CAN POLICIES AFFECT PREFERENCES?
EVIDENCE FROM RANDOM VARIATION IN ABORTION JURISPRUDENCE

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Abstract: Turning to courts to vindicate rights has often led to resistance and subsequent acceptance. This paper investigates the effects of randomly assigned judges on abortion cases on subsequent legislative actions and shifts in public attitudes in the United States from 1971 to 2004. By examining comprehensive data from appellate and district abortion cases, our analysis reveals three primary findings: First, verdicts in abortion cases are significantly influenced by the judges' biographies. Second, precedents that oppose abortion tend to stimulate legislative actions aimed at restricting access to abortion services. Third, public opinion exhibits a temporary shift against legalized abortion following pro-abortion rulings, particularly in the context of elective abortions. These shifts suggest a pattern of initial resistance followed by gradual acceptance. In general terms, these results contribute towards identifying the origin of norms as a function of judicial decisions.

Keywords: Backlash, Expressive Law, Abortion, Norms

JEL codes: K36, Z1, D72, P48

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1 Introduction

Do policies influence preferences? This is a subject of ongoing debate. In one view, courts serve as "teachers," telling society what is right or wrong (Caldeira and Gibson 1992). Many survey experiments are consistent with this view. They document that preferences often conform to court rulings.[1] But many observational studies find the opposite. History provides many examples of court decisions eliciting backlash where preferences move in the opposite direction of the court rulings (Post and Siegel 2007; Sunstein 2007; Dolbeare and Hammond 1971; Bartley 1969). Formal political economy has tried to explain backlash (Bénabou and Tirole 2012; Acemoglu and Jackson 2014). None of the models predict a temporary backlash followed by acceptance—known as "thermostatic effects" in political economy (Ura 2014).

Our study offers a conceptual framework that models the interaction between external factors (such as legal changes) and internal responses (like public backlash) in shaping behaviors toward abortion. Drawing on Benabou and Tirole's (2012) framework for legal compliance, we categorize motivations for following or resisting the law into three types: extrinsic (responding to external pressures), social (influenced by societal norms), and intrinsic (individual beliefs). These categories allow us to understand how different legal regimes, particularly those regulating access to abortion, impact individual actions and broader social attitudes.

We distinguish between two sets of factors: external and internal. External factors are those imposed by the law—such as the ease of accessing abortion services. Internal factors, on the other hand, are shaped by individual attitudes toward abortion, influenced by moral, social, and political beliefs. These factors are crucial in understanding how legal changes can provoke both immediate and long-term responses, which we term "thermostatic effects." The interaction between these two sets of factors leads to different behavioral outcomes. For instance, a legal ruling that increases access to abortion (an external factor) may immediately trigger backlash, as individuals or groups opposed to abortion intensify their resistance through protests, donations, or shifts in political support (an internal factor). However, if the perceived costs of backlash—such as the effort involved

[1]Survey experiments in different legal areas—affirmative action (Clawson et al. 2001), telecom regulation (Clawson et al. 2001), church-state separation (Unger 2008), health care reform (Christenson and Glick 2015), and gay rights (Stoutenborough et al. 2006)—corroborate this view. In particular, Zink et al. (2009) found that the more judges signing onto an opinion or the more precedent there was, the more subjects' preferences were shaped, regardless of whether subjects initially agreed with the opinion.

in sustaining protests or organizing opposition—are high relative to the costs of complying with the law, we argue that backlash will be temporary. Conversely, if the costs of backlash are low, resistance may persist over time, creating a more durable opposition to the law.

This framework helps explain both short-term backlash and longer-term shifts in public opinion documented in the literature. For example, after *Roe v. Wade*, studies revealed immediate backlash from Republicans (Franklin and Kosaki 1989), yet support for abortion access eventually increased among broader segments of society (Hanley et al. 2012; Brickman and Peterson 2006). Extending beyond *Roe v. Wade*, Ura (2014) and Hernandez (2014) also identify a pattern of initial resistance to legal changes, followed by a gradual decay in backlash as the costs of opposition outweigh the benefits. The framework not only aligns with historical patterns but also offers insights into how legal decisions affect social norms over time. It suggests that while unpopular legal decisions may initially provoke resistance, this resistance can diminish if compliance becomes less costly or if societal norms gradually shift in favor of the law. In essence, legal changes may have both immediate effects on public attitudes and longer-term impacts on societal behavior, with the latter often reflecting an adaptation to the new legal environment.

We focus on Circuit Courts because of their significant role in shaping laws that can drastically influence societal behavior. The 2014 Fifth Circuit Court decision upholding a Texas law, which led to the closure of one-third of abortion clinics, illustrates this influence. This decision greatly impacted access to legal abortions, forcing many women to travel hundreds of miles. Several studies link increased travel distance to fewer abortions (Lindo et al. 2017; Myers and Ladd 2020; Myers 2024).[2] Our research draws upon similar cases to investigate how state abortion regulations

[2]Our conceptual framework assumes that court rulings on state laws influence action costs. Supporting this assumption is a substantial body of empirical research on the impacts of state abortion regulations. According to the CDC, roughly one million fetuses are legally aborted in the U.S. every year (Centers for Disease Control and Prevention 2013). For 1,000 live births, there are 228 abortions, and for every 1,000 women aged 15-44 years, there are 14.6 abortions, in 2010. Studies find that state abortion regulations impact various outcomes like fertility (Levine et al. 1999), reproductive behavior (Klick and Stratmann 2003), child and adult outcomes (Gruber et al. 1999), and even crime (Donohue and Levitt 2001; Foote and Goetz 2008; Donohue and Levitt 2020). The legalization of abortion allowed women to delay motherhood and marriage, leading to significant social changes (Myers 2017). Many of these studies use variation in when abortion became allowed and find large effects. For example, legalizing abortion accounted for 25 percentage points of the 31-percentage-point drop in murder between 1991 and 1998 (Donohue and Levitt 2001). We complement this literature by showing that state abortion regulations are affected by the Circuit court rulings. We posit that this finding complements the analysis of the regulations used in prior studies. In 1970, abortion became legal in five states. But four of the five states are all in one Circuit. Taken together, the evidence points towards the power of court rulings on state laws to influence action costs.

are shaped by Circuit Court decisions.

To isolate the causal effects of judicial decisions on abortion, the ideal experiment would involve randomly assigning court rulings on this issue. However, in the absence of such randomization, it can be difficult to disentangle the effects of court decisions from broader societal trends, which can also drive backlash. This paper addresses this challenge by utilizing the random assignment of judges to cases, where their predictable voting patterns are linked to their biographical characteristics. This randomness in judge assignment provides an opportunity to estimate the causal impact of judicial decisions on both legislative actions and societal attitudes. We construct an instrumental variable based on the composition of assigned judicial panels. Our analysis confirms that this approach satisfies the exclusion restriction, as the biographical characteristics of judges are unlikely to directly influence societal outcomes. The reasons supporting this assumption will be discussed in more detail later in the paper.

Circuit Courts play a pivotal role in establishing precedents across multiple states, often affecting 4-9 states per jurisdiction. With the Supreme Court reviewing less than 2% of Circuit Court cases, these appellate courts act as policy-making bodies. They review District Court decisions and are crucial in the judicial hierarchy. We leverage the inherent random variation in judge assignments across both Circuit and District Courts to conduct our analysis. This dual-layer randomization creates quasi-experimental conditions. At the Circuit Court level, we analyze verdicts based on the panel composition. At the District Court level, we examine how judge assignments influence the presence of Circuit Court cases.

We utilize the varying compositions of these judicial panels as instrumental variables. This approach enables us to estimate the causal impact of Circuit Court rulings and estimate the impact of pro-abortion rulings relative to the counterfactual of anti-abortion rulings. The counterfactual is anti-abortion ruling because the verdict has to be decided either for or against a party. By examining the panel composition in each case, we can discern the influence of judicial decisions on legal outcomes across a broad number of U.S. states. Leveraging the District Court judge assignment, we can identify another counterfactual, that of any Circuit Court ruling relative to the counterfactual of no ruling. Putting these two estimates together arithmetically, we can observe, for example, if Republicans backlash to pro-abortion rulings relative to the counterfactual of no-ruling. The reason

we can do this is because the hierarchical court system and two-tiered randomization analogizes to coin flips. Our estimation strategy in the Circuit courts captures the effect of the heads-or-tails coin flip (pro-abortion vs. anti-abortion precedent). Our estimation strategy using the District courts captures the effect of the existence of the coin flip (pro-abortion precedent vs. no decision and anti-abortion precedent vs. no decision).

Our analysis encompasses all abortion-related cases from the Circuit Courts, building upon the datasets initially compiled by Sunstein et al. (2006) and Kastellec (2013). We adopt their methodology to broaden our data collection to include all relevant District Court cases. Additionally, we have integrated judge identities into our dataset, sourcing information from the Administrative Office of the U.S. Courts (AOC) and the Public Access to Court Electronic Records (PACER), specifically for District Court cases. The biographical data of judges, a crucial component of our study, is derived from multiple sources. These include the Appeals Court Attribute Data and the District Court Attribute Data, as well as the Federal Judicial Center. We supplemented these with our own data collection efforts. Our comprehensive dataset covers various aspects of the judges' backgrounds, such as geographic origins, educational history, occupational trajectory, government service roles, military service, religion, race, gender, and political affiliations.

