Do Policies Affect Preferences? Evidence from Random Variation in Abortion Jurisprudence

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PRELIMINARY AND INCOMPLETE

Abstract

Whether policies shift preferences is important in policy design. We isolate exogenous variation in abortion jurisprudence using the random assignment of Democratic appointee judges, which strongly increases the probability of a liberal abortion decision. We also document that newspapers report appellate abortion decisions and conduct a field experiment assigning workers to transcribe these news reports. Using both sources of variation, we find that exposure to liberal abortion precedent lead to more conservative public opinions. Our results are consistent with a signaling model where legal decisions affect the ability to signal one's moral type and the social perception of particular actions.

Keywords: Backlash, Expressive Law, Field Experiment, Abortion, Norms JEL codes: K36, Z1, D72, P48

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1 Introduction

Do government policies shift policy preferences? This question is important to optimal policy design and central to political economy. Social scientists have long speculated on the role of laws in motivating broader societal change. Yet little population-based causal evidence exists about why people obey the law, whether it is because legal sanctions alone motivate behavioral changes as in a classical economic framework or because the law psychologically motivates behavioral changes through moral or expressive messages. To date, behavioral theorists have focused primarily on the expressive effects of public policy,¹ where laws that express what society values draw people's preferences closer to the social norm.² Yet an extensive literature, largely anecdotal or qualitative in nature (see, e.g. Roe (1998) and Klarman (2005)), has linked policy backlash to almost every policy.³ Formal theory is ambiguous as to the effect of government policy on individuals' policy preferences. Our analysis provides causal evidence for understanding why some normative arrangements are considered repugnant and may help in policy design (Mankiw and Weinzierl (2010)).

Little empirical work using naturally occurring data has addressed when and why law has expressive or backlash effects, despite their frequent use in justifying one law over another.⁴ We define backlash in the policy context as causing people's preferences to shift away from what the law expresses. Our model examines the implications of three ways to motivate people: intrinsic motivations (i.e. values), extrinsic motivations (i.e. material incentives), and social motivations (i.e. norms). Social motivations arise from individuals getting honor or stigma for doing something that is outside the norm. People would like to signal their type (i.e. values) and appear moral to gain honor or avoid stigma. If material incentives cause people to become more likely to do or avoid some activity, then those who are motivated by intrinsic incentives have greater difficulty in signaling to others as honorable. These effects arise only if an action falls outside the norm, that is, if the action is what the typical person would do, then doing that action does not signal that the person is honorable nor does it signal that the person is to be stigmatized.

To establish the prima facie possibility of the social motivation, consider a recent prominent example among U.S. politicians where having an open relationship was

¹A notable exception is Benabou and Tirole (2010).

 $^{^{2}}$ See Benabou and Tirole (2010) and the references therein for a theoretical and empirical literature.

³For a sample, see: voter mobilization (Mann 2010), multiculturalism (Mitchell 2004), environmentalism (Wolf 1995), private infrastructure investments (Lopez et al. 2009), health care (Mechanic 2001), abortion (Pridemore and Freilich 2007), Americans with Disabilities Act (Krieger 2000), globalization (Eckes 2000), Warren Court (Feld 2003).

⁴See Funk (2010) for an exception.

considered more politically damaging than having an adulterous relationship or being divorced. In both contexts, the parties may work at maintaining the appearance of being monogamous, which signals their type (i.e. values) to voters. When more parties semblance monogamy, the social perception someone receives from being monogamous decreases.⁵ If a legal decision increases the cost of non-monogamy, acting as a tax subsidy for monogamy, then whether monogamy actually increases or decreases depends on relative weights placed on social and extrinsic motivations as well as the magnitude of the shift in incentives. When legal decisions affect the observability of actions, the effect of legal decisions on social perceptions (i.e. the morality of some action) is ambiguous as well. Our model thus illustrates when law has backlash or expressive effects in preferences as well as in actions.

Persuasive empirical evidence on how policies affect preferences has been limited partly due to the difficulty of identifying policy shocks that are exogenous. We introduce an instrumental variables approach to these problems and apply our method in the context of abortion regulation.⁶ As prima facie evidence of the possibility of backlash, consider that the number of state abortion restrictions have increased over time since the landmark Supreme Court Roe v. Wade decision.⁷ A time-series or panel analysis is limited because legal decisions are likely endogenous to social changes. We address this issue by focusing on court decisions in U.S. appellate courts, which determine a significant portion of cases that shape the law in the U.S. This effective making of law occurs since decisions become precedents for decisions in future cases. We isolate an unexpected component of appellate jurisprudence using the random assignment of appellate judges to cases. We demonstrate that the idiosyncratic variation in the proportion of cases with Democratic appointees is a strong predictor of liberal outcomes in abortion cases. We use this random variation to identify the causal impact of policy outcomes on policy preferences.

Our research design can be clarified by the following thought experiment. Consider the Ninth Circuit, a generally more liberal court that includes California, which has a high proportion of judges that are Democratic appointees. From year to year, the proportion of abortion cases that are assigned Democratic appointees varies in a random manner. The idiosyncratic variation is not expected ahead of time since judicial assignment is not revealed to parties until very late and after each litigant's briefs are filed. In the years with an unexpectedly high proportion of cases with a Democratic appointee, the

 $^{^{5}} http://www.nytimes.com/roomfordebate/2012/01/20/the-gingrich-question-cheating-vs-open-marriage/voters-prefer-newt-gingrichs-adultery-to-open-marriage$

⁶Chen and Yeh (2010) examines the impact of obscenity law on preferences.

 $charts/2012/01/23/gIQAXo6XLQ_gallery.html?hpid=z2\#photo=5$

proportion of abortion cases that will result in liberal precedents is also high. Random variation in the assignment of appellate judges is an attractive instrument for a number of reasons. The random assignment of judges is exogenous and unexpected. It varies in both the cross-section and the time-series, so does not rely on strong assumptions about the comparability of different regions (e.g. circuits) and years. Additionally, the exclusion restriction is likely to hold: the idiosyncratic variation in proportion of abortion cases with particular judge characteristics is unlikely to directly affect society-wide outcomes except through the appellate precedent alone. The enormous variation in abortion decisions due to the judicial panel composition also makes our empirical design an ideal context to study the effect of policies on preferences. Abortion decisions are decided on partisan lines, and are highly emotionally salient, and are likely to affect individuals other than through economic sanctions alone.

We find that Democratic appointee judges are 17 percentage points more likely to vote pro-choice in abortion decisions. Using the idiosyncratic variation in judicial panel composition as an instrument, our baseline estimates indicate one pro-choice abortion decision increases the probability of individuals saying abortion should not be legal by 4 to 10 percentage points. Pro-life decisions increase the likelihood that individuals say abortion should be legal. The effect of pro-life abortion decisions is larger than the effect of pro-choice abortion decisions. In addition, one pro-choice abortion decision increases by 3 percentage points the likelihood of individuals identifying as a strong Republican and reduces by 3 percentage points the likelihood of individuals identifying as an independent, near Democrat. Party identification shifts to becoming more Democratic after a pro-life decision. We conduct several robustness checks. Public opinions and party identification are not correlated with the idiosyncratic variation in abortion jurisprudence stemming from panel composition before the decision. In addition, as a placebo experiment, liberal jurisprudence in First Amendment does not affect abortion attitudes.

To examine one mechanism through which appellate decisions affect policy preferences, we document that newspapers report abortion appellate decisions subsequent and conduct a field experiment where 345 data entry workers are randomly asked to transcribe these newspaper summaries of liberal or conservative abortion decisions. When exposed to liberal abortion decisions, workers become more conservative on two dimensions of abortion attitudes and the shift is similar in magnitude to the estimates in the population sample.

This paper proceeds as follows. Section II provides background on appellate courts and their decision-making process. Section III presents a simple theoretical framework for policy preference shifts including backlash. Section IV describes the data. Section V explains the empirical strategy and threats to the validity of the identification strategy. Section VI presents the results, showing the robust first-stage relationship between judicial panel composition and abortion decisions, discussing the main instrumental variable results and the results of several robustness tests. Section VII concludes.

2 Background on Appellate Abortion Law

II.A. The Federal Judicial System and Abortion Policy

Federal appellate decisions concerning abortion rights and abortion access can act as both policy changes and as statements of policy and values. To understand policy-making by courts regarding abortion, we describe the system of abortion regulation in the United States, and the crucial role of the U.S. federal court system in abortion policy.

Abortion policy in the United States is represented at several levels. In the seminal 1973 Roe v. Wade decision, the U.S. Supreme Court found that Constitutional due process rights extend to individual abortions, but any abortion regulations must be balanced with state interests. In the controversial aftermath, states may not completely prohibit abortion but have discretion to regulate it, subject to review by the courts. This discretion has led to much variation across states and localities in abortion policy. Laws on whether a woman can get an abortion can be codified in state statutes and local ordinances, as well as in regulations by government agencies. While there is no single comprehensive federal statute on abortion, a handful of federal laws target specific components of abortion access.⁸ At the state level, statutory provisions can impose various criteria on women seeking abortions as well as abortion providers.⁹ Other state laws address the public funding of abortions; for example, a majority of states disallow the use of state funds for abortions except when the woman's life is in danger or if the pregnancy arose from incest or rape.¹⁰ At the local level, cities can impose additional ordinances on abortion access and provision. While governments have discretion in enacting their own abortion laws, they must not conflict with laws of a higher level (e.g., federal statutes) and they must meet Constitutional requirements, which are determined by the courts. Therefore,

⁸Among these are Title X, enacted in 1970, which allocates federal funding to family planning services for low income persons but does not directly fund abortions; the Hyde Amendment, enacted in 1976, which bars Medicaid for funding abortions; the Freedom of Access to Clinic Entrances Act of 1994, which made it a federal crime to block individuals' access to clinics; and the Partial Birth Abortion Ban Act of 2003, which bans late-term abortions.

⁹Examples include requiring parental consent or notification for minors (36 states), gestational limits that forbid abortions after a specified period into a pregnancy (38 states), and imposing specific licensing requirements on clinics and physicians.

