from the regression analysis indicate that pro-life legislation has been effective at reducing the incidence of abortion at the state level. In particular, Medicaid funding restrictions appear to be especially effective at reducing the number of abortions. When data from the CDC are used, the model predicts that Medicaid funding restrictions reduce the abortion rate by 29.67 and the abortion ratio by 2.08. Moreover, these results are statistically significant.<sup>33</sup> Furthermore, when AGI data are used, the magnitude and significance of these coefficients are similar. Overall, these findings are consistent with much of the academic literature that examines the impact of Medicaid funding restrictions.

Of particular interest is the impact of informed consent laws. These laws are a recent policy innovation, and none of the other academic studies examines their impact. When the CDC data are used, the regression indicates that the passage of an informed consent law reduces the abortion ratio by 11.69 and the abortion rate by 0.92. When AGI data are used, the results indicate that informed consent laws have an even greater effect, reducing the abortion ratio by 22.46 and the abortion rate by 1.57. All of these results are statistically significant. These findings are particularly interesting because over 20 states adopted informed consent laws between 1992 and 1999.<sup>34</sup> It seems likely that these laws played an especially large role in the decline in abortions during the 1990s.

Parental involvement laws appear somewhat less effective than the other types of public policies. In all four of the models, the coefficient for the parental involvement laws is negative, which is consistent with expectations. However, while some of the coefficients approach statistical significance, none actually reaches it. It should also be noted that parental involvement laws limit only the ability of minors to have abortions. Examining their impact on minors who undergo abortions, instead of all women who undergo abortions, would be a better test of the effectiveness

---

<sup>33</sup> a variable is statistically significant if there is at least a 90 percent certainty that the given variable has a non-zero effect on abortion rates or abortion ratios.

<sup>34</sup> NARAL Foundation, "Who Decides?" (1992), pp. 125-27, and "Who Decides?" (2000), pp. 125-27.

of such laws. Even so, parental involvement laws do appear to reduce overall abortion rates and ratios, but their impact is less statistically certain than the impact of Medicaid funding restrictions and informed consent laws.

Finally, all the models predict that “partial-birth abortion” bans reduce abortion rates and ratios. In two of the four models, the coefficients do not achieve statistical significance. However, it should be noted that the first “partial-birth abortion” law was not enacted until 1996, and most “partial-birth abortion” bans went into effect in 1997 and 1998.<sup>35</sup> As a result, there are relatively few data with which to evaluate their effectiveness.

#### CONCLUSION

The number of abortions rose consistently throughout the 1970s and the 1980s.<sup>36</sup> However, that trend reversed during the 1990s as the number of legal abortions declined by 17.4% between 1990 and 1999.<sup>37</sup>

There are a number of different reasons for this decline. However, one factor that cannot be overlooked is the impact of pro-life legislation in the states. By the end of the decade, more states had adopted parental involvement requirements, informed consent requirements, and “partial-birth abortion” bans.<sup>38</sup> More important, regression results provide evidence that each of these laws was effective at reducing the number of abortions that took place.

#### APPENDIX A: REGRESSION RESULTS

Regression analysis allows examination of the effects of various factors on the central concern of this paper: state-level abortion rates and ratios.

---

<sup>35</sup> NARAL Foundation, “Who Decides?” (1991-2000).

<sup>36</sup> Elam-Evans et al., “Abortion Surveillance.”

<sup>37</sup> Centers for Disease Control and Prevention, “Morbidity and Mortality Weekly Report,” December 17, 1993, pp. 34-35, and Elam-Evans et al., “Abortion Surveillance.” Calculation by author.

<sup>38</sup> NARAL Foundation, “Who Decides?” (1992), pp. 125-27, and “Who Decides?” (2000), pp. 125-27.

Regression analysis sorts out the effects of a single variable by holding constant the effects of all other variables. Appendix A provides the coefficients and standard errors for the various regression models.

The coefficient of the independent variables provides an estimate of how much a one-unit change of the independent variables changes the dependent variable.

For instance, when data from the Centers for Disease Control are used, the regression model predicts that a 1 percentage point increase in state personal income growth will reduce the state abortion ratio by 0.94 abortions per 1,000 live births and will reduce the state's abortion ratio by 0.10 abortions per 1,000 women between the ages of 15 and 44.

Similarly, when CDC data are used, the regression model predicts that the passage of a parental involvement law will lower the state abortion ratio by 7.22 abortions for every 1,000 births and lower the state abortion rate by 0.54 abortions per 1,000 women between the ages of 15 and 44.

#### TECHNIQUE

A fixed-effects GLS model with state and year indicator variables was used, corrected for autocorrelation. The data were weighted by state population.

Table 3		CDA 04-01
<b>Data Sources</b>		
Variable	Source	
State Abortion Ratio (Number of abortions per 1,000 live births)	The Centers for Disease Control and Prevention and the Alan Guttmacher Institute	
State Abortion Rate (Number of abortions per 1,000 women between the age of 15 and 44)	The Centers for Disease Control and Prevention and the Alan Guttmacher Institute	
Per Capita Personal Income Growth	Bureau of Economic Analysis	
State Fertility Rate (Number of births per thousand women Between the ages of 15 and 44)	The Center for Disease Control and Prevention	
Percentage of women of childbearing age who are between the ages of 15 to 19	U.S. Census Bureau	
Percentage of women of childbearing age who are between the ages of 20 to 24	U.S. Census Bureau	
Percentage of women of childbearing age who are between the ages of 25 to 29	U.S. Census Bureau	
Racial demographics by state	U.S. Census Bureau	
Partial Birth Abortion Ban	<i>Who Decides?</i> (1991–2000)	
Informed Consent Law	<i>Who Decides?</i> (1991–2000)	
Parental Consent Law	Merz, Jackson, Kellerman, and <i>Who Decides?</i> (1991–2000)	
Medicaid Funding of Abortions	Merz, Jackson, Kellerman, and <i>Who Decides?</i> (1991–2000)	



## DATA SOURCES

The following states did not report data to the Centers for Disease Control and Prevention in 1998 and 1999: Alaska, California, New Hampshire, and Oregon.

Data from Alaska are omitted because of data collection problems. Data from Kansas are omitted as well. According to the CDC data, the abortion rate jumped an astounding 69 percent between 1991 and 1999, and this cannot be traced to any shifts in economics, policy, or demographics in Kansas or in neighboring states. Instead, it appears that a large number of women seeking abortions choose to travel to Kansas. Indeed, for every year between 1992 and 1999, the CDC reports that over 40 percent of the abortions in Kansas are performed on out-of-state residents. This is by far the highest figure for any state.

Nearly all states reported abortion data to the CDC through their central health agency. However some state data were obtained from hospitals and other medical facilities. Since these differences in reporting may bias the results, data from the following states and years are omitted from CDC models: Alabama 1981-1990, Iowa 1981-1997, New Hampshire 1981-1997, West Virginia 1981-1998, Illinois 1984-1987, Kentucky 1984-1986, Oklahoma 1984-1997. The Alan Guttmacher Institute released state abortion data in the following eight years: 1985, 1987, 1988, 1991, 1992, 1995, 1996, and 2000. Data from Alaska are omitted because of data collection problems. Data from Kansas are omitted because of the same outlier problems described above.