Our empirical framework centers on Circuit judges who are assigned quasi-randomly and subsequently influence policy outcomes. Previous studies, such as Sunstein et al. (2006), have noted discernible voting differences between Democrats and Republicans in Circuit Courts. Notably, public attitudes towards abortion in the US are also significantly shaped by race and religion (Granberg and Granberg 1980). In line with these studies, we find that that the odds of establishing a pro-abortion precedent rise by 9% with an additional Democrat judge, 17% with a white judge, and 12% with a non-religious judge on a 3-judge panel. Utilizing the quasi-experimental variation in abortion rulings arising from the composition of judicial panels, we find that within two years after an anti-abortion precedent, states within the Circuit are roughly 18% more likely to restrict abortion access. The dataset on state regulations come from Blank et al. (1996).

We next examine abortion attitudes using the General Social Survey. It has the advantage of asking the identical question on abortion attitudes over several decades. It is the only such dataset and is the same dataset used by prior scholars, which makes for easier comparison. Our

findings indicate that pro-abortion precedents trigger a backlash in public attitudes, somewhat more pronounced among Republicans. This group's shift in attitude towards abortion is as significant as the typical difference observed between Republican and Democrat responses in these surveys. This scale of change mirrors the effects observed in an event study by Huq and Mentovich (2015), which focused on the immediate aftermath (within one month) of a Supreme Court ruling. The backlash is not uniform across different types of abortions; it is most substantial for discretionary abortions. Such variability in responses was also noted following the landmark Supreme Court ruling in *Roe v. Wade* (Franklin and Kosaki 1989). In contrast, there is very little effect, for anyone, of anti-abortion precedents instead of no precedents, while everyone seems to become more anti-abortion in response to pro-abortion precedents, with the effects being somewhat stronger among Republicans.

Importantly, we also find that the backlash is not enduring. Both Republican and Democrat abortion attitudes follow legal precedent after two years. This pattern of a swift backlash followed by rapid decay aligns with time-series analyses of Supreme Court precedents, as noted by Ura (2014). Our study contributes to the literature on the endogenous response of preferences to policies with causal evidence using naturally occurring variation in a relatively large sample (roughly N = 400 Circuit-years), as existing literature predominantly depends on time-series and panel studies, or analyzes policies implemented in a non-random manner.

Further probing heterogenous effects across different groups, we would like to know if groups respond to precedents (pro- or anti-abortion) likely perceived as illegitimate or incorrectly decided relative to the counterfactual of no-precedent. We find suggestive evidence that anti-abortion decisions affect Democrats, while pro-abortion decisions affect Republicans. To put this in quantitative terms: after a pro-abortion decision, Republicans are 20% more likely to say yes to "Should it be illegal for a woman to obtain abortion for any reason?" For Republicans, the impact of an anti-abortion decision is negligible. After an anti-abortion decision, Democrats are 9% less likely to say yes to "Should it be illegal for a woman to obtain abortion because the family is poor?" For Democrats, the impact of a pro-abortion decision is negligible.

Our paper makes one key contribution. We use the hierarchical nature of the judiciary and the random assignment of judges (Kling 2006; Maestas, Mullen, and Strand 2013; Aizer and Doyle 2015) to estimate a set of counterfactuals that can address questions like, what if *Roe v Wade* was

decided in the opposite direction or what if *Roe v Wade* did not exist as a ruling (Crépon et al. 2013). Notably our study builds on Campbell (2012), which provides a comprehensive examination of how social policies influence mass political behaviors and attitudes, but finds mixed evidence on the effects of policies on attitudes, and thus stresses the need for causal inference. Wheaton (2020) extensively investigates how major U.S. social policy laws over the past fifty years have often resulted in backlash—where public opinion shifts in the opposite direction of the legislated policy. This finding is significant as it highlights a pervasive phenomenon across various policy areas, from civil rights to gay marriage laws. Wheaton's study offers robust empirical evidence suggesting that such backlashes are not transient. With one exception, Wheaton studies state regulations rather than court rulings.[3] It could be that state regulations being passed through the democratic process given heightened salience to the population about the preferences of others and can mobilize the electorate to vote for different legislators. In contrast, court rulings not being passed through the democratic process require a longer term strategy, such as the appointment of new judges, and as such the backlash may be more muted.

The remainder of the paper is organized as follows. Details on abortion policies in the U.S. are in Appendix A. Section 2 describes the data. In Section 3, we detail the empirical strategy. Section 4 presents the impacts of judge identity on abortion rulings. Section 5 estimates the effects of abortion precedents. Section 6 examines mechanisms. Section 7 concludes.

2 Background and Data

2.1 U.S. Abortion Policy Several institutional features of the U.S. legal system enable Circuit precedents to shape abortion law. First, the U.S. has a common law system where judges both apply and make the law. This judicial lawmaking occurs as judges' decisions in current cases become precedents that 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, begin in the District Courts, which are the general trial courts with juries that typically decide *issues of fact*. On appeal, cases go to Circuit Courts, which examine whether the District Court was in error and typically decide *issues*

[3]The exception is Wheaton's analysis of *Roe v Wade*, whereas Ura (2014) studies all Supreme court rulings and the latter found a swift backlash followed by rapid decay.

of law; they take facts as given from District Courts, have no juries, and typically only hear cases presenting new legal issues. The 94 District Courts currently receive over 300,000 cases a year and the 12 Circuit Courts 60,000 cases a year, but the Supreme Court hears roughly 100 cases a year. This feature means that Circuit judges create the vast majority of precedents that constitute the law.

Circuit precedents concerning abortion rights and abortion access can act both as policy changes and as statements of values. This creates identification challenges in disentangling cause and effect. Abortion policy in the United States comprises several levels. In the seminal 1973 *Roe v. Wade* case, the U.S. Supreme Court found that constitutional due process rights extend to individual abortions, but any abortion regulation must be balanced with state interests. 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 in abortion policy across states and localities. 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 access to abortions.[4] At the state level, statutory provisions can impose various criteria on women seeking abortions as well as on abortion providers.[5] Other state laws address the public funding of abortions; for example, a majority of states disallow the use of state funds for abortion except when the woman's life is in danger or if the pregnancy was the result of incest or rape.[6] 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. A sample of some statutes and subsequent litigation in the courts is provided in Appendix Table A.1.

[4]Among 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 from 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.

[5]Examples 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.

[6]An overview of state-level abortion laws is available at:

http://www.guttmacher.org/statecenter/spibs/spib_OAL.pdf.

To summarize, the Federal Circuit Courts play a prominent role in determining abortion policy by adjudicating legal challenges against government statutes and deciding whether they are enforceable.

A notable feature of U.S. judicial panels relative to many other jurisdictions is the repeated random assignment of judges on every panel. This fact, in combination with newspaper headlines of Circuit Court opinions typically refering to the court and not the identities of the judges on the panel, means that the assignment of judges to a case is unlikely to directly affect socioeconomic outcomes other than through the outcome of the case itself.

These features of the Federal Court system are important in creating 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 statutes, ordinances, and regulations. Their injunctions can block enforcement of anti-abortion statutes, thereby ensuring access to abortions. The randomness of the judicial assignment creates wide variation and uncertainty in outcomes even within the same Circuit. Any spillovers whereby circuits are expected to follow other circuits (with some delay) would suggest that the true effect would be larger than what we estimate.

Turning to abortion preferences, the subject of our analysis, between 1973 and 2006, 56% of individuals said Yes in response to "Should it be *illegal* for a woman to obtain abortion because she does not want more children," 55% said Yes for "Woman is single," 60% said Yes for "Any reason," 17% said Yes for "Pregnancy is a result of rape," 19% said Yes for "High chance of child's defect," and 10% for "Mother's health is endangered" (Appendix Table A.2). Appendix Figure A.1 presents variation in abortion attitudes over time with an index (an average of answers to questions about the legality of abortions in different circumstances), which has remained relatively stable since 1978.

2.2 Legal Data To effectively leverage the Federal Court system random variation in abortion precedents across regions of the U.S. and over time, we collect four legal datasets. Our first dataset comprises the universe of Circuit rulings on abortion cases from 1971 to mid-2004, a total of 145 rulings, collected by Sunstein et al. (2006) and Kastellec (2013). They collected their data using a Lexis search for "core-terms (abortion) and date aft 1960 and constitutional" and "abortion and constitution!". The authors coded each case as either "pro-choice," favoring abortion rights and stronger protections from anti-abortion protest methods, or "pro-life." The cases 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 abortions,[7] prohibitions on state funding for abortions,[8] and "partial-birth" abortion bans.[9] A small portion of the cases represents challenges to restrictions on anti-abortion protesting.[10]

Our second dataset comprises the universe of District rulings on abortion cases. We follow the method of Sunstein et al. (2006) and Kastellec (2013) to collect all District Court cases. Our third dataset is collected from the Administrative Office of the U.S. Courts (AOC) and Public Access to Court Electronic Records (PACER) filings on District Court cases, which allows us to merge judge identities.[11] We use this administrative data for additional randomization checks. Our fourth legal dataset comprises judge biographical characteristics, which comes from several sources: the Appeals Court Attribute Data, the District Court Attribute Data,[12] the Federal Judicial Center, and our own data collection. Altogether we have information on judges' geographic history, education, occupational history, governmental positions, military service, religion, race, gender, and political affiliations. Raw data on religion come from Goldman (1999).[13] We followed their approach and filled in missing data by searching transcripts of Congressional confirmation hearings and other official or news publications on Lexis. We collect this data because religion predicts abortion attitudes in the U.S. (Granberg and Granberg 1980). Judges whose religions remained missing or unknown were coded as having no publicly known religious affiliation.