 $^{^{10} {\}rm An \ overview \ of \ state-level \ abortion \ laws \ is \ available \ at \ http://www.guttmacher.org/statecenter/spibs/spib_OAL.pdf.}$

the federal appellate courts play a prominent role in determining abortion policy by adjudicating legal challenges against government statutes and deciding whether they are unenforceable.

To illustrate how appellate decisions shape abortion law and to provide background for our empirical methods, we note several key features of the U.S. legal system. First, the U.S. has a common law system where judges both apply the law as well as make the law. This judicial lawmaking occurs as a judge's decisions in current cases become precedents that must guide decisions in future cases within the jurisdiction. Second, the federal courts system consists of three levels. Litigation, such as a lawsuit asserting that government-mandated waiting periods for an abortion procedure are unenforceable, begins in the district courts, or the general trial courts. On appeal, cases go to appellate courts, referred to as circuit courts, which examine whether the district court was in error and, importantly, decide issues of new law. (A very small portion of these cases is appealed again to the Supreme Court.).

Appellate law varies by geography. Each of the twelve appellate courts is in charge of a geographic region of the U.S., called a circuit. Appellate decisions are binding precedents only in the circuit of the court delivering the opinion. That is, the district courts within that circuit and the circuit court itself must follow the precedents set by the circuit court's prior decisions; courts in one circuit need not follow precedents from other circuits. In this way, appellate decisions provide geographic variation in laws across the circuits, analogous to variations in legislation across the states.

Finally, judges are randomly assigned to three-judge appellate panels to decide cases. While some judges take a reduced caseload, all judges are randomly assigned by a computer. The judges' identities typically are not revealed to the litigating parties until after they file their briefs. Because a circuit on average has 17 appellate judges in the pool of judges available to be assigned (and some circuits can have over 40 judges), the number of possible combinations of judges and their individual attributes on a panel is very large. Judges' personal attributes, such as gender and political affiliation, can predict their votes on certain types of cases.¹¹ Moreover, the dynamics of panel decision-making reveal that assigning one judge with a specific attribute can potentially influence the overall decision of the 3-judge panel.¹² Indeed, we establish these voting behaviors for abortion cases, finding that assigning a Democratic appointee increases the probability of a liberal, pro-choice abortion case outcome.

¹¹Boyd, Epstein, and Martin 2007; Chang and Schoar 2007; Ellman, Sunstein, Schkade 2004; Peresie 2005.

 $^{^{12}\}ensuremath{\mathsf{Farhang}}$ and Wawro 2004; Fischman 2007

Together, these features of the federal court system are important in constructing a natural experiment with random variation in abortion precedents across regions of the U.S. and over time. Circuit court decisions form abortion policy by setting legal precedents that become the law of the circuit and by affirming or invalidating government regulations. In abortion cases, the bulk of constitutional challenges concern the validity of statutes, ordinances, and regulations implemented by governments. Thus, circuit court abortion decisions, which we find to be linked to the political ideology of randomly assigned judges (see Section VI), can directly affect codified policies on abortion rights while setting legal precedent for future abortion decisions.

II.B. The Communication of Social Norms with Abortion Decisions

Beyond serving as actual law, circuit court decisions can simply reveal positions on highly sensitive issues, which can motivate backlash or support. Ruling that a local ordinance is in violation of Constitutional rights can in itself be an announcement of a value judgment about the acceptable scope of abortion rights. Are people aware of appellate abortion decisions? Studies have linked major, controversial Supreme Court decisions such as Roe v. Wade with subsequent changes in public opinions about abortion (Franklin and Kosaki 1989) and have suggested that the media as well as other factors can predict people's awareness of these decisions (Hoekstra 2000).

Exploring the media channel, we examine how appellate abortion decisions are communicated to the public by using a national sample of newspapers and collecting their mentions of appellate decisions over time. Hoekstra (2000) suggests that local media are more likely to report on cases in their community and that local residents are more likely to be aware of those cases than cases in other jurisdictions. We therefore select the major newspaper for the city in which each circuit court resides.¹³ Figure 1 plots the number of appellate decisions on abortion and the number of news articles on abortion decisions for 1979-2004.¹⁴ Controlling for circuit and year fixed effects, we find a positive relationship between the number of abortion decisions and the number of newspaper

¹³These newspapers are: the Boston Globe, New York Times, Philadelphia Inquirer, Richmond Times Dispatch, Times-Picayune, Cincinnati Post, Chicago Tribune, St. Louis Post-Dispatch, San Francisco Chronicle, Denver Post, Atlanta Journal and Constitution, and Washington Post. We collected data from 1979 to 2010 from NewsBank using the search term: "abortion in All Text and appellate or circuit in All Text and judgment or "court ruling" in All Text not "Supreme Court" in All Text not state near10 appellate in All Text"

¹⁴Not every newspaper is available for every year. In our model, we include circuit and year fixed effects. In the figure, we divide the number of newspaper articles by the proportion of newspapers available. For example, if in 1980, only half of the typical newspaper coverage is available because of data limitations, we divide by 0.5. This allows us to compare graphically the number of appellate decisions and news articles about abortion cases over time.

mentions, and the relationship between the number of pro-life decisions and newspaper mentions is statistically significant at the 5% level.

3 Theory

The theoretical framework is intended to assist in understanding when laws have expressive effects as opposed to backlash effects. Scholars in a wide range of areas have made arguments for or against certain policies on the basis of their expressive or backlash effects but without a clear framework for assessing the likelihood of their occurrence,¹⁵ with the exception of Benabou and Tirole (2010), a simplified version of which we present below.

We begin by defining what is being modeled. We define expressive effects as occurring when the law causes preferences to shift towards what the law values and backlash effects as occurring when the law causes preferences to shift away from what the law values. These definitions loosely capture the public's varying responses to policymaking: While the public may ignore, or even reject, certain policies, others are able to shape the values of individual decision-makers to conform to the policy's underlying intent.

There are three ways to motivate people: explicit, material incentives (i.e. extrinsically), norms, sanctions (i.e. socially), or values (i.e. intrinsically). Individuals get social honor or stigma for doing something that is outside the norm, which conveys information about an individual's values. Consider government policy that tries to achieve the socially optimal level of some action, be it donations or abstaining from drug use or discrimination. Communications about community standards can shift societal preferences because it affects the honor or stigma that individuals perceive from doing some action. For example, if people become more likely to do some activity because of explicit incentives, those who are motivated by intrinsic incentives have greater difficulty in signaling to others as honorable. If an action falls into the middle "modal" range, that is, if the action is what the average person would do, then doing that action does not signal that the person is extremely honorable nor does it signal that the person is to be stigmatized.

We provide a simple 2-action principal-agent model that accounts for personal incentives (intrinsic vs. extrinsic motivation) and social perception (Benabou and Tirole 2010).

Agent maximizes over effort a:

 $U(a) = (v_a + y) a - C(a) + e\overline{a} + \mu E(x \mid a)_s$

¹⁵For a sample of backlash claims, see: voter mobilization (Mann 2010), multiculturalism (Mitchell 2004), environmentalism (Wolf 1995), private infrastructure investments (Lopez et al. 2009), health care (Mechanic 2001), abortion (Pridemore and Freilich 2007), Americans with Disabilities Act (Krieger 2000), globalization (Eckes 2000), Warren Court (Feld 2003).

Where v_a is intrinsic motivation (over the range of $[\underline{v}, \overline{v}]$), y is extrinsic payoff, C(a) is the cost of the action, $e\overline{a}$ is the public good aspect of the good, and μ is the weight agents put on social perceptions, $E(x \mid a)_s$, which is other people's perception of your intrinsic motivations. Society uses some rule s to calculate their expectation of your intrinsic motivations based on your action a. In rational expectations equilibrium, society's expectations will be correct and the last term will be $\mu E(v_a \mid a)$.

The principal – the social planner – maximizes over the contract and y:

$$W(y) = \overline{U}(y) + (1+\lambda) ya(y)$$

In the model, the courts are the social planner, as they set the optimal payoffs and the costs. For now, ignore the objective function of the planner, but focus on the effect of change of incentives on the agent's actions.

In the simple example of 2 actions (a=0,1 or abortion/no abortion respectively):

$$a = 1: U(1) = v_a + y - C(1) + e\overline{a} + \mu E(x \mid 1)_s$$

$$a = 0: U(0) = -C(0) + e\overline{a} + \mu E(x \mid 0)$$

Because there are 2 actions, the social perception of your intrinsic motivations now follows a cut-off rule, which will be elaborated upon below. Normalize c=C(1)-C(0)-y, which is the cost difference between the two actions (these cost differences account for clinical costs and costs of having and raising a child), net of the extrinsic benefit (which could include opportunity costs of lost labor market time), then the net utilities are:

$$a = 1 : U(1) = v_a - c + \mu E(x \mid 1)_s$$

$$a = 0: U(0) = \mu E(x \mid 0)_{s}$$

This provides a cut-off rule, since if the agent chooses to take action a=1 at some v_a , then it would also choose a=1 at any $v>v_a$, holding others' actions fixed in equilibrium. Thus the cutoff rule will satisfy:

$$v^* - c + \mu E(v_a \mid 1) = \mu E(v_a \mid 0)$$

Further, define

$$\Delta(v) = E(v_a \mid v_a > v) - E(v_a \mid v_a < v)$$

For the cutoff value v where people choose action 1 if their v_a is bigger than v and they choose action 0 if their v_a is smaller than v, so

$$\Delta\left(v\right) = E\left(v_a \mid 1\right) - E\left(v_a \mid 0\right)$$

Then the fixed point solves the equation of:

$$v^* + \ \mu \Delta \left(v^* \right) = \ c$$

A sufficient condition for a fixed point is if $1 + \mu \Delta'(v) > 0$. Thus, the solution has a unique fixed point, and $[\underline{v}, v^*]$ share of the population get abortion.

Discussion

Who you pick as the infra-marginal group is changing when the cutoff rule changes. At the steady state, the incentives of the infra-marginal group must be such so that the marginal benefit of the action is equal to its marginal cost. The expression $v^* + \mu \Delta(v^*)$ captures the marginal benefit for the people at the cutoff to do no-abortion. This marginal benefit is the sum of intrinsic motivation and social motivation. If the derivative is positive, then the marginal benefit will eventually equal the marginal cost c and there will be a fixed point. The intuition is that $1 + \mu \Delta'(v)$ captures the increase in marginal benefit of increasing intrinsic motivation for the people at the cutoff when the cutoff changes. The increase in marginal benefit increases directly as well as indirectly through changes in social perceptions that result from society recalculating expectations when this group switches. To put it another way, as the cutoff rule goes up, only the high intrinsic types get a positive benefit from doing the action through social perceptions because fewer low intrinsic types to not do the action is to have a high cost.