2.3 Outcomes Data We are interested in three key outcomes to measure the impact of abortion rulings. For impacts on media, we collated mentions of Circuit Court precedents in articles from the major newspaper for the city in which each Circuit Court resides. These are: *The Boston Globe,*

[7] See, 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).

[8] See, e.g., *D R v. Mitchell*, 645 F.2d 852 (10th Cir., 1981); *State of New York v. Sullivan*, 889 F.2d 401 (2nd Cir., 1989)

[9] 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).

[10] See, e.g., *Cheffer v. Reno*, 55 F.3d 1517 (11th Cir., 1995); *U.S. v. Gregg*, 226 F.3d 253 (3rd Cir., 2000).

[11] Sixteen years of PACER are available on open source sites for 33 Districts. We used PACER data to obtain judge identities that are missing in the AOC data.

[12] http://www.cas.sc.edu/poli/juri/attributes.html

[13] Additional religion data are available at http://courseweb.stthomas.edu/gcsisk/religion.study.data/cover.htm. Missing data are collected by our own news searches following their method of searching for wedding announcements or funerals.

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 *The Washington Post.* We collected data from 1979 to 2010 from NewsBank.[14]

To study the impacts on laws and regulations, a commonly-used database on state laws provides an index on abortion restrictions. This index includes, for example, mandatory delay, bans on using Medicaid to fund abortion, and requiring parental notification (Blank et al. 1996).[15] Sub-indicators for specific laws are coded as the share of the year in which the law is binding. The overall index is the average of sub-indicators.

Next, we use the General Social Survey (GSS) with U.S. State identifiers.[16] The GSS is an annual individual-level survey from 1973 to 1994 (except for 1979, 1981, and 1992), and biannually after 1994. For each year, the GSS randomly selects a cross-sectional sample of 1,500–3,000 residents who are at least 18 years old. The GSS provides responses from around 1,500 respondents for each survey year between 1973 and 1992, and around 2,900 respondents per survey year from 1994 to 2006. The GSS asks a variety of abortion attitude questions. These questions are on the legality of abortions in different circumstances. We aggregate responses into an index, where higher values correspond to reduced support for abortion. We construct demographic controls like age, gender, educational attainment, and race. As standard in the literature, we also use survey weights provided by GSS in our regressions.

2.4 Summary Statistics Table I reports summary statistics on characteristics of judges and cases. A total of 117 Circuit-years of the 398 Circuit-years in our time period experienced at least one abortion precedent. A Circuit-year had on average over 11 active judges from which 3 judges are randomly drawn per case. The average Circuit-year experienced 0.36 abortion precedents. Among the Circuit-years with any abortion precedents, 55% of the precedents were pro-abortion. In an average Circuit-year, 46% of the judges in the pool were Democrats, and 17% were classified as

[14] We used the search term: "abortion" in All Text and Circuit or Circuit in All Text and judgment or "court ruling" in All Text not "Supreme Court" in All Text not state near10 Circuit in All Text".

[15] For example, a number of states have used state funds to pay for Medicaid abortions for low-income women since the passage of the Hyde Amendment prohibited Federal funding. Other examples include parental consent or notification laws for teenagers seeking abortions.

[16] http://publicdata.norc.org:41000/gssbeta/index.html. The purchased version of the General Social Survey contains state identifiers.

Secular. These categories are not mutually exclusive, as some judges may fall into both groups. As shown in Appendix Table A.2, during these years around 90% of GSS respondents believed 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.

3 Specification

3.1 Setup: Simple OLS Estimation We begin with a simple approach that assumes that abortion court decisions from the U.S. Circuit Courts are exogenous. In such a scenario, we would expect the following regression to identify the relationship between judicial decisions on abortion and outcomes such as state abortion regulations or individual abortion preferences. The OLS regression takes the following form:

$$(1) \quad Y_{ict} = \beta_0 + \beta_1 Law(\text{Pro-Abortion})_{ct} + \beta_2 \text{Presence-of-Case}_{ct} + \beta_3 C_c + \beta_4 T_t + \beta_5 X_{ict} + \beta_6 W_{ct} + \varepsilon_{ict}$$

Here, Y_{ict} can be measures of abortion attitudes in individual i in Circuit c at time t. $Law(\text{Pro-Abortion})_{ct}$ measures the fraction of abortion court rulings in Circuit c which are pro-abortion at time t. Presence of a case, $\text{Presence-of-Case}_{ct}$, is a binary variable indicating whether there is any relevant precedent. It is defined as $1\left[M_{ct-n} > 0\right]$, where M is the number of abortion decisions in Circuit c at time t. Note that since M is typically 1 or 0, $Law(\text{Pro-Abortion})_{ct}$ is mostly capturing the effect of a pro-abortion ruling. The remaining variables comprise a vector of Circuit and location-by-time characteristics, which includes year and Circuit fixed effects. W_{ct} describes the composition of the pool of judges in the Circuit c at time t that are available to be assigned to the cases. Depending on the outcome being analyzed X_{ict} would comprise covariates related to that outcome. Since the analysis is of an individual's abortion attitudes, the covariates can be age and gender, educational attainment, state, and race (each of which each enter the regression specification as dummies except age). Another OLS regression that is of interest is:

$$(2) \quad Y_{ict} = \beta_0 + \beta_1 Law(\text{Pro-Abortion})_{ct} + \beta_2 \text{Presence-of-Case}_{ct} + \beta_3 C_c + \beta_4 T_t + \beta_5 S_s + \beta_6 W_{ct} + \varepsilon_{ict}$$

Here, Y_{ict} is the measure of state regulations for state s in Circuit c at time t. As the analysis is of state regulations, the covariate related to the outcome is S_s, state fixed effects.

While the OLS approach allows us to explore the relationship between judicial decisions and outcomes, it is likely to yield biased results. The key issue is that judicial rulings may not be exogenous; they could be influenced by underlying societal trends, political pressures, or other unobserved factors that also affect the outcomes we are studying. For example, a court's decision might reflect prevailing public opinions or political climates within a Circuit, leading to omitted variable bias.

To address this potential endogeneity, we employ an Instrumental Variables (IV) approach. The IV method allows us to isolate the causal impact of judicial decisions by using an instrument that is correlated with the treatment variable $Law(\text{Pro-Abortion})_{ct}$ but uncorrelated with the error term ε_{ict}.

3.2 Instrumental Variables Framework Our instrumental variables framework starts with the assumption that abortion cases in the U.S. Circuit Courts are effectively randomly assigned to judges. We exploit the random judge assignment process to predict the emergence of pro-abortion rulings based on the observable judge characteristics.

Our instrumental variable for $Law(\text{Pro-Abortion})_{ct}$ uses judges' biographical characteristics. To keep a running example in mind, we explain the instrumental variable with Democrat appointed judges. The instrumental variable captures the assignment of Democrats to abortion cases in Circuit c at time t. Let the number of Democrats assigned to abortion panels be denoted by N_{ct}. We define $p_{ct} = \frac{N_{ct}}{M_{ct}} * \mathbf{1}\left[M_{ct-n} > 0\right]$, where M_{ct} represents the total number of cases in a circuit-year; thus p_{ct} is zero when there are no cases to align with Law_{ct} also being zero. Our indentification assumption is: $\mathbf{E}[\frac{N_{ct}}{M_{ct}}\varepsilon_{ict}|\mathbf{E}(\frac{N_{ct}}{M_{ct}}), 1\left[M_{ct} > 0\right]] = 0$. In Appendix C, we provide randomization checks. Furthermore, the coefficients on the leads serve as additional checks for randomization.

The biographical characteristics of judges are unlikely to directly influence societal outcomes, thus satisfying the exclusion restriction. This condition is likely met due to three key reasons: (1) News reports of Circuit Court opinions usually highlight the court itself, not the individual judges, (2) Circuit Courts handle thousands of cases annually, so the biographical details of judges in a particular case are unrelated to those of judges in other cases, and (3) the final ruling's pro- or anti-

abortion stance is the most salient aspect of the precedent. Empirical support from Badawi and Chen (2017) shows no market reaction to judge identities in the Delaware Court of Chancery, which handles corporate cases closely monitored by the market. Violations of the exclusion restriction are thus likely to be minimal.

To implement our approach, we use party, race, and religion as basic instruments, which we label as "Naive." Additionally, we use the LASSO method to select instruments (Belloni et al. 2012).[17] All 2SLS estimates use the limited information maximum likelihood (LIML) estimator due to its small sample properties. We also provide a LIML estimate using all the instruments and a visualization of different 2SLS estimates derived from the top 50 judicial characteristics that exhibit high instrument strength.

The coefficient on $Law(\text{Pro-Abortion})_{ct}$ captures the effect of pro-abortion vs. anti-abortion precedent, the sum of the coefficients on $Law(\text{Pro-Abortion})_{ct}$ and $\text{Presence-of-Case}_{ct}$ captures the effect of pro-abortion precedent vs. no precedent, and the coefficient on $\text{Presence-of-Case}_{ct}$ captures the effect of anti-abortion precedent vs. no precedent. It is worth mentioning that if we limit our analysis to Circuit-years with cases, we only estimate the effect of $Law(\text{Pro-Abortion})_{ct}$. If we count the number of pro-abortion $(+1)$ and anti-abortion (-1) cases when constructing $Law(\text{Pro-Abortion})_{ct}$ then we also set the coefficient on $\text{Presence-of-Case}_{ct}$ to be 0. However, our specification can differentiate between pro-abortion, anti-abortion, and a benchmark that assumes no precedent.

Turning to $\text{Presence-of-Case}_{ct}$, our instrumental variable leverages prior research that shows the demographic characteristics of district judges are associated with reversal rates in Circuit Courts of Appeals (Haire, Songer, and Lindquist 2003; Sen 2015; Barondes 2010; Steinbuch 2009). Expected reversal rates could thus encourage litigants to pursue an appeal. District Courts assign one judge to a case randomly or rotationally (Taha 2009; Bird 1975).[18] Waldfogel (1995) reports one District Court using three separate randomization wheels, whereby each wheel corresponds to the anticipated

[17] We select instruments among the available biographical characteristics including party affiliation, race, gender, religion, holding a BA degree from an institution within the state, and ABA ratings—the Standing Committee on the Federal Judiciary of the American Bar Association publishes evaluations of nominees to the lower federal courts and judges perceived as high quality may be less likely to be influenced by their biographical characteristics. We include interactions of all mentioned variables. The characteristics are defined as dummies. Some characteristics, like Black and non-White (which includes Hispanics and Asians), are included as separate dummies.

[18] Cases being returned on remand from the Courts of Appeals are not randomly assigned. We do not use remanded cases in our dataset.

case length. Related cases (i.e., cases where one decision will substantially resolve all), if filed within a few weeks time, may be consolidated. Waldfogel (1995) reports that plaintiffs can argue the case is related to another pending case; if the judge agrees, the cases will be consolidated. In that study, 8% of filed cases were accepted as related in 1991 in SDNY.[19] For the handful of District cases that do overlap such that they are consolidated, we assume the decisions about case relatedness occur in a manner exogenous to judge assignment.

To instrument for Presence-of-Case$_{ct}$, we construct a composite of the assigned district judges across district cases within a circuit. Cases are filed in district court d within Circuit c at time t. We introduce w_{ct} as the weighted average of the judicial characteristics assigned to district cases filed across these district courts, where the weights are proportional to the number of district cases filed. We define $w_{ct} = \frac{\sum_{d=1}^{J_c} K_{cdt} * \left(\frac{L_{cdt}}{K_{cdt}}\right)}{\sum_{d=1}^{J_c} K_{cdt}}$, where J_c is the number of district courts (ranging from 5 to 13) within Circuit c, K_{cdt} denotes the number of cases filed in district court d within Circuit c at time t, and L_{cdt} denotes the number of judges with a particular characteristic assigned to cases. Note that the weight K_{cdt} cancels in the numerator, which means effectively we are looking at the number of judges assigned to abortion cases across all districts within a circuit divided by the number of district court cases in that year. The rules of appellate procedure mandate appeals to be filed within 30 days of the district decision. Since circuit cases take on average 8 months to resolve (Chen 2016), we construct w_{ct} using district cases from the current and previous year. We use LASSO to select amongst biographical features.

Due to random assignment being at the Circuit-year level, clustering standard errors yields roughly identical results whether clustering at the Circuit or the Circuit-year level (Barrios et al. (2012)). Barrios et al. (2012) show that random assignment of treatment addresses serial and spatial correlation across treatment units. We further check our results using randomization inference that assigns the legal variation to another Circuit and the robustness of our results to using wild bootstrap. Note that our specification assumes that cases in a Circuit are more likely to affect outcomes

[19] In another District Court, if a clerk identifies and two judges agree that a new civil case is related to another open civil case, they will be consolidated in the interests of justice or judicial economy. The clerk brings the possible connection to the attention of the judge of the new case, who then confers with the judge of the earlier case to determine whether they are in fact related cases. Consolidation would only occur for relatively high-frequency case types. In our interviews, one District told us that random assignment occurs within 24 hours of a case filing, which is handled in the order of its arrival.

within the Circuit. 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. Using the newspaper data described previously, we find a positive relationship between the number of abortion decisions and the number of newspaper mentions.

4 The Effect of Judge Identity on Court Outcomes

Table II shows that political affiliation, race, and religion are predictive of judges' abortion precedents. Succintly put, switching from an all-Republican to an all-Democrat panel raising the likelihood of a pro-abortion precedent by 29% and switching from an all-minority to an all-white panel increasing the probability by 51% (Column 4).[20] Using LASSO, we find that being a Democrat and being secular are relevant characteristics, as are being a minority Republican or a black judge with a bachelor's degree from within the state, both of whom tend to vote against abortion. When the predictors are used separately, the F-statistic ranges from 8 to 16 (Columns 4–8). Combining these predictors by using predicted value $Law(\widehat{\text{Pro-Abortion}})_{ct}$ as an instrument for $Law(\text{Pro-Abortion})_{ct}$ significantly increases the first stage F-statistic (Kuersteiner and Okui 2010). Weighting the regressions by the number of precedents in a Circuit-year would also significantly increase the F-statistic.[21]

Table III shows these judicial patterns are also found in the population. Consistent with previous research (Granberg and Granberg 1980), race and religion are strongly linked to abortion attitudes in the US population. Additionally, anti-abortion attitudes are more prevalent among non-white Republicans and among Republicans who were born and reside in the same state. In the General Social Survey, the variable "in-state" (whether the respondent lives in the same state where s/he grew up) is the closest proxy for an in-state BA degree in the judicial biography data.

Turning to the District Courts, we find that District Court cases assigned judges with prior congressional counsel experience are approximately 33% more likely to be appealed (See Table IV).

[20] The difference in the judge-level sample size between Columns 1 and 5 (326 vs. 325) is due to the lack of data for one judge on whether the BA degree is from within the state.

[21] The instruments selected by LASSO are relatively stable across the inclusion or exclusion of controls. There are some differences for the state law outcomes, as the GSS is population-representative, while the state law dataset gives more weight to sparsely populated regions. Nonetheless, the demographic characteristics selected by LASSO remain intuitively reasonable, such as Evangelical Republicans, Black Catholics, and Minority Catholics.

Cases assigned judges born in the 1920s and with other federal experience are 7% more likely to be appealed. One reason for certain judges to be appealed more often may be that their decisions may be perceived as more political and easier to be reversed. As robustness check, we examine estimates of the effects of Circuit rulings with and without using this District court instrument.

5 Estimating the Impact of Abortion Precedents

5.1 State Abortion Regulations Figure 1 illustrates the impact of pro-abortion court precedents on state regulations that restrict abortion access. Specifically, it shows how the likelihood of states implementing restrictive abortion regulations, such as mandatory delays, Medicaid payment bans, and parental notification requirements, changes following a pro-abortion court ruling. The analysis uses a model where the state regulation index, which measures the level of abortion restrictions (with lower values indicating fewer restrictions), is regressed on whether a pro-abortion precedent was set in the Circuit Court. The figure demonstrates that within two years after a pro-abortion decision, states are approximately 18 percentage points less likely to maintain these restrictive regulations compared to what would be expected if an anti-abortion precedent had been set instead. The effect is observed immediately, becomes statistically significant by the second year, and remains significant thereafter. This finding suggests that states do not just mechanically react to legal changes but substantially adapt their abortion laws in response to pro-abortion precedent.[22]

The magnitude of this effect suggests that the states' responses transcend mere 'mechanical' reactions to legal challenges that typically result in the rejection and termination of existing regulations. If it were merely mechanical, we would expect a coefficient of approximately 8 percentage points, calculated by dividing 12 circuits by 50 states and further dividing by three for the three types of regulations considered. Instead, the observed broader compliance with the pro-abortion precedent across all states within the affected circuit indicates a more substantive adaptation to judicial influences. It is worth noting that an extensive empirical literature has examined the impact of state abortion regulations. Our results speak against a large political economy literature that argues that court rulings have no effect (Rosenberg 1993).

We check if our results are due to the handful of panel compositions of cases. In the context

[22]Figure 1 displays the coefficients of regressions on $Law(\text{Pro-Abortion})_{ct}$ in a single-lag model in which the contemporaneous outcome variable (state law index) is regressed on $Law(\text{Pro-Abortion})_{ct}$ and $\text{Presence-of-Case}_{ct}$.

of 2SLS, the Hausman test has a specific application involving the comparison of 2SLS estimates obtained using different sets of instruments for the same endogenous regressors. This process begins by selecting two potentially valid sets of instruments, each of which should be correlated with the endogenous variable but not with the error term, to ensure their validity. The model is first estimated using the first set of instruments to generate one set of 2SLS estimates. It is then re-estimated using a second set of instruments to obtain another set of 2SLS estimates.

The crux of the Hausman test in this scenario is to compare these two sets of estimates. If both sets of instruments are valid and the model is correctly specified, the estimates should be consistent across the different instrument sets. This application of the Hausman test is important as it serves as a robustness check in empirical analyses, particularly in validating the causal interpretation of estimated relationships. By demonstrating that results are consistent across different sets of plausible instruments, we can more confidently assert the reliability of the findings and the causal effects estimated by the 2SLS method.

We perform 2SLS estimations for each judicial composition among the top fifty with the most statistically significant first-stage instruments. These results are depicted in Figure 2, where the effect on parental notification laws is most prominent in the lower right panel. Similarly, the LIML estimates in Table V demonstrate the strongest impact on parental notification. Further robustness checks like these are provided in Appendix D.

Building on these findings, we next demonstrate that pro-abortion and anti-abortion precedents exert opposite effects compared to the baseline of no precedent. As shown in Table VI Column 4, pro-abortion precedents lower the state law index by 0.067, while anti-abortion precedents raise it by 0.053. These results support the approach of categorizing pro- and anti-abortion decisions as +1 and -1, respectively, in empirical analyses of cumulative laws, consistent with Ura (2014) and Hernandez (2014).