If μ is very small, then people simply equate their intrinsic motivation to the cost of the action. Social perceptions are either ignored or you tell no one about your action to donate, not use drugs, not discriminate, or refrain from having an abortion. While $1 + \mu \Delta'(v) > 0$ is a sufficient condition for a fixed point, it is not a necessary condition and $1 + \mu \Delta'(v)$ can be negative for some cutoff values. Indeed, the cutoff rule and $\Delta'(v)$ are closely linked. A raise in v^* , raises both $E(v_a \mid 1) = E(v_a \mid v_a > v)$ and $E(v_a \mid 0) = E(v_a \mid v_a < v)$. So, the difference: $\Delta(v) = E(v_a \mid 1) - E(v_a \mid 0)$ may

either increase or decrease. Δ initially decreases, then increases, so it's u-shaped though not necessarily uni-modal. To see why, when v^* is small (most people are *not* having abortions), then raising v^* will increase $E(v_a \mid 0)$ more than $E(v_a \mid 1)$, as $E(v_a \mid 0)$ will include very few points on the left tail of the v-distribution, and so by slightly increasing the right margin, we include a lot bigger v's, and also a lot more proportionately than what we had before in $E(v_a \mid 0)$. But for the $E(v_a \mid 1)$, when we have most of the v distribution, cutting off a bit from the left-hand side will not have that much effect on the mean, as we're cutting off a small fraction proportionately. In words, the social perception (people thinking you are someone who is intrinsically motivated) that one gets for doing an abortion increases more than does the social perception for not doing an abortion.

So, for v^* small, $E(v_a | 1) - E(v_a | 0)$ will most likely be decreasing. In this negative region, actions are strategic complements: the less people do some misdeed, the less other people want to do it too. In this region there is a social stigma from abortions. By the same argument when v^* is close to the \overline{v} , then $E(v_a | 1) - E(v_a | 0)$ will be increasing. This gives a U-shape to Δ . In this region, actions are strategic substitutes: the more people do an action, the less likely others will do it. In this region there is a lot of honor attached to doing large donations or no abortions when everyone else is not making large donations or having an abortion. If an action falls into the middle "modal" range, that is, if the action is what the average person would do, then doing that action does not signal that the person is extremely honorable nor does it signal that the person is to be stigmatized.

Ambiguous Predictions

A pro-choice decision has two effects: 1) It raises c – the relative cost of no-abortion – by Δc , making it easier to have an abortion. A pro-choice decision also 2) raises the social perception of choosing the no-abortion action. Because people are less likely to choose to have no-abortion for extrinsic reasons, the social perception from following one's intrinsic motivations increases. The raise in social perception is represented in equilibrium as: $\Delta (v - \theta) = E(x | 1) - E(x | 0)$, which has the same effect as lowering costs by θ .¹⁶ People behave as if their intrinsic motivations have increased by θ . Thus, whether the social perception dominates: $\theta > \Delta c$, or vice versa, obtains a backlash effect or expressive law effect in actions. Empirical tests give the answer to the question.

Ambiguous predictions can also be obtained for social perceptions. In other words, a pro-choice decision can cause views on the morality of having an abortion to shift in

¹⁶This is because we now have $v^* + \mu \Delta (v^* - \theta) = c$, which is equivalent to $v^* - \theta + \mu \Delta (v^* - \theta) = c - \theta$.

This implies the fixed point equilibrium is v^* solved for $c - \theta$.

either direction. Consider μ , which captures the weight of social perceptions in the utility function. A pro-choice decision could lead to more transparent observation of abortion outcomes. The cost of obtaining information about others decreases, which increases μ^{17} Because $\Delta(v^*)$ is positive in the fixed-point equation, an increase in μ for a fixed c will decrease v^* . An increase in c, however, will increase v^* , leading to ambiguous predictions on actions. Further, an increase in v^* may lead to an increase or decrease in $\Delta(v)$ depending on the underlying distribution, thus the morality of having an abortion can decrease or increase. We can be a little more precise. For v^* small (many people don't have abortions), $E(v_a \mid 1) - E(v_a \mid 0)$ is decreasing, so an increase in v (increase in number of abortions) leads to a decrease in the honor from having no-abortion and corresponding increase in the morality of abortions. For v^* high (few people have no abortions), $E(v_a \mid 1) - E(v_a \mid 0)$ is increasing, so an increase in v (increase in number of abortions) leads to an increase in the honor from having no-abortion and corresponding decrease in the morality of abortions. We would predict that when there are few abortions, a pro-choice decision could make it easier to observe abortions, increasing the weight placed on social perceptions, which tends to decrease the number of abortions as well as the morality of having an abortion. The number of abortions and the morality of having an abortion move together. When there are many abortions, the opposite occurs: increasing the number of abortions raises the morality of no-abortion.

Whether a backlash or expressive effect exists in practice also informs optimal policy design. To be concrete, consider a left-shifted distribution: if most people do not donate and you do, then only the most honorable donate large sums. Social respect sufficiently internalizes the positive externality from the action. In this case, explicit/material intervention is not required. Now consider a right-shifted distribution: only those least deserving of respect use drugs. Social stigma sufficiently internalizes the negative social externality, and again, explicit/material incentives are not required. Explicit/material incentives are only effective for the middle cases.

Rather than law causing preferences to simply shift for or against the law's intentions, law can also complement or substitute for the intrinsic motivations for a particular behavior. Now suppose individuals misperceive the distribution and we are in a situation where the distribution of actions is right-shifted. First, consider the case of excessive optimism. People think the distribution of actions is even more right-shifted; for example, suppose people think a larger percentage of people do not discriminate, abstain from drugs, or refrain from abortions than is actually true (i.e. the 99%). In this case, social

¹⁷An increase in the weight on social perceptions could occur in the short-run. In the long-run, if everyone has abortions, then the weight on social perceptions may disappear.

stigma is a sufficient motivator. Releasing statistical information about the true distribution backfires, since it reduces the stigma effect. Explicit sanctions, however, indicate that the policymaker sees a problem. Individuals update their beliefs about the underlying distribution. Therefore, explicit sanctions substitute for norm-based stigma. That is, "law" undermines the intrinsic, social norm-based motivation for refraining from an action. In this manner, we obtain a backlash effect in social perceptions and attitudes.

Second, consider the case of excessive pessimism. People think the distribution of actions is not as right-shifted, e.g., people think a larger percentage of people discriminate, use drugs, or have abortions than is actually true. In this case, statistical information strengthens the stigma effect. The lack of explicit sanctions indicates that the policymaker does not see a problem, which complement the norm-based stigma. In other words, "law" reinforces the intrinsic norm-based motivation for refraining from an action. In this manner, we obtain an expressive law effect in social perceptions and attitudes. Similar ambiguous predictions can be made when the distribution of actions is left-shifted.

4 Data

We compile our data from three main sources. We use federal appellate-level abortion decisions originally coded by Sunstein et al. (2006), with corrections by Kastellec.¹⁸ We match each judge who adjudicated the cases with judge data from the Federal Appeals and District Court Attribute Data assembled by Zuk, Barrow, and Gryski¹⁹ as well as from the Federal Judicial Center's judge biographies.²⁰ We measure preference shifts using data on political attitudes and abortion opinions from the General Social Survey (GSS).

Our set of abortion decisions consists of 143 published opinions on abortion that were decided between January 1, 1971 and June 30, 2004, at the federal appellate level.²¹ The cases are limited to those decided on constitutional grounds. These largely consist of challenges to state statutes, local ordinances, or other government policies regulating abortion access. Examples include parental notification or consent requirements for minors seeking abortions²², prohibitions on state funding for abortions²³, and "partial-birth"

¹⁸See Jonathan P. Kastellec, 2010. "Racial Diversity and Judicial Influence on Appellate Courts," mimeo, Princeton University.

 $^{^{19} \}rm http://www.cas.sc.edu/poli/juri/attributes.htm$

²⁰http://www.fjc.gov/history/home.nsf

²¹Sunstein, Schkade, and Ellman (2006) obtain these cases from a broader Lexis search using the terms "core-terms (abortion) and date aft 1960 and constitutional" and "abortion and constitution!"

²²See, e.g., Akron Center for Reproductive Health, Inc. v. City of Akron, 651 F.2d 1198 (6th Cir., 1981); Manning v. Hunt, 119 F.3d 254 (4th Cir., 1997); Planned Parenthood Of Northern New England v. Heed, 390 F.3d 53 (1st Cir., 2004).

²³See, e.g., D R v. Mitchell, 645 F.2d 852 (10th Cir., 1981); State of New York v. Sullivan, 889 F.2d 401

abortion bans.²⁴ A small portion of the cases represents challenges to restrictions on antiabortion protesting.²⁵ Appendix Table A gives a rough summary of the challenges to statutes and policies that reached the Supreme Court. A total of 117 circuit-years of the 408 circuit-years in our time period experienced at least one abortion decision.

Each decision was coded as either "pro-choice," favoring abortion rights and stronger protections from anti-abortion protest methods, or "pro-life"; in this paper, we sometimes refer to pro-choice decisions as "liberal" and pro-life decisions as "conservative." Among the years with any abortion appellate decisions, 58% of the panel decisions were prochoice, with 80% of these pro-choice decisions being unanimous. Of the pro-life decisions, 65% were unanimous. Figure 2 plots the frequency of pro-choice decisions and pro-life decisions nationwide in appellate courts by year.