5.2 Abortion Attitudes In this sub-section we study the impact of abortion rulings on abortion attitudes. Table VII and Appendix Table D.1 show that Republicans[23] have a somewhat more pronounced increase in anti-abortion attitudes in response to pro-abortion precedents, especially

[23]We label as Republicans the GSS respondents who identify themselves as strong or leaning Republicans (and not as Independent).

for "Should it be illegal for a woman to obtain abortion for any reason?" The magnitudes are roughly equivalent to the differential between Republicans and Democrats. The effects are observed individually for "does not want more children," "woman is single," "family is poor," "pregnancy is a result of rape," but not for "high chance of child's defect" and "mother's health is endangered." This would be consistent with Franklin and Kosaki's finding of backlash over "discretionary" abortions. Democrats are generally less significantly affected than Republicans across the different estimates.

Our analysis suggests that Republicans respond to pro-abortion precedents but not to anti-abortion precedents in specific cases. Table VIII Column 2 indicates that on average across all reasons, a pro-abortion precedent makes Republicans more likely to oppose abortion for this reason by roughly 12% and this is almost entirely due to pro-abortion precedent vs. no precedent (compare 0.124 with 0.09). However, Appendix Table D.2 reveals that for the question, 'Should it be illegal for a woman to obtain an abortion for any reason?', Republicans are roughly 21% more likely to oppose abortion following a pro-abortion precedent, again, driven primarily by the difference between pro-abortion precedents and no precedents (0.205 vs. 0.171).

There is very little effect, for anyone, of anti-abortion precedents instead of no precedents. For one case, Democrats increase their pro-abortion attitudes by 8.7% when faced with an anti-abortion precedent regarding the question, 'Should it be illegal for a woman to obtain an abortion because the family is poor?' compared to no precedent. However, for discretionary reasons like any reason and desired fertility, Democrats also show a backlash. The conclusions appear robust to alternative specifications as shown in Appendix D. Notably, across different estimates, we cannot reject that the effects for Democrats and Republicans are statistically similar.

5.3 Medium-Run Impact Within two years, persuasive effects of the law emerge in Table IX and Appendix Table D.5, as indicated by the shift in the sign of attitude point estimates. Multiple specifications consistently show persuasive effects: after a pro-abortion precedent, individuals are less likely to hold anti-abortion views two years later. Additional sensitivity analyses in Appendix D reinforce these findings.

When distinguishing between pro-abortion and anti-abortion precedents, Table X and Appendix Table D.6 indicate that pro-abortion precedents lead Republicans to adopt more pro-abortion attitudes two years later. This effect can be seen from the coefficient on $Law(\text{Pro-Abortion})_{ct}$, which

generally equals the sum of the coefficients for $Law(\text{Pro-Abortion})_{ct}$ and $\text{Presence-of-Case}_{ct}$. Figures 3 and 4 indicate minimal persistent backlash effects among Democrats and Republicans over the following five years.

6 Conclusion

The impact of laws on societal values is critical for two primary reasons: first, empirical evidence helps us discern between conflicting theoretical perspectives on legal effects. Second, it informs judges who assess judicial precedents through cost-benefit analyses (Posner 1998) or seek to align their decisions with public opinion (Breyer 2006). Understanding these dynamics underpins policy arguments, making it essential to examine the dual effects of backlash and expressive influence on attitudes and behaviors.

Our conceptual framework, drawing on prior empirical studies (Ura 2014; Brickman and Peterson 2006; Franklin and Kosaki 1989; Hanley et al. 2012), elucidates these dynamics. Backlash in attitudes can counteract legal precedents on abortion access. Over time, laws can reshape behaviors, leading to persuasive effects if the affected population's behavior shifts significantly. This framework resonates with Justice Ruth Bader Ginsburg's caution regarding overly ambitious legal changes that incite significant, lasting backlash, suggesting that gradual change fosters more enduring persuasion.

To substantiate this framework, we present causal evidence leveraging the random assignment of U.S. federal judges and their influence on geographically local precedents. We show that abortion precedents affect states abortion regulations that are associated with subsequent fertility, reproductive choices, child outcomes, adult outcomes, and crime (Levine et al. 1999; Klick and Stratmann 2003; Gruber et al. 1999; Ananat et al. 2009; Donohue and Levitt 2001).

Furthermore, analyzing preferences shows that abortion precedents trigger backlash through some polarization in attitudes. In certain cases, the impact of an abortion precedent can double the average partisan divide between Republicans and Democrats. Nevertheless, persuasive effects emerge within two years, and generally, Republicans and Democrats react similarly to abortion rulings. This evidence aligns with our framework, illustrating that judicial precedents on contentious issues can provoke initial backlash but ultimately serve a 'teacher' role, guiding society on what is considered right or wrong (Caldeira and Gibson 1992).

TABLE I

Summary Statistics at Circuit-Year level (1971 - 2004)

Number of judges	11.30
	(4.626)
Number of abortion panels per circuit-year	0.357
	(0.605)
Proportion of circuit-years with abortion panels	0.294
	(0.456)
Proportion of Pro-Abortion decisions when case is present	0.548
	(0.473)
Actual number of Democrat appointees per seat	0.461
	(0.326)
Actual number of Secular appointees per seat	0.167
	(0.267)
Actual number of Repub. X Non-white appointees per seat	0.0178
	(0.0749)
Actual number of In-state BA X Black appointees per seat	0.0245
	(0.0891)
Expected # of Democrat appointees per seat	0.436
	(0.161)
Expected # of Secular appointees per seat	0.160
	(0.156)
Expected # of Repub. X Non-white appointees per seat	0.0168
	(0.0380)
Expected # of In-state BA X Black appointees per seat	0.0231
	(0.0404)
Number of circuit years	398

TABLE II.— First Stage: Pro-Abortion Precedent and Judicial Politics, Race, and Religion

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Democrat	0.165**	0.227+	0.375*	0.288+	0.179**	0.240*	0.298+	0.221
	(0.0469)	(0.107)	(0.125)	(0.144)	(0.0411)	(0.108)	(0.143)	(0.152)
Secular	0.0744	0.228	0.366	0.379	0.0667	0.209	0.323+	0.301
	(0.0530)	(0.143)	(0.207)	(0.245)	(0.0556)	(0.128)	(0.169)	(0.184)
Non-white	0.0127	-0.171	-0.453*	-0.512*				
	(0.0942)	(0.160)	(0.162)	(0.177)				
Repub. X Non-white					0.0787	0.256	-1.052*	-1.261*
					(0.224)	(0.572)	(0.429)	(0.422)
In-state BA X Black					-0.171	-0.900**	-1.259**	-1.002*
					(0.157)	(0.176)	(0.269)	(0.346)
N	326	142	44897	44897	325	142	44897	44897
R-sq	0.0318	0.0395	0.640	0.646	0.0347	0.0680	0.671	0.674
F-stat	11.89	2.232	8.327	4.982	7.761	9.674	15.51	16.26
Pro-Abortion measure	Judge Vote	Panel Vote	% Pro-Abortion	% Pro-Abortion	Judge Vote	Panel Vote	% Pro-Abortion	% Pro-Abortion
Controls	No	No	No E(x)	Yes	No	No	No E(x)	Yes
Analysis level	Judge	Panel	GSS	GSS	Judge	Panel	GSS	GSS

First stage regressions at different levels of data aggregation. For judge level, the outcome variable is judge vote (1 if pro-abortion), for panel level – the 3-judge panel decision, for GSS level – the share of pro-abortion decisions in a given Circuit-year. Controls are omitted at the judge and panel level, but included at the GSS level, where we always include a control for the presence of a case as well as fixed effects for Circuit and year. In additions, Columns 4 and 8 control for expected proportion of panel judges with the analyzed characteristics. Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the Circuit-year level. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

TABLE III

Relationship between Anti-Abortion Attitudes and Demographic Characteristics in GSS

	(1) Index	(2) Index	(3) Index	(4) Index	(5) Index	(6) Index
Democrat	-0.00168					-0.0149**
	(0.00503)					(0.00472)
Secular		-0.208**				-0.205**
		(0.00602)				(0.00589)
Non-white			0.0685**			0.0645**
			(0.00664)			(0.00643)
Repub. X Non-white				0.0899**		
				(0.0171)		
Repub. X In-state					0.0886*	
					(0.0286)	
Observations	32982	32982	32982	32982	887	32982

The dependent variable is an index of abortion attitudes, created as an average of answers to questions about the legality of abortions in different circumstances. Larger values of the index correspond to greater support for making abortion illegal. The biographical characteristics correspond to instruments used in the main model. Variable "in-state" is the best proxy for in-state BA degree found in the GSS – whether the respondent lives in the same state where s/he grew up. All models include Circuit and year fixed effects. Standard errors are clustered on Circuit-year level. + significant at 10%, * significant at 5%, ** significant at 1%.