Each appellate case was decided by a panel of three randomly assigned federal judges.²⁶ A key feature of our identification strategy relies on judicial pool characteristics, where we observe judge characteristics to predict votes and case decisions. We match each judge to her or his individual biographical attributes from Zuk, Barrow, and Gryski's Appeals Court Attribute Data and District Court Attribute Data, as well as biographical data from the Federal Judicial Center for judges appointed after 2000. The data include a judge's vital statistics, education, religion, race, political affiliation and other variables. For a number of specifications, we use the Federal Court Management Statistics to construct a measure of the annual circuit workload, or the number of federal appeals terminated within each circuit by year.²⁷

We obtain outcome measures of individuals' abortion views and political ideology from the General Social Survey (GSS).²⁸ The GSS is an individual-level survey that was conducted annually from 1973 to 1994 (except for 1979, 1981, and 1992), and biannually from 1994 to 2006. For each year, the GSS randomly selects a cross-sectional sample of residents of the United States who are at least 18 years old. The GSS provides responses from around 1500 respondents for each survey year between 1973 and 1992, and around 2900 respondents per survey year from 1994 to 2006.

⁽²nd Cir., 1989)

 $^{^{24}}$ See, e.g., Carhart v. Stenberg, 192 F.3d 1142 (8th Cir., 1999); Rhode Island Medical Society v. Whitehouse, 239 F.3d 104 (1st Cir., 2001).

 ²⁵See, e.g., Cheffer v. Reno, 55 F.3d 1517 (11th Cir., 1995); U.S. v. Gregg, 226 F.3d 253 (3rd Cir., 2000).
 ²⁶Most are federal appellate-level judges, though some are district court judges who sit within the case's circuit.

 $^{^{27} \}rm http://www.uscourts.gov/fcmstat/index.html$

²⁸http://publicdata.norc.org:41000/gssbeta/index.html

IV.C. Summary Statistics

Appendix Table B shows the summary statistics. Means of appellate court characteristics are shown for the judicial pool at the circuit and year level. Of the 408 circuit-years between 1971 and 2004, 117 circuit-years experience at least one appellate abortion decision. A total of 14,466 GSS sample individuals experience at least one abortion decision during their survey years. On average, a circuit-year has 16.8 active (appellate) judges, 0.35 appellate abortion decisions, and 0.203 pro-choice decisions. Thus, the majority of abortion cases had pro-choice outcomes. Of the GSS respondents experiencing an abortion decision and surveyed on their abortion views, around 80% believe that a woman should be able to obtain a legal abortion if her health is seriously endangered by the pregnancy, while only 40% believe so if the woman wants an abortion for any reason. On self-identified political affiliation, 48% lean towards being a Democrat, while 36% lean towards being a Republican.

5 Empirical Strategy

We first present a basic specification of the effects of appellate abortion laws on political preferences. This naïve OLS model controls for various sources of biases arising from time and place. However, it can be susceptible to reverse causality as well as omitted variable biases arising from outside trends. Indeed, constituents can influence the types of policies in their jurisdictions to satisfy their preferences.²⁹ Later, we present our identification strategy, which overcomes the endogeneity of policy and preferences. We exploit exogenous variation from a natural experiment where liberal abortion decisions vary randomly across circuits and over time due to the random assignment of judges to appellate panels.

V.A. Basic Specification

Our basic specification models the changes in abortion precedent at the circuit-year level and their relationship to individual political preferences as:

(1) $Y_{ict} = \beta_0 + \beta_1 Law_{ct} + \beta_2 C_c + \beta_3 T_t + \beta_4 C_c^* Year + \beta_5 X_{ict} + \beta_6 W_{ct} + \epsilon_{ict}$ The dependent variable, Y_{ict} , is a measure of the preferences of individual *i* in circuit *c* and year *t*. These include value judgments about abortion rights and political ideology. The main coefficient of interest is β_1 on Law_{ct} , where Law_{ct} is the measure of liberal, pro-choice abortion decisions issued in circuit *c* and year *t*. We construct this as the percentage of

²⁹See Timothy Besley and Anne Case. 2000. "Unnatural experiments? Estimating the incidence of endogenous policies," Economic Journal, F672-694.

abortion decisions that are liberal (pro-choice). This captures the net effect of liberal decisions given that conservative decisions may also occur. In alternate specifications, we measure the law as the raw number of liberal decisions, and then as the raw number of conservative (pro-life) decisions. With these, we test whether a higher quantity of liberal abortion decisions would produce backlash; the number of conservative decisions also serves as a robustness check.

Observed differences in policy preferences might arise from regional traditions rather than arising from the laws themselves. For example, church attendance may be more ingrained in the culture of a Southern circuit so people there may express more conservative attitudes than people on the West Coast. We address potential biases arising across time and space with controls: C_c is the vector of circuit fixed effects, which absorb circuit-level unobservables; T_t is the vector of year fixed effects, which control for year-specific unobservables that equally affect all circuits; and $C_c *Year$ are the circuitspecific time trends to allow different circuits to be on different trajectories with respect to outcomes. We also include state fixed effects to address state-specific characteristics; these would capture state statutes and state court decisions. X_{ict} is the vector of observable individual characteristics such as age and gender. Because political attitudes may be correlated by space so that ε_{ict} is not *i.i.d.*, we cluster standard errors at the circuit level. Finally, W_{ct} represents judicial pool controls, such as the circuit-specific docket size or the total number of abortion cases. The particular variables included in the judicial pool controls depend on specification, which we discuss in the next sub-section.

Are estimates from model (1) plausible? One critique is that decisions in one circuit may influence another circuit towards the same direction. Second, appellate case selection may be correlated with trends in the lower courts; for example, more liberal appellate decisions can occur when the trial courts are extremely conservative.³⁰ These behaviors, however, would merely contribute measurement error, attenuating the magnitudes toward zero or generating imprecision. A third critique concerns residential sorting: people who are pro-choice may choose to locate in jurisdictions with more liberal political attitudes. Our circuit fixed effects and controls for time trends within circuits could address this. A fourth critique is that litigants engage in forum-shopping. Forum-shopping, however, is addressed by controlling for the total number of abortion cases.

 $[\]overline{^{30}\text{See, e.g. Priest and Klein (1984); Eisenberg (1990)}$.

V.B. Identification Strategy

The OLS model in equation (1) can remain biased because it fails to address reverse causality and omitted variable bias. While the law can drive political backlash, popular policy preferences can also lead to changes in state legislation or more litigation to invalidate existing policies. Moreover, abortion decisions may be correlated with appellate precedents in other legal areas such as death penalty. If other legal areas also influence policy preferences, then our estimates may be biased upward, since they fail to account for the omitted effects of the other laws. As a solution, we employ an instrumental variables strategy whose random variation arises where the percentages of abortion laws that are pro-choice vary randomly across each circuit and year. We exploit the facts that (1) judges are randomly assigned to three-judge panels for each case and (2) Democratic appointees are more likely to vote liberally in abortion cases.

V.B.1. Correlation Between Judicial Biography and Voting

For our first stage in our two-stage least squares estimation, we use the fact that judges' personal attributes can be correlated with their voting behavior in appellate cases, which translates to panel vote outcomes, and therefore, changes in circuit-level abortion law.³¹ Prior research has documented that since the 1970s, federal appellate judges appointed by a Democratic president are more likely to vote pro-choice in an abortion rights case, while Republican appointees favor pro-life decisions.³² We replicate this finding in our data and present these first-stage results in VI.A. Abortion can be a prominent issue in elections and in party identification. A common explanation for why Democrat appointees vote pro-choice is that ideology drives judicial voting, with political party predicting the judge's ideology. Note that the mechanism does not affect the validity of our empirical strategy.

V.B.2. Two-Stage Least Squares Estimation

Figure 3 roughly depicts the intuition for our 2SLS identification strategy, in which we exploit the random variation that arises from using the actual deviations from the expected probability of a circuit-year having judges who were Democratic appointees. The flatter line is the expected number of Democratic appointees on a panel. The jagged line is the actual number of Democratic appointees on a panel. (The figure displays the average values across all circuits.) Circuit-years receiving an unexpectedly high proportion of

³¹Boyd, Epstein, and Martin (2007); Chang and Schoar (2007); Ellman, Sunstein, Schkade (2004).

³²Sunstein, Schkade, Ellman, and Sawicki (2006).

Democratic appointees on their panels receive an unexpectedly higher proportion of prochoice abortion decisions. Each actual spike above the expected probability of getting a Democrat judge corresponds to the circuit-year randomly receiving a "treatment" of more pro-choice abortion decisions. Thus, changes in people's policy preferences can be attributed to the "treatment" of pro-choice appellate laws. Figure 3 suggests the first stage equation:

(2a) $Law_{ct} = \gamma_0 + \gamma_1 Treatment_{ct} + \gamma_2 C_c + \gamma_3 T_t + \gamma_4 C_c * Year + \gamma_5 X_{ict} + \epsilon_{ict}$ where Law_{ct} is defined as the percentage of abortion decisions that are liberal, conditional on there being any abortion decisions in that circuit and year. The "Treatment" group (*Treatment*_{ct} = 1) comprises people who experience an unexpectedly higher percentage of pro-choice abortion decisions due to an unexpectedly higher number of Democratic appointees being assigned to the panels. The "Control" group (*Treatment*_{ct} = 0) comprises people who experience an unexpectedly lower percentage of abortion decisions that are pro-choice. Formally, *Treatment*_{ct} = $\mathbf{1}[(N_{ct}/M_{ct} > E(N_{ct}/M_{ct})]]$, where N is the expected number of Democrats assigned to all abortion cases in that circuit-year and M is the number of abortion cases in that circuit year. N/M is the expected number of Democratic appointees in any given case. The effect of abortion law on policy preferences is the difference in Y_{ict} for *Treatment*_{ct} = 1 or 0, divided by the difference in Law_{ct} for *Treatment*_{ct} = 1 or 0.

For more statistical power in our main IV specifications, we employ the entire excess proportion of cases with a Democratic appointee as a continuous instrumental variable. That is, we estimate in our first stage:

(2b) $Law_{ct} = \gamma_0 + \gamma_1 Z_{ct} + \gamma_2 C_c + \gamma_3 T_t + \gamma_4 C_c * Year + \gamma_5 X_{ict} + \epsilon_{ict}$

where our instrument Z_{ct} is the difference between the actual proportion of cases with Democratic appointees and the expected proportion of cases with a Democratic appointee. We redefine $Treatment_{ct} = N_{ct}/M_{ct}$ - $E(N_{ct}/M_{ct})$. The moment condition for causal inference is $E[(N_{ct}/M_{ct} - E(N_{ct}/M_{ct})) \epsilon_{ict}] = 0$.