TABLE IV

First Stage: Presence of an Appeal in Circuit Courts and Judicial Biographical Characteristics in District Cases

	(1)	(2)
Prior Congressional Counsel	0.380**	0.335**
	(0.0832)	(0.0972)
Democrat X High ABA Score	-0.0231	-0.0218
	(0.0232)	(0.0251)
Republican X Age<40 When Appointed	0.00676	-0.0120
	(0.101)	(0.0963)
Born in 1920s X Other Federal Exp.		0.0675*
		(0.0287)
N	44897	44897
R-sq	0.300	0.309
F-stat	25.81	19.83
Controls	FE	FE
Analysis level	GSS	GSS

First stage regressions at the GSS level – the presence of a Circuit case in a given Circuit-year regressed on the share of District cases with a particular judge biographical characteristic. We control for Circuit and year fixed effects and expected proportion of District cases with the analyzed judge characteristics. Heteroskedasticity-robust standard errors are in parentheses. Standard errors are clustered at the Circuit-year level. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

FIGURE 1.— Pro-Abortion Precedent Impact on State Regulations Restricting Abortion

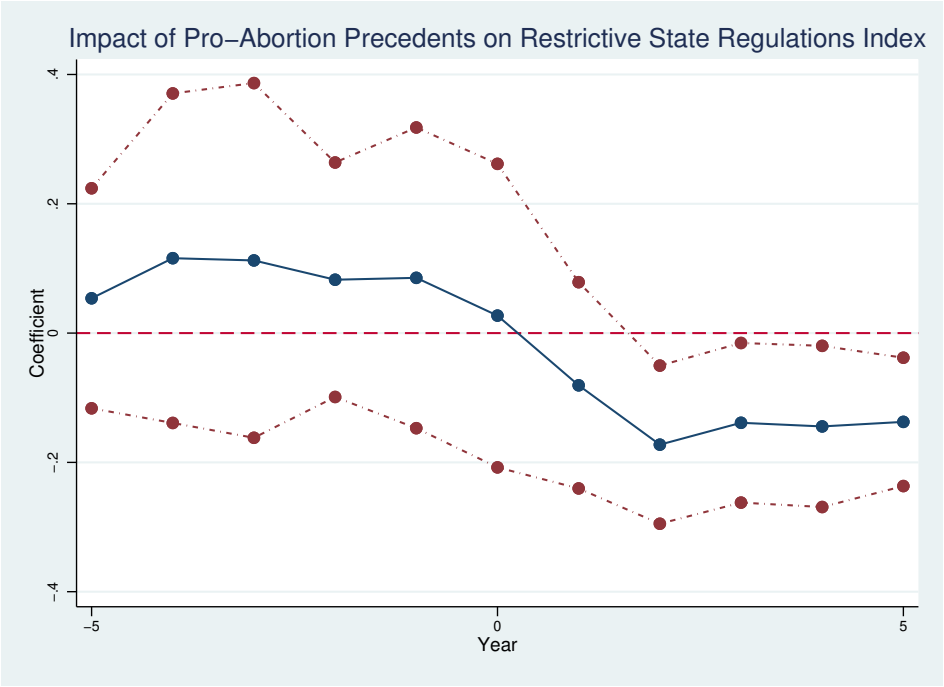


Figure 1 displays the estimated impact of pro-abortion precedents on state regulations that restrict abortion. The y-axis represents the change in the state regulation index, where lower values indicate fewer restrictions. Each point on the graph corresponds to the impact of a precedent set in that year, with 'Period 0' indicating the same-year effect and 'Period 1' indicating the effect of the previous year's precedent. The dashed lines represent 95% confidence intervals. The corresponding regression is a single-lag model in which contemporaneous outcome variable (state law index) is regressed on the law variable and presence of a case. Counterfactual is anti-abortion precedent. Instruments are Democrat, Secular, and Non-white judge characteristics.

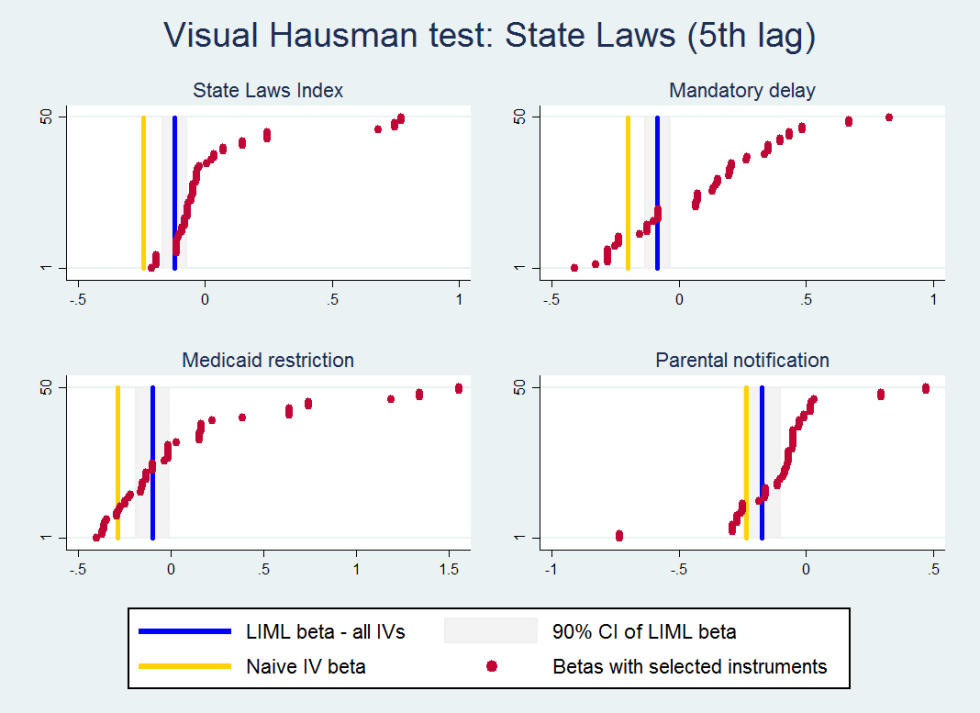
TABLE V

PRO-ABORTION PRECEDENT IMPACT ON STATE REGULATIONS RESTRICTING ABORTION FIVE YEARS LATER

	State Laws Index	P-value	Mandatory delay	P-value	Medicaid restriction	P-value	Parental notification	P-value
OLS	-0.0749**	0.000599	-0.0729**	0.00344	-0.0422	0.205	-0.110**	0.00675
Naive	-0.241**	0.00409	-0.201*	0.0215	-0.286**	0.00541	-0.236	0.124
LIML	-0.119**	0.0000269	-0.0849**	0.00405	-0.0956+	0.0782	-0.174**	0.0000681
LASSO	-0.218**	0.00868	-0.407**	0.00464	-0.122	0.261	-0.125	0.208
N	1224		1224		1224		1224	

Restrictive state regulations index is the average of indicators for: mandatory delay required; ban on using Medicaid to fund abortion; and parental notification required. Main independent variable is pro-abortion precedent in the Circuit-year. Counterfactual is anti-abortion precedent. Law variable is instrumented in rows 2-4 with judicial characteristics, i.e., share of judges with given characteristic on abortion panels. Regressions control for Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Republican X Evangelical; Catholic X Black; Catholic X Non-white. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

FIGURE 2.— Alternative Impacts of Pro-Abortion Precedent on Restrictive State Regulations Five Years Later



The yellow lines indicate the Naive 2SLS and the blue lines indicate the LIML estimates (which uses all the biographical characteristics). The shaded gray area is the LIML confidence interval. The red dots indicate alternative estimates using other biographical characteristics whose first stage F-statistics in Circuit-year level regressions yield the top 50 F-statistics controlling for $\mathbf{E}(p_{ct})$.

TABLE VI

Impact of Pro-Abortion *vs.* No *vs.* Anti-Abortion Precedent on State Regulations Five Years Later

	OLS	Naive IV	LIML	LASSO	N
Restrictive State Regulations Index					1224
Law (Pro-Abortion)	-0.075**	-0.122+	-0.121**	-0.137**	
P-value	0.001	0.059	0	0	
Present	0.031+	0.247	0.053**	0.104	
P-value	0.071	0.457	0.006	0.277	
Law + Present	-0.044*	0.126	-0.067**	-0.033	
P-value	0.010	0.709	0	0.762	

State laws index is the average of indicators for: mandatory delay required; ban on using Medicaid to fund abortion; and parental notification required. Main independent variable is pro-abortion precedent in the Circuit-year. Present is presence of a precedent, $1\left[M_{ct-n} > 0\right]$, where M is the number of cases (typically 0 or 1). Law_{ct} is the share of pro-abortion precedents (but typically it is 0 or 1, a single verdict). If there are no cases, Law_{ct} is set to 0.The law variable is instrumented in Columns 2-4 with judicial characteristics. Law (Pro-Abortion) captures the effect of pro-abortion precedents relative to anti-abortion precedents. Law + Present, the sum of two coefficients, captures the effect of pro-abortion precedents relative to no precedent. Present captures the effect of anti-abortion precedents relative to no precedent. Regressions control for Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Republican X Evangelical; Catholic X Black; Catholic X Non-white. Presence of an appeal is instrumented for with District IVs. LIML uses the entire available instruments set. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

TABLE VII

Impact of Pro-Abortion Precedents Compared to Anti-Abortion Precedents on Anti-Abortion Attitudes

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
Z-score index	0.110*	0.456*	0.127*	0.176**	2000	0.087	0.123	0.111*	0.048	2601
P-value	0.038	0.016	0.023	0.009		0.135	0.310	0.045	0.538	
Simple average index	0.048*	0.216*	0.056*	0.089**	2000	0.040	0.058	0.051*	0.023	2601
P-value	0.041	0.014	0.025	0.004		0.131	0.293	0.043	0.520	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is pro-abortion precedent in the Circuit-year. Counterfactual is anti-abortion precedent. The law variable is instrumented in Columns 2-4 and 6-8 with judicial characteristics. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Democrat; Secular; Non-white Republican; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. Because the GSS is not annual, models use subsample restricted to Circuit-years with at least one case. Columns 1-4 use sample of GSS respondents who declare identification with the Republican Party. Columns 5-8 use respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