This framework in (2b) may be the cleanest in terms of identification, where the i.i.d. condition $E(Z_{ct}\epsilon_{ict}) = 0$ must be satisfied. However, it raises some concerns. Specification (2b) limits the estimation to years where abortion cases were decided (otherwise the denominator of the percentage is zero). This can be problematic when studying the dynamics of backlash effects over time, since (2b) would limit the sample to only those observations experiencing abortion decisions in consecutive time periods. Rather than use a distributed lag specification, we study the dynamic effects in separate models (such as in our lead specifications). This is a reasonable alternative to the distributed lag specification since *Treatment_{ct}* is not serially correlated.

It is entirely possible that people may be more responsive to the number of prochoice decisions rather than the percentage of cases. We show estimates from a version of (2b) that uses the number of pro-choice decisions instead of percentage of pro-choice decisions as well as the OLS model of (1) in our results. Multiplying the moment condition for (2b) by M_{ct} results in $\mathbf{E}[(N_{ct} - \mathbf{E}(N_{ct})) \epsilon_{ict}] = 0$. We now define $Treatment_{ct} = N_{ct}$ - $\mathbf{E}(N_{ct})$ and in equations (1) and (2), let Law_{ct} be the number of pro-choice abortion cases. As a check for possible omitted variables³³ in excluding M_{ct} , we use Law_{ct} as measured with the number of liberal (pro-choice) decisions and, as a check, the number of conservative (pro-life) decisions.

6 Results

VI.A. First Stage Estimates

Table 1 documents the relationship between pro-choice abortion appellate decisions and the random assignment of Democrat appointees using our dataset of cases from 1971 to 2004. Columns 1 and 2 show the relationship at the judge level, where we regress an individual judge's vote on an indicator for Democratic appointment, clustering the standard errors by circuit; Column 2 controls for circuit and year fixed effects and the expected probability of a case being assigned a Democratic appointee in each circuityear. A Democratic appointee is 17.2% more likely to vote pro-choice than a Republican appointee (Column 2). Further, our unreported tabulations show that appellate panels assigned two or more Democratic appointees vote pro-choice 71% of the time, compared with 51% for panels with two or more Republican appointees. These correlations are consistent with those reported in existing literature, such as Sunstein, et al. (2006). Column 3 and 4 show the relationship at the case level, with and without regression controls. Randomly assigning a panel to have a majority of Democratic appointee is predictive of a pro-choice decision, though the estimate is noisier when including circuit, year, and judicial pool controls. The relationship at the circuit-year level is shown in the next columns. Columns 7 and 8 show the relationship after merging with individual-level data from the GSS. Circuit-years with unexpectedly higher proportions of judges assigned to abortion cases who are Democrats predict a higher proportions of abortion decisions that are pro-choice. The F-statistic of joint significance for the instrument defined as the deviation between the actual and expected percentage of judges being Democratic

 $^{^{33}}$ The omitted variables that are associated with M_{ct} , pro-choice decisions, and outcome Y_{ict} may also be associated with the number of pro-life decisions.

appointees is 11.86 in the merged sample (Column 8).

VI.B. Main Results

Table 2 shows preliminary results for abortion attitudes. Ordinary least squares estimates of the effect of abortion law, measured as the proportion of judicial abortion decisions that are liberal (pro-choice), show small and statistically insignificant effects on the general population's views about when abortions should be legal (Column 1). The first row displays a summary of the abortion attitudes, the average of the number of non-missing survey responses per individual. Columns 2-4 show estimates exploiting the random assignment of Democratic judges for exogenous variation in appellate abortion decisions. These IV estimates suggest that appellate abortion decisions have a causal impact on people's views on abortion legality. The summary index, which is positive and statistically significant at the 10% level, suggests an overall conservative (pro-life) response to more pro-choice decisions. In particular, an unexpectedly higher percentage of pro-choice decisions causes people to be more likely to express pro-life attitudes, believing that abortion should be illegal for women who choose abortion for family size reasons or because they want to remain single; these estimates are statistically significant at the 5% level. Column 3 shows that the causal effect of the number of pro-choice decision also increases the likelihood of conservative responses to prohibit abortion if the woman seeks it for reasons of family size, her own endangered health, family income, or preferring to remain single. For example, an additional, exogenous pro-choice decision makes people 8.9% more likely to oppose allowing abortions for married women who don't want any more children. With a population mean of 44% and standard deviation 50% for this survey question (Table B), one abortion decision can lead to an economically sizeable shift in abortion attitudes. Finally, we verify that the effect of an extra exogenous pro-life decision is opposite in sign from the effect of an extra exogenous pro-choice decision (Column 4).

Table 3 presents the effect of abortion decisions on individuals' political selfidentification, on a spectrum ranging from strong Democrat to strong Republican. Following an increase in exogenous percentage of pro-choice appellate decisions, people are 5.3% more likely to identify as strong Republicans (Columns 2) and a similar magnitude less likely to identify as an independent (near Democrat). These findings are consistent with the hypothesis that abortion laws may shift preferences among some individuals so that they change their political association. It is also possible that political parties may adjust their agendas based on abortion issues to attract supporters. In other words, these results can be construed as "backlash" among the population, or alternatively, as evidence that judicial abortion policy affects the strategies of political parties.

Next, we explore whether the main results can be explained by spurious correlations between pre-existing public opinion and abortion decisions (Tables 4 and 5). The OLS specifications show that current year appellate abortion decisions are not correlated with public opinions on abortion from two years ago (Table 4, Column 1). Similarly, current abortion decisions are not correlated with the political association from two years ago (Table 5, Column 1). We choose a two year-window because the filing of abortion cases at the appellate courts can be salient and appellate decisions can take up to a year to resolve even after the judges are revealed to the parties. In addition, few of the IV estimates show statistically significant relationships between current abortion decisions and the previous year's abortion attitudes or political association. This affirms there is no spurious "causal" effect. Tables 6 and 7 show a similar exercise with estimates of the relationship between current appellate abortion decisions and public opinion from four years before.³⁴ The IV estimates are not statistically significant in most specifications (Columns 2 through 4), and the handful that appear statistically significant are to be expected from running a hundred regressions testing for spurious correlations.

Do abortion attitudes respond to appellate decisions that simultaneously occur in other legal areas? Our policy experiment based on the random assignment of judges can also create exogenous changes in legal areas other than abortion. In Table 8, we implement falsification exercises where we explore the effects of appellate decisions from the legal areas of First Amendment commercial speech. This area is also politically controversial like abortion rights law, but it is not directly linked with abortion ideology. Judges' political biographies correlate strongly with their voting behaviors on these issues, so we also instrument for the law using the unexpected deviation between the number of Democratic judges on the panel and the expected number of Democratic judges on the panel in that legal category. We find that First Amendment commercial speech do not affect abortion attitudes. This result suggests that the relationship between appellate abortion decisions and abortion attitudes is real. ³⁵

How long does backlash to abortion policy persist over time? In Table 9, we explore the longer run effects of appellate abortion decisions. We find evidence that two years after an exogenous increase in pro-choice abortion decisions, people are more likely to voice

³⁴The three-year forward estimates show some statistically significant coefficients. However, these coefficients are not robust to the exclusion of circuit-specific time trends, while the main results and other placebo tests are.

³⁵We acknowledge that other highly politically sensitive areas of law, especially those that directly relate to women's rights (such as affirmative action) or those that play a prominent role in partial platforms may also influence abortion attitudes and/or party identification.

pro-choice attitudes overall. Four years after an exogenous increase in pro-choice abortion decisions, people are more likely to identify as an independent, near Democrat. Thus, the results may suggest that backlash effects dissipate quickly after a policy decision. We leave for future research the possibility that backlash is transient and that law has longer-term expressive effects. For instance, this is consistent with the initial backlash and then embrace of many civil rights laws that ameliorate identity-based discrimination, such as desegregation and sexual harassment. In Benabou and Tirole (2010), if the dynamics are such that people move from excessive pessimism (people think the norm is to discriminate, but actual statistics show that there is a smaller percentage of people who discriminate) to optimism or if the action becomes modal, then the law could move from backlash to expressive.

7 Priming Experiment

This study recruits workers through a labor market intermediary (LMI), namely Amazon Mechanical Turk. The LMI is designed to recruit a large number of workers in a short amount of time. Through an interface provided by the LMI, registered users perform tasks posted by buyers for money. The tasks are generally simple for humans to do yet difficult for computers. Common tasks include captioning photographs, extracting data from scanned documents, and transcribing audio clips. The LMI also allows a researcher to implement randomization although randomization is not inherent to the LMI. Although most buyers post tasks directly on the LMI website, they are also able to host tasks on an external site. We use this external hosting method; we post a single placeholder task containing a description of the work at the LMI and a link for workers to follow if they want to participate. The subjects are then randomized, via stratification in the order in which they arrived at the job, to one of several treatment conditions. Treatment is not revealed at this early state. All workers see identical instructions.

We ask workers to transcribe paragraphs from a Tagalog translation of Adam Smith's *The Wealth of Nations* as well as English paragraphs of dictionary definitions. This task is sufficiently tedious that no one is likely to do it "for fun," and it is sufficiently simple that all market participants can do the task.³⁶ Because subjects are unaware of

³⁶Time and money are the most cited reasons for participation in Mechanical Turk (http://behind-theenemy-lines.blogspot.com/2008/03/mechanical-turk-demographics.html). Some workers do it out of need. A disabled former United States Army linguist became a Turk Worker for various reasons and in nine months he made four thousand dollars (New York Times, March 25, 2007). Some drop out of college to pursue a full time career with these disaggregated labor markets (Web Worker Daily, October 16, 2008, Interview with oDesk CEO). For more information about the motivation and demographics of Mechanical Turk workers, see, e.g. Paolacci and Ipeirotis (2010).

an on-going experiment, differential attrition may arise at the time treatment is revealed (Reips 2001). We minimize attrition through a commitment mechanism. In all treatment conditions, workers face an identical "lock-in" task in order to minimize differential attrition before the treatment is revealed.

1 of 3 Lock-in Tasks: Kaya sa isip o diwa na tayo ay sa mga ito, excites ilang mga antas ng parehong damdamin, sa proporsyon ng kasiglahan o dulness ng kuru-kuro.Ang labis na kung saan sila magbuntis sa kahirapan ng mga wretches nakakaapekto sa partikular na bahagi sa kanilang mga sarili ng higit pa sa anumang iba pang; dahil sa takot na arises mula sa kathang isip nila kung ano ang kani-kanilang mga sarili ay magtiis, kung sila ay talagang ang wretches kanino sila ay naghahanap sa, at kung sa partikular na bahagi sa kanilang mga sarili ay talagang apektado sa parehong miserable paraan. Ang tunay na puwersa ng mga kuru-kuro na ito ay sapat na, sa kanilang mga masasaktin frame, upang gumawa ng na galis o hindi mapalagay damdam complained ng.

Treatment 1 (Conservative Abortion Decision): The Casey ruling upheld the right of states to regulate abortions. The legislators had passed a law that restricted abortion by, among other things, requiring a mandatory waiting period, state-written counseling, parental consent and husband notification. The Court of Appeals upheld every restriction except one. Abortion, they said, was no longer a fundamental constitutional right, but rather a "limited fundamental right." This "right," in other words, could be limited by any law a legislature passed and a court thought was "reasonable."

Treatment 2 (Conservative Abortion Decision): The court upheld a law, considered the most restrictive in the nation, that required women to consult with a doctor face-to-face at least 24 hours before getting an abortion, except in certain cases of rape and incest. The law required doctors to provide specific information about the procedure, risks, alternatives and social service programs, and hand out a booklet containing pictures of developing fetuses. Furthermore, the material doctors distribute will be developed by the state Department of Health and Social Services.

Treatment 3 (Liberal Abortion Decision): The court reviewed a Massachusetts law requiring parental consent before abortions can be performed on minor girls. The court struck down a part of the law that required any woman seeking an abortion to wait 24 hours after signing an informed consent form before having the abortion procedure. The court also struck down the part of the law that required the consent form to contain a description of the fetus.

Treatment 4 (Liberal Abortion Decision): Seven Missouri laws regulating abortion were challenged in a class action lawsuit. The court declared all seven statutes unconstitutional, including a requirement that physicians perform certain medical tests when there was reason to believe a fetus had reached at least 20 weeks of gestational age. These tests, which included assessments of fetal weight and lung maturity, were designed to determine the viability of an unborn child. The statute's indicated that "[t]he life of each human being begins at conception" was also struck down.

Treatment 5 (Control): The focus of art music was characterized by exploration of new rhythms, styles, and sounds. Jazz evolved and became a significant genre of music over the course of the 20th century, and during the second half of that century, rock music did the same. Jazz is an American musical art form that originated in the beginning of the 20th century in African American communities in the Southern United States from a confluence of African and European music traditions. The style's West African pedigree is evident in its use of blue notes, improvisation, polyrhythms, syncopation, and the swung note. From its early development until the present, jazz has also incorporated music from 19th and 20th century American popular music. Jazz has, from its early 20th century inception, spawned a variety of subgenres.

Out of a sample of 345 data entry workers, when exposed to liberal abortion decisions, workers become more conservative on two dimensions of abortion attitudes: whether it should NOT be possible to have a legal abortion if the family has very low income (liberal decisions increase this percentage by 6% points) and cannot afford any more children and whether the woman wants abortion for any reasons (liberal decisions increase this percentage by 7% points). These effects are statistically significant at the 10% and 5% level respectively and are similar in magnitude to the estimates in the population sample. Table 10 displays the effects controlling for gender, age, and log error rates. The effects are robust to the exclusion of these controls or the inclusion of additional controls such as dummy indicators for India and the USA.

8 Conclusion

Despite a large literature on backlash, there has been little formal theoretical or causal empirical work on the economics of backlash. In this paper we do a first step at assessing the significance of this question of whether policy decisions affect policy preferences. We present a theoretical framework for understanding why laws can have expressive effects or backlash effects. Using a uniquely assembled dataset and an identification strategy that exploits the random variation connected to appellate decision-making, our study estimates the effect of abortion decisions on political preferences. Democratic appointee judges favor pro-choice abortion decisions. The random assignment of these judges increases the likelihood of pro-choice outcomes. Abortion public opinion subsequently becomes less favorable of abortion legality, and conservative political party identification becomes more pronounced.

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Statute or Legal Decision	Year	Statutory Provision or Doctrinal holding	Regulation challenged
<i>Roe v. Wade</i> , 410 U.S. 113	1973	The Court recognized the right to choose to have an abortion as part of a broader constitutional right of privacy. States may proscribe abortion only in the third trimester, with an exception for the mother's health.	Texas statute
Doe v. Bolton, 410 U.S. 179	1973	The Court overturned provisions requiring that abortion be performed in an accredited hospital, approved by a hospital committee, and that three physicians confirm that an abortion should be performed.	Georgia statute
Hyde Amendment	1976	Federal provision (amendment to Title XIX of the Social Security Act) prohibited states from receiving federal Medicaid funding for abortions, except when the pregnancy jeopardized the mother's life or the pregnancy was the result of rape or incest.	Federal statute
Maher v. Roe, 432 U.S. 464	1977	The Court upheld a state policy that refused to provide Medicaid funding for non-therapeutic abortions, allowing funding only for "medically necessary" first trimester abortions.	Connecticut statute
<i>Beal v. Doe</i> , 432 U.S. 438	1977	The Court held that Title XIX of the Social Security Act does not require states to fund elective or non- therapeutic first trimester abortions to receive Medicaid funding.	Federal statute
<i>Harris v. McRae</i> , 448 U.S. 297	1980	The Court upheld the Hyde Amendment.	Federal statute
Planned Parenthood of Southeastern Pennsylvania v. Casey, 505 U.S. 833	1992	The Court upheld statutory provision requiring parental notification for minors seeking an abortion, certain reporting requirements for abortion provider, and an "informed consent" provision requiring abortion providers to inform women of the age of the fetus and health risks of abortion and childbirth 24 hours before the procedure. The Court overturned the provision requiring husband notification for married women seeking an abortion and rejected the trimester framework of <i>Roe</i> in favor of a viability inquiry more in line with medical advances.	Pennsylvania statute
Freedom of Access to Clinic Entrances Act, 18 U.S.C. § 248	1994	Federal statute made it a crime to injure, intimidate, or interfere with persons seeking to obtain or provide reproductive health services or to intentionally damage or destroy property of a	Federal statute

Appendix Table A. Federal Statutes and Doctrinal Developments in Abortion Rights Law

		reproductive health care facility.	
Schenck v. Pro- Choice Network of Western New York, 519 U.S. 357	1997	The Court upheld "fixed buffer zones" around abortion clinics that prohibit protestors from demonstrating while invalidating "floating buffer zones" around moving persons and cars.	Injunction
Stenberg v. Carhart, 530 U.S. 914	2000	The Court overturned a ban on the "partial-birth" abortion, a specific and unusual method of second- trimester abortion. Because the statute's language broadly encompassed the standard second-trimester abortion procedure as well as this variant, the statute imposed an undue burden on a woman's right to choose. The statute also lacked an exception for the mother's health.	Nebraska statute
Partial Birth Abortion Ban Act	2003	This statute prohibited the "partial birth" abortion.	Federal statute
Gonzales v. Carhart, 550 U.S. 124	2007	The Court upheld the federal Partial Birth Abortion Ban Act of 2003, whose wording was sufficiently narrow.	Federal statute







	Outcome: Pro-Choice							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Democratic Appointee Variable	0.180**	0.172**	0.203*	0.166	0.316+	0.313	0.430*	0.587**
	(0.0397)	(0.0303)	(0.0658)	(0.12)	(0.161)	(0.22)	(0.153)	(0.17)
Ν	429	429	143	143	117	117	14609	14609
R-sq	0.033	0.257	0.036	0.365	0.027	0.522	0.059	0.701
F statistic	20.531	32.476	9.507	1.896	3.841	2.014	7.878	11.858
Pro-Choice measure	Judge Vote	Judge Vote	Panel Vote	Panel Vote	Percentage	Percentage	Percentage	Percentage
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Analysis level	Judge	Judge	Panel	Panel	Circuit-year	Circuit-year	Circuit-year	Circuit-year
							individual	individual

 Table 1. First Stage: Relationship Between Pro-Choice Abortion Decisions and Democratic Appointees on Appellate Panels, 1971-2004

Notes: Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the circuit level. Pro-Choice is defined as the judge voting pro-choice (Columns 1-2), the panel voting pro-choice (Columns 3-4), or the percentage of abortion cases that are pro-choice in the circuit and year (Columns 5-8). Democrat Appointee Variable is an indicator for whether the judge was a Democrat appointee at the judge level (Columns 1, 2), or whether the panel has majority Democrat appointees at the panel level (Columns 3-4), or the difference between the Actual and Expected number of Democrats assigned per seat (Columns 5-8). Controls include circuit fixed-effects, year fixed-effects. Columns 2 and 4 include the probability of an appellate panel being assigned 1+ or 2+ Democrat appointees, respectively. Columns 6 and 8 include circuit-specific time trends. Columns 1-6 use appellate judge and abortion case data. The sample in Columns 7-8 uses appellate data merged with GSS respondents. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