TABLE VIII

IMPACT OF PRO-ABORTION *vs.* NO *vs.* ANTI-ABORTION PRECEDENT ON ANTI-ABORTION ATTITUDES

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
Z-score index					6317					9092
Law (Pro-Abortion)	0.049	0.267+	0.048	0.132+		0.112**	-0.002	0.116*	0.015	
P-value	0.317	0.053	0.391	0.067		0.006	0.981	0.011	0.831	
Present	-0.065+	-0.076	-0.065	-0.051		-0.036	-0.079	-0.038	-0.037	
P-value	0.080	0.476	0.101	0.625		0.217	0.294	0.204	0.619	
Law + Present	-0.016	0.191+	-0.017	0.082		0.076*	-0.081	0.077*	-0.022	
P-value	0.645	0.071	0.655	0.302		0.012	0.311	0.017	0.731	
Simple average index					6317					9092
Law (Pro-Abortion)	0.021	0.124*	0.020	0.064+		0.049**	-0.003	0.052**	0.007	
P-value	0.338	0.048	0.419	0.051		0.006	0.943	0.009	0.821	
Present	-0.026	-0.034	-0.026	-0.025		-0.016	-0.038	-0.017	-0.020	
P-value	0.113	0.478	0.140	0.584		0.224	0.256	0.190	0.541	
Law + Present	-0.005	0.090+	-0.006	0.038		0.034*	-0.041	0.035*	-0.013	
P-value	0.726	0.063	0.727	0.280		0.012	0.250	0.014	0.647	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is pro-abortion precedent in the Circuit-year. Present is presence of a precedent, $1\left[M_{ct-n} > 0\right]$, where M is the number of cases (typically 0 or 1). Law_{ct} is the share of pro-abortion precedents (but typically it is 0 or 1, a single verdict). If there are no cases, Law_{ct} is set to 0.The law variable is instrumented with judicial characteristics. Law (Pro-Abortion) captures the effect of pro-abortion precedents relative to anti-abortion precedents. Law + Present, the sum of two coefficients, captures the effect of pro-abortion precedents relative to no precedent. Present captures the effect of anti-abortion precedents relative to no precedent. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Democrat; Secular; Non-white Republican; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. Models is not restricted to Circuit-years with at least one case in order to estimate Present. Columns 1-4 use sample of GSS respondents who declare identification with the Republican Party. Columns 5-8 use respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

TABLE IX

IMPACT OF PRO-ABORTION PRECEDENT ON ANTI-ABORTION ATTITUDES TWO YEARS LATER

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
Z-score index	-0.012	-0.333*	-0.012	-0.028	2004	0.037	-0.071	0.036	-0.122*	2751
P-value	0.824	0.025	0.829	0.768		0.419	0.509	0.416	0.035	
Simple average index	-0.006	-0.154*	-0.006	-0.008	2004	0.016	-0.039	0.015	-0.062*	2751
P-value	0.804	0.021	0.811	0.836		0.429	0.391	0.426	0.012	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is pro-abortion precedent in the Circuit-year. Counterfactual is anti-abortion precedent. The law variable is instrumented in Columns 2-4 and 6-8 with judicial characteristics. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Democrat; Secular; Non-white Republican; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. Because the GSS is not annual, models use subsample restricted to Circuit-years with at least one case. Columns 1-4 use sample of GSS respondents who declare identification with the Republican Party. Columns 5-8 use respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

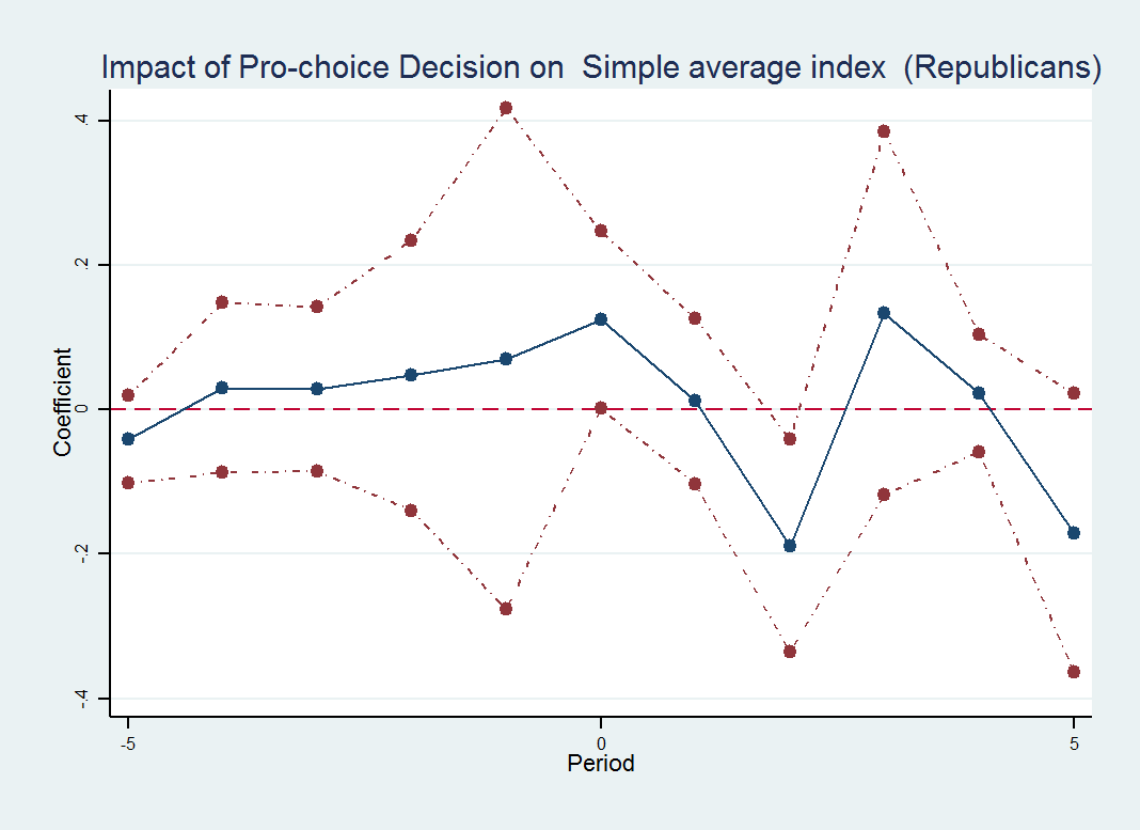
TABLE X

IMPACT OF PRO-ABORTION *vs.* NONE *vs.* ANTI-ABORTION PRECEDENT ON ANTI-ABORTION ATTITUDES TWO YEARS LATER

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
Z-score index					6317					9092
Law (Pro-Abortion)	-0.050	-0.426*	-0.038	-0.244**		0.017	-0.058	0.022	-0.010	
P-value	0.336	0.012	0.583	0.001		0.654	0.653	0.634	0.878	
Present	0.073+	-0.034	0.066	-0.117		-0.019	-0.088	-0.021	-0.097	
P-value	0.099	0.730	0.222	0.167		0.508	0.157	0.502	0.114	
Law + Present	0.023	-0.459**	0.028	-0.360**		-0.002	-0.146	0	-0.108	
P-value	0.492	0.001	0.429	0		0.955	0.189	0.997	0.114	
Simple average index					6317					9092
Law (Pro-Abortion)	-0.023	-0.188*	-0.017	-0.103**		0.009	-0.030	0.011	-0.012	
P-value	0.329	0.012	0.578	0.001		0.592	0.600	0.597	0.682	
Present	0.031	-0.020	0.028	-0.059		-0.010	-0.042	-0.011	-0.045+	
P-value	0.115	0.637	0.244	0.106		0.450	0.124	0.458	0.082	
Law + Present	0.008	-0.208**	0.011	-0.162**		-0.001	-0.071	0	-0.057+	
P-value	0.562	0.001	0.491	0		0.966	0.136	0.996	0.055	