Table 2. The Effect of Appellate Abortion Law on Abortion Attitudes								
	(1)	(2)	(3)	(4)	N			
Model	OLS	ĪV	ĪV	ĪV				
	Percentage	Percentage	Number of Pro-	Number of				
Abortion Law Measure	Pro-Choice	Pro-Choice	Choice	Pro-Life				
Outcome Variables								
Abortion Attitude Summary Index	0.0154	0.1040 +	0.0593+	-0.1010+	9585			
	(0.0154)	(0.0585)	(0.0310)	(0.0609)				
It should NOT be possible for a woman to								
obtain a legal abortion if:								
There is strong chance of serious defect	0.0151	0.0394	0.0335	-0.0574	9292			
in the baby	(0.0146)	(0.0517)	(0.0241)	(0.0541)				
She is married and she does not want	0.0248	0.1675*	0.0885*	-0.1517+	9262			
any more children	(0.0247)	(0.0767)	(0.0447)	(0.0830)				
The woman's own health is seriously	0 0096	0 0711+	0 0419*	-0 0720+	9323			
endangered by the pregnancy	(0.0104)	(0.0384)	(0.0195)	(0.0413)	,			
The family has a very low income and	0.0156	0 1105+	0.0686*	-0 1173+	9225			
cannot afford any more children	(0.0163)	(0.0648)	(0.0325)	(0.0685)	, 220			
	0.0107	0.0414	0.0217	0.0272	025(
She became pregnant as a result of rape	0.018/+	0.0414	0.0217	-0.0373	9256			
	(0.0101)	(0.0387)	(0.0218)	(0.0359)				
She is not married and does not want to	0.0281	0.1780*	0.0964*	-0.1650+	9257			
marry the man	(0.0253)	(0.0856)	(0.0453)	(0.0906)				
The woman wants the abortion for any	-0.0020	0 2300	0 0797	-0 2138	7939			
reason	(0.0245)	(0.1707)	(0.0567)	(0.1891)	1757			

Notes: Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the circuit level. Regressions control for age and gender and include circuit fixed effects, state fixed effects, year fixed effects, circuit-specific time trends. Column 2 uses as an instrument the difference between the Actual and Expected number of Democrats assigned per seat. Columns 3 and 4 use as an instrument the the difference between the Actual and Expected number of Democrats assigned per abortion panel. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

Table 3. The Effect of Appellate Abortion Law on Political Association								
Model	(1) OLS	(2) <i>IV</i>	(3) <i>IV</i>	(4) <i>IV</i>	Ν			
	Percentage	Percentage	Number of Pro-	Number of				
Abortion Law Measure	Pro-Choice	Pro-Choice	Choice	Pro-Life				
<i>Outcome Variables</i> Generally speaking, do you usually think								
of yourself as a Republican, Democrat,								
Independent, or what?			0 0010 -	0.00010				
Strong Democrat	-0.00590	0.00271	-0.00197	0.00312	14552			
	(0.00813)	(0.0141)	(0.00825)	(0.0128)				
Not a Strong Democrat	-0.00500	-0.00106	0.00557	-0.00881	14552			
	(0.00579)	(0.0279)	(0.0145)	(0.0231)				
Independent Near Democrat	-0 00795	-0.0533*	-0.0354*	0.0560+	14552			
independent, iven Demoerat	(0.00703)	(0.0221)	(0.0129)	(0.0291)	11002			
Independent	0.00405	-0.0533+	-0.0264	0.0417+	14552			
	(0.00964)	(0.0249)	(0.0149)	(0.0211)				
Independent Near Republican	-0.00170	-0.0171	-0.0165	0 0262	14552			
incependent, ivear republican	(0.00660)	(0.0185)	(0.0127)	(0.0181)	11002			
Not a Strong Popublican	0.00271	0.0628	0.0427+	-0.0675+	14552			
Not a Strong Republican	(0.0105)	(0.0361)	(0.0227)	(0.0360)	17332			
	0.010544	0.0525*	0.0000	0.0456	14555			
Strong Republican	0.0195**	0.0535*	0.0288*	-0.0456+	14552			
	(0.00331)	(0.0192)	(0.0116)	(0.0212)				

Notes: Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the circuit level. Regressions control for age and gender and include circuit fixed effects, state fixed effects, year fixed effects, circuit-specific time trends. Column 2 uses as an instrument the difference between the Actual and Expected number of Democrats assigned per seat. Columns 3 and 4 use as an instrument the the difference between the Actual and Expected number of Democrats assigned per abortion panel. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

	(1)	(2)	(3)	(4)	Ν
Model	OLS	ĪV	ĪV	ĪV	
	Percentage	Percentage	Number of Pro-	Number of	
Abortion Law Measure	Pro-Choice	Pro-Choice	Choice	Pro-Life	
Outcome Variables					
Abortion Attitude Summary Index	0.0182	0.0268	0.0136	-0.0247	10362
	(0.0105)	(0.0260)	(0.0193)	(0.0286)	
It should NOT be possible for a woman to					
obtain a legal abortion if:					
There is strong chance of serious defect	0.0123	0.0378 +	0.0215	-0.0392	10036
in the baby	(0.0120)	(0.0197)	(0.0191)	(0.0239)	
She is married and she does not want any	0.0228	0.0267	0.0137	-0.0250	10016
more children	(0.0212)	(0.0376)	(0.0246)	(0.0388)	
The woman's own health is seriously	-0.00519	0.0373*	0.0208	-0.0380*	10097
endangered by the pregnancy	(0.0106)	(0.0178)	(0.0143)	(0.0185)	10077
en aungeren of the pregnanej		()	()	· · · ·	
The family has a very low income and	0.0117	0.0212	0.0109	-0.0198	9993
cannot afford any more children	(0.0129)	(0.0403)	(0.0295)	(0.0483)	
She became pregnant as a result of rape	0.00971	0.0409 +	0.0222	-0.0408	10001
	(0.0138)	(0.0247)	(0.0157)	(0.0261)	
	0.0212	0.0140	0.0116	0.0211	0007
She is not married and does not want to marry the man	0.0312+	-0.0148	-0.0116	0.0211	999/
	(0.0159)	(0.0395)	(0.0221)	(0.0453)	
The woman wants the abortion for any	0.0351+	0.0223	0.0109	-0.0204	9273
reason	(0.0169)	(0.0400)	(0.0259)	(0.0427)	

Table 4. The Effect of Appellate Abortion Law	y Two	Years From Now	on This Y	ear's Abortion Attitudes
	(1)	(2)	(3)	(4) N

Notes: Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the circuit level. Regressions control for age and gender and include circuit fixed effects, state fixed effects, year fixed effects, circuitspecific time trends. Column 2 uses as an instrument the difference between the Actual and Expected number of Democrats assigned per seat. Columns 3 and 4 use as an instrument the the difference between the Actual and Expected number of Democrats assigned per abortion panel. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

Table 5. The Effect of Appellate Abortion	Law Two Year	s From Now	on This Year's	Political Asso	ciation
Model	(1) OLS	(2) <i>IV</i>	(3) <i>IV</i>	(4) <i>IV</i>	N
Aboution I and Monana	Percentage	Percentage	Number of Pro-	Number of	
Abortion Law Measure	Pro-Choice	Pro-Choice	Choice	Pro-Lije	
Generally speaking, do you usually think of					
yourself as a Republican, Democrat,					
Independent, or what?					
Strong Democrat	0.00910	-0.0475	-0.0180	0.0359	14940
	(0.00871)	(0.0301)	(0.0161)	(0.0306)	
Not a Strong Democrat	-0.00564	-0.00244	-0.00130	0.00235	14940
	(0.0109)	(0.0323)	(0.0157)	(0.0314)	
Independent, Near Democrat	0.00389	-0.00478	0.00430	-0.00863	14940
1	(0.00722)	(0.0254)	(0.0132)	(0.0271)	
Independent	0.0134	0.0637**	0.0275+	-0.0550**	14940
	(0.00961)	(0.0163)	(0.0150)	(0.0175)	
Independent Near Republican	-0.0175*	-0.0345	-0.0102	0.0207	14940
	(0.00692)	(0.0241)	(0.0153)	(0.0257)	,
Not a Strong Republican	0.00112	-0.00314	-0.0125	0.0251	14940
Not a bitong Republican	(0.00804)	(0.0285)	(0.0161)	(0.0344)	11710
	0.0000.41.4	0.0271	0.01(0	0.0217	1 40 40
Strong Republican	-0.0000414	0.0371	0.0160	-0.0317	14940
	(0.00986)	(0.0258)	(0.0137)	(0.0255)	

Notes: Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the circuit level. Regressions control for age and gender and include circuit fixed effects, state fixed effects, year fixed effects, circuitspecific time trends. Column 2 uses as an instrument the difference between the Actual and Expected number of Democrats assigned per seat. Columns 3 and 4 use as an instrument the the difference between the Actual and Expected number of Democrats assigned per abortion panel. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

Table 6. The Effect of Appellate Abortion Law Four Years From Now on This Year's Abortion Attitudes							
	(1)	(2)	(3)	(4)	Ν		
Model	OLS	IV	IV	IV			
	Percentage	Percentage	Number of Pro-	Number of			
Abortion Law Measure	Pro-Choice	Pro-Choice	Choice	Pro-Life			
Outcome Variables				0			
Abortion Attitude Summary Index	-0.00153	0.0648	0.0632	-0.0662	11844		
	(0.0105)	(0.0499)	(0.0654)	(0.0660)			
It should NOT be possible for a woman to				. ,			
obtain a legal abortion if:							
There is strong chance of serious defect	-0.0151+	0.0549	0.0612	-0.0645	11487		
in the baby	(0.00797)	(0.0581)	(0.0712)	(0.0778)			
She is married and she does not want	0.000829	0.0486	0.0425	-0.0444	11425		
any more children	(0.0171)	(0.0709)	(0.0868)	(0.0868)			
	0.00402	0.0221	0.0262	0.0070	11506		
The woman's own health is seriously	-0.00403	-0.0321	-0.0363	0.0379	11526		
endangered by the pregnancy	(0.00412)	(0.0271)	(0.0272)	(0.0359)			
The family has a very low income and	0.0104	0.119*	0.119	-0.124	11447		
cannot afford any more children	(0.0161)	(0.0543)	(0.0795)	(0.0791)			
,		× ,					
She became pregnant as a result of rape	-0.00638	0.0317	0.0325	-0.0340	11414		
	(0.00640)	(0.0398)	(0.0518)	(0.0507)			
She is not married and does not want to marry the man	-0.00142	0.0983	0.0949	-0.0993	15171		
-	(0.0170)	(0.0768)	(0.0939)	(0.0981)			
The woman wants the abortion for any	0.0125	0.0943	0.0751	-0.0842	10140		
reason	(0.0203)	(0.101)	(0.105)	(0.121)			

Notes: Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the circuit level. Regressions control for age and gender and include circuit fixed effects, state fixed effects, year fixed effects, circuit-specific time trends. Column 2 uses as an instrument the difference between the Actual and Expected number of Democrats assigned per seat. Columns 3 and 4 use as an instrument the the difference between the Actual and Expected number of Democrats assigned per abortion panel. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

	(1)	(2)	(3)	(4)	Ν
Model	OLS	IV	IV	IV	
	Percentage	Percentage	Number of Pro-	Number of	
Abortion Law Measure	Pro-Choice	Pro-Choice	Choice	Pro-Life	
<i>Outcome Variables</i> Generally speaking, do you usually think					
of yourself as a Republican, Democrat,					
Independent, or what?					
Strong Democrat	0.00459	0.00203	0.0113	-0.0116	15171
	(0.0119)	(0.0342)	(0.0346)	(0.0358)	
Not a Strong Democrat	-0.00772	0.0214	0.0247	-0.0254	15171
	(0.00731)	(0.0232)	(0.0255)	(0.0263)	
Independent, Near Democrat	-0.0120	-0.0240	-0.0346+	0.0356	15171
	(0.00770)	(0.0202)	(0.0208)	(0.0224)	
Independent	-0.00871	-0.0460*	-0.0395+	0.0407+	15171
-	(0.00802)	(0.0205)	(0.0213)	(0.0233)	
Independent, Near Republican	-0.0000725	0.0438+	0.0448	-0.0461+	15171
	(0.00779)	(0.0230)	(0.0277)	(0.0270)	
Not a Strong Republican	0.0205*	0.0185	0.0147	-0.0151	15171
	(0.00777)	(0.0178)	(0.0177)	(0.0187)	
Starter Densellinger	0.000420	0.000602	0.00222	0.00242	15171
Strong Republican	-0.000420	(0.000002)	-0.00332	(0.00342)	131/1
	(0.00090)	(0.0100)	(0.0193)	(0.0190)	

Notes: Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the circuit level. Regressions control for age and gender and include circuit fixed effects, state fixed effects, year fixed effects, circuit-specific time trends. Column 2 uses as an instrument the difference between the Actual and Expected number of Democrats assigned per seat. Columns 3 and 4 use as an instrument the the difference between the Actual and Expected number of Democrats assigned per abortion panel. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

Model	IV	IV	IV	Ν
First Amendment Law Measure	Percentage Liberal	Number of Liberal	Number of Conservative	
(holding a government regulation banning				
commercial free speech as constitutional)				
Abortion Attitude Summary Index	0.0164	0.0124	-0.0212	
-	(0.0342)	(0.0200)	(0.0705)	7450
It should NOT be possible for a woman to				
obtain a legal abortion if:				
There is strong chance of serious defect	0.0162	0.0124	-0.0325	7243
in the baby	(0.0352)	(0.0193)	(0.0707)	
She is married and she does not want any	0.00483	0.00274	0.00579	7200
more children	(0.0450)	(0.0283)	(0.0805)	
The woman's own health is seriously	-0.00312	0.000422	0.0161	7256
endangered by the pregnancy	(0.0270)	(0.0175)	(0.0525)	
The family has a very low income and	0.0260	0.0265	-0.0437	7188
cannot afford any more children	(0.0376)	(0.0233)	(0.0975)	
She became pregnant as a result of rape	0.0364	0.0256	-0.0701	7205
	(0.0546)	(0.0272)	(0.118)	
She is not married and does not want to	0.0352	0.0204	-0.0419	7190
marry the man	(0.0385)	(0.0228)	(0.0807)	
The woman wants the abortion for any	-0.0192	-0.0179	0.0657	7178
reason	(0.0416)	(0.0300)	(0.0815)	

 Table 8. The Effect Other Laws on This Year's Abortion Attitudes

Notes: Heteroskedasticity-robust standard errors are in parentheses. The abortion index is an average of the non-missing values of the seven abortion attitudes reported in Table 2-4. Standard errors are clustered at the circuit level. Regressions control for age and gender and include circuit fixed effects, state fixed effects, year fixed effects, circuit-specific time trends. Column 2 uses as an instrument the difference between the Actual and Expected number of Democrats assigned per seat. Columns 3 and 4 use as an instrument the the difference between the Actual and Expected number of Democrats assigned per abortion panel. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

Model	IV	IV	IV	Ν
Outcomes 2 years later	Percentage Pro-Choice	Number Pro-Choice	Number Pro-Life	
Abortion Index	-0.0637*	-0.0414**	0.0873*	9939
	(0.0295)	(0.0150)	(0.0444)	
Strong Democrat	-0.0237	-0.0185	0.0359	14929
-	(0.0319)	(0.0198)	(0.0397)	
Not a Strong Democrat	0.0157	0.0116	-0.0226	14929
-	(0.0221)	(0.0176)	(0.0285)	
Independent, Near Democrat	-0.0241	-0.0241 -0.0229		14929
-	(0.0288)	(0.0242)	(0.0414)	
Independent	0.0515	0.0343	-0.0668	14929
-	(0.0369)	(0.0243)	(0.0450)	
Independent, Near Republican	0.000403	0.000120	-0.000235	14929
	(0.0247)	(0.0157)	(0.0305)	
Not a Strong Republican	0.0274	0.0267	-0.0520	14929
	(0.0407)	(0.0240)	(0.0541)	
Strong Republican	-0.0412+	-0.0287+	0.0559 +	14929
	(0.0212)	(0.0166)	(0.0296)	
Outcomes 4 years later	Percentage Pro-Choice	Number Pro-Choice	Number Pro-Life	
Abortion Index	-0.00583	0.00175	-0.00411	8324
	(0.0475)	(0.0259)	(0.0615)	
Strong Democrat	0.0281	0.0145	-0.0304	11990
	(0.0291)	(0.0175)	(0.0370)	
Not a Strong Democrat	-0.00168	0.00305	-0.00637	11990
	(0.0271)	(0.0164)	(0.0358)	
Independent, Near Democrat	0.0531*	0.0250**	-0.0523+	11990
	(0.0253)	(0.00932)	(0.0277)	
Independent	-0.0283	-0.0275**	0.0574 +	11990
	(0.0283)	(0.00957)	(0.0344)	
Independent, Near Republican	-0.0385	-0.0176	0.0368	11990
	(0.0249)	(0.0110)	(0.0302)	
Not a Strong Republican	0.000620	0.0130	-0.0273	11990
	(0.0290)	(0.0122)	(0.0345)	
Strong Republican	-0.0109	-0.00711	0.0149	11990
	(0.0182)	(0.00873)	(0.0225)	

Table 9. The Effect of Abortion Laws on Future Years' Abortion Attitudes and Political Association

Notes: Heteroskedasticity-robust standard errors are in parentheses. The abortion index is an average of the nonmissing values of the seven abortion attitudes reported in Table 2-4. Standard errors are clustered at the circuit level. Regressions control for age and gender and include circuit fixed effects, state fixed effects, year fixed effects, circuitspecific time trends. Column 2 uses as an instrument the difference between the Actual and Expected number of Democrats assigned per seat. Columns 3 and 4 use as an instrument the the difference between the Actual and Expected number of Democrats assigned per abortion panel. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

Model	IV	Ν
Outcomes		
Abortion Attitude Summary Index	0.0262	345
	[0.0203]	
It should NOT be possible for a woman to		
obtain a legal abortion if:		
There is strong chance of serious defect in the	-0.00464	345
baby	[0.0252]	
She is married and she does not want any	0.0305	345
more children	[0.0324]	
The woman's own health is seriously	-0.0135	345
endangered by the pregnancy	[0.0174]	
The family has a very low income and cannot	0.0576 +	345
afford any more children	[0.0327]	
She became pregnant as a result of rape	0.0129	345
	[0.0220]	
She is not married and does not want to	0.0323	345
marry the man	[0.0329]	
The woman wants the abortion for any reason	0.0686*	345
	[0.0326]	

Table 10: The Effect of Exposure to Liberal Abortion Decisions on Abortion

Notes: Standard errors in parentheses. Gender, age, log error rates of the data transcription are controls. * p < 0.10, ** p < 0.05, *** p < 0.01

A	open	dix	Table	B	Summary	Statistics
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Judicial Pool Characteristics for Abortion (1958-2008)	Mean	St. Dev.	Min	Max	Ν
Number of Judges	16.835	7.212	3	48	408
Docket Size	3209.19	2135.445	353	12151	408
Probability of Panel Being Assigned Exactly One Democrat					
Appointee	0.411	0.094	0	0.54895	408
Probability of Panel Being Assigned At Least Two Democrat					
Appointees	0.413	0.203	0	1	408
Number of Abortion Panels	0.35	0.605	0	3	408
Number of Abortion Panels Having Exactly One Democrat					
Appointee	0.191	0.463	0	3	408
Number of Abortion Panels Having At Least Two Democrat					100
Appointees	0.125	0.373	0	2	408
Number of Pro-Choice Appellate Abortion Decisions	0.203	0.476	0	3	408
Difference between expected and realized proportion of	0.550	0 471	0		117
democrats on panels	0.553	0.471	0	1	117
GSS Respondents	1	1	10	0.0	1 4 4 9 9
Age	45.276	17.498	18	89	14409
Male	0.563	0.496	0	1	14466
Should it be possible for a woman to obtain a legal abortion					
	0.0	0.4	0		0.100
there is strong chance of serious defect in the baby?	0.8	0.4	0	1	9,189
she is married and she does not want any more children?	0.44	0.5	0	1	9,160
the woman's own health is seriously endangered by the	0.0	0.2	0	1	0.216
the family has a very low income and cannot afford any	0.9	0.3	0	1	9,216
more children?	0.47	0.5	0	1	9 1 2 2
she became pregnant as a result of rape?	0.82	0.3	0	1	9,122
she is not married and does not want to marry the man?	0.82	0.58	0	1	9,134
the woman wants it for any reason?	0.44	0.3	0	1	7,060
Dolitical Dayty Affiliation	0.4	0.49	0	1	7,909
Strong Domograf	0.15	0.26	0	1	14 270
Strong Democrat	0.15	0.30	0	1	14,370
Democrat, but not a strong Democrat	0.21	0.41	0	1	14,370
Independent, near Democrat	0.12	0.33	0	l	14,370
Independent	0.15	0.36	0	1	14,370
Independent, near Republican	0.09	0.28	0	1	14,370
Republican, but not a strong Republican	0.17	0.38	0	1	14,370
Strong Republican	0.1	0.3	0	1	14,370