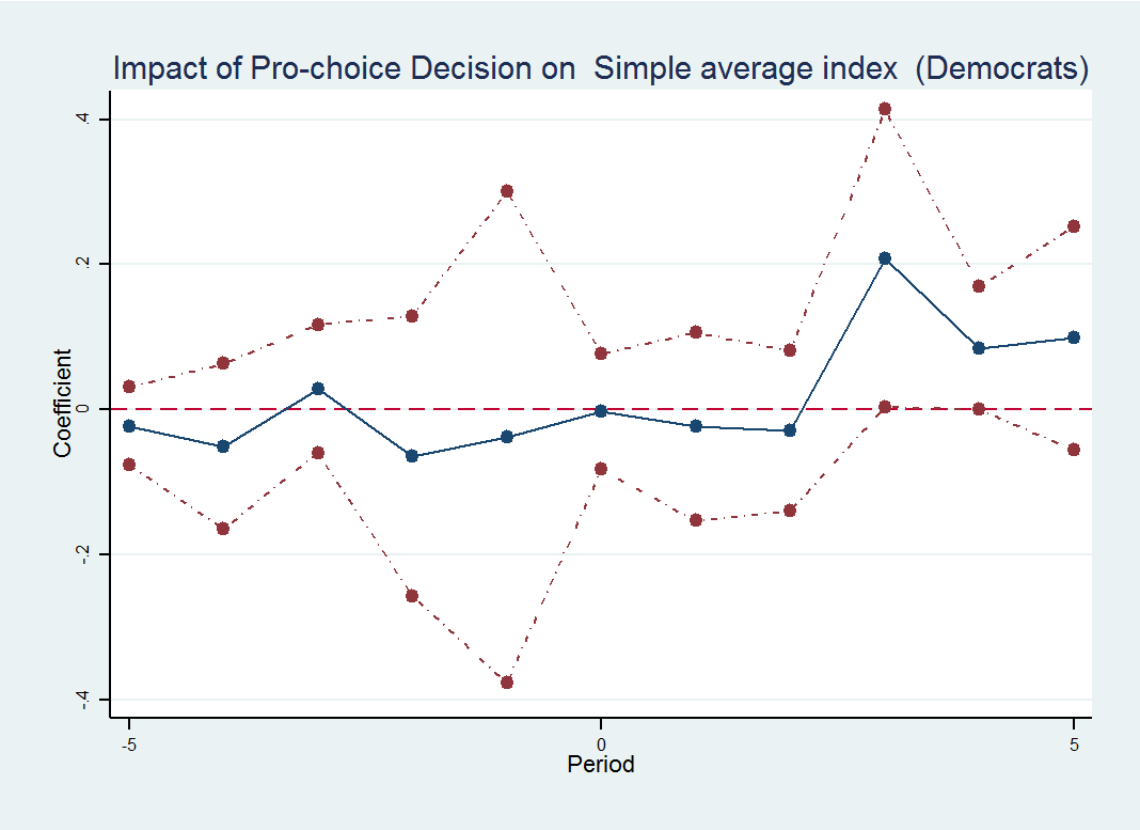
Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is pro-abortion precedent in the Circuit-year. Present is presence of a precedent, $1\left[M_{ct-n} > 0\right]$, where M is the number of cases (typically 0 or 1). Law_{ct} is the share of pro-abortion precedents (but typically it is 0 or 1, a single verdict). If there are no cases, Law_{ct} is set to 0.The law variable is instrumented with judicial characteristics. Law (Pro-Abortion) captures the effect of pro-abortion precedents relative to anti-abortion precedents. Law + Present, the sum of two coefficients, captures the effect of pro-abortion precedents relative to no precedent. Present captures the effect of anti-abortion precedents relative to no precedent. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Democrat; Secular; Non-white Republican; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. Models is not restricted to Circuit-years with at least one case in order to estimate Present. Columns 1-4 use sample of GSS respondents who declare identification with the Republican Party. Columns 5-8 use respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

FIGURE 3.— Impulse Response: Anti-Abortion Attitudes of Republicans in response to Pro-Abortion Rulings



Higher values of the anti-abortion attitude index indicate stronger beliefs that abortions should be illegal. All coefficients come from single-lag model in which contemporaneous outcome variable (state law index) was regressed on the law variable and presence of a case. Counterfactual is anti-abortion precedent. Instruments are Democrat, Secular, and Non-white judge characteristics. Period 0 indicates the coefficient

FIGURE 4.— Impulse Response: Anti-Abortion Attitudes of Democrats in response to Pro-Abortion Rulings



Higher values of the anti-abortion attitude index indicate stronger beliefs that abortions should be illegal. All coefficients come from single-lag model in which contemporaneous outcome variable (state law index) was regressed on the law variable and presence of a case. Counterfactual is anti-abortion precedent. Instruments are Democrat, Secular, and Non-white judge characteristics. Period 0 indicates the coefficient on the same-year precedent. Period 1 indicates the coefficient on last year's precedent. 95% confidence intervals are presented as dashed lines.

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ONLINE APPENDIX

A Background

A.1 Abortion Policy and Backlash State level abortion regulations have been documented to affect reproductive behavior and socioeconomic outcomes. Donohue and Levitt (2001) suggest that abortion legalization prevented the births of "unwanted" children who would have been more prone to be involved in crime. Gruber et al. (1999) found that children born post-legalization were significantly less likely to live in a single-parent family, to live in poverty, to receive welfare, and to die in infancy. By the time this birth cohort reach their 30s, they are more likely to graduate from college, and less likely to either use welfare as an adult or be a single-parent (Ananat et al. 2009). This positive selection is widely attributed to two related factors: cohort selection and size. Women may use abortion to avoid bearing children in adverse circumstances, raising the living standards of the children who are born (Levine et al. 1999; Donohue and Levitt 2001). At the same time, the legalization of abortion has been shown to reduce birthrates by approximately 6% in the seven years following Roe vs. Wade (Kane and Staiger 1996; Levine et al. 1996). Abortion legalization may also hinder a woman's ability to avoid premarital sexual (Akerlof et al. 1996). Women who are opposed to abortion would receive competition from women who are willing to obtain abortion as men "seek satisfaction elsewhere" (Akerlof et al. 1996). Consistent with this theory, Lott and Whitley (2007) finds evidence that abortion increases the number of out-of-wedlock births.

Both Levine et al. (1999) and Donohue and Levitt (2001) use staggered abortion legalization across states to determine the causal impact of changes in abortion law. Prior to *Roe vs. Wade* in 1973, a handful of states implemented reforms legalizing abortion for women in very special circumstances: mental health, fetal deformity, or pregnancy by rape or incest (McBride 2008). The legislative history provided previous researchers natural experiments in which states can be categorized by abortion legality in different years. Several methodologies using this variation have been employed for literature on the impact of abortion. Gruber et al. (1999) compared the outcomes of youths born in early repeal states relative to the other states. This "natural experiment" has been criticized since the difference between birth rates in repeal and non-repeal states eventually converged once abortion was legalized nationwide, while abortion rates continued to remain much higher in repeal states than non-repeal states (Donohue and Levitt 2004). Instead, Donohue and Levitt (2001) regressed the arrest rate by individuals' state and birth year against the abortion rate in the state and year that the individual was born. However, this strategy has also generated controversy. In particular, Joyce (2004; 2009) has argued that the abortion rate should not appear on the right hand side of the regression as it is endogenous.

APPENDIX TABLE A.1

FEDERAL STATUTES AND DOCTRINAL DEVELOPMENTS IN ABORTION RIGHTS LAW

Statute or Legal Decision	Year	Statutory Provision or Doctrinal holding	Regulation challenged
Roe v. Wade, 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
Beal v. Doe, 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
Harris v. McRae, 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 *Roe* 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 reproductive health care facility.	Federal statute
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

Contemporary examples of appellate precedent illustrate how Circuit Courts continually provide new interpretations or distinctions of pre-existing precedents that expand or contract the space of allowable state regulations. A Mississippi statute would have shut down its sole abortion clinic by requiring its doctors to obtain admitting privileges at local hospitals, but on July 2014, the Fifth Circuit required that the statute not be implemented while substantive issues were considered further by a Federal District Court. In March 2014, the same Circuit Court upheld a Texas law requiring the same admitting privileges, which resulted in one-third of abortion clinics in Texas shutting down, forcing some women to drive more than 100 miles to obtain an abortion. The reason the Fifth Circuit could render identical state laws upheld in one state but delayed in another is that the court took into account the potential consequences on abortion access for women living in the state. A subsequent Texas statute required abortion clinics to meet the building standards of ambulatory surgery centers; this statute was allowed by the Fifth Circuit in the Fall of 2014 while it considered the appeal to invalidate the new statute. If allowed, this statute would reduce the number of centers operating in the state to fewer than 10.[24] Finally, similar laws in some states have been temporarily blocked by some Federal Courts, while they have taken effect in other states, which illustrates that precedents in one Circuit need not be followed in other Circuits.

APPENDIX TABLE A.2

Summary Statistics for GSS Abortion Attitudes

	mean	sd	min	max	count
GSS respondents					
Age	45.276	17.498	18	89	44736
Female	.563	.496	0	1	44897
Should it be illegal to have an abortion for a following reason:					
Does not want more children	.558	.497	0	1	31876
Mother's health is endangered	.099	.299	0	1	32182
Family is poor	.521	.499	0	1	31825
Pregnancy is result of rape	.174	.379	0	1	31812
Woman is single	.553	.497	0	1	31807
Any reason	.599	.490	0	1	26092
High chance of child's defect	.188	.391	0	1	32040

[24]http://www.nytimes.com/2014/07/30/us/mississippi-abortion-clinic-Federal-court-blocks-closing.html

Appendix Figure A.1.— Historical Trends

Backlash to abortion is observed in the form of violence, harassment, mobilization, and state legislative actions. Between 1973 and 2003, anti-abortion activists conducted 300 attacks on abortion clinics in the United States (Jacobson and Royer 2011). Abortion clinic violence is a form of domestic terrorism, which includes murder, assault, kidnapping, arson, bombing, and anthrax threats.[25] Event studies show that abortion clinic violence have led to fewer providers and fewer abortions (Jacobson and Royer 2011).

Harassment of abortion clinic staff intended to intimidate clinicians into submission occurs in the form of "Wanted for Killing" or "Crimes against humanity" posters, internet profiles with name and address, home picketing, and stalking. Roughly 70% of abortion providers experience frequent harassment (National Clinic Violence Survey 2015), which is associated with reduced abortion services (Medoff 2014). Restricted access to abortion clinics has also been associated with an increase in intimate partner violence, maternal death, and a decline in general women's health (Castillo 2015).

Roughly 25% of clinics report that they experience anti-abortion activity (including protests and demonstrations) at their facility on a daily basis and 43% report that such activity occurs weekly. Women visiting targeted clinics are also made to feel bad or ashamed (Castillo 2015). Judges in abortion cases have had their names appear on kill lists[26] and lists of judge names who are deemed pro-abortion have appeared.[27] In 2014, 250 bills restricting

[25] http://www.fbi.gov/publications/terror/terroris.pdf, page 19.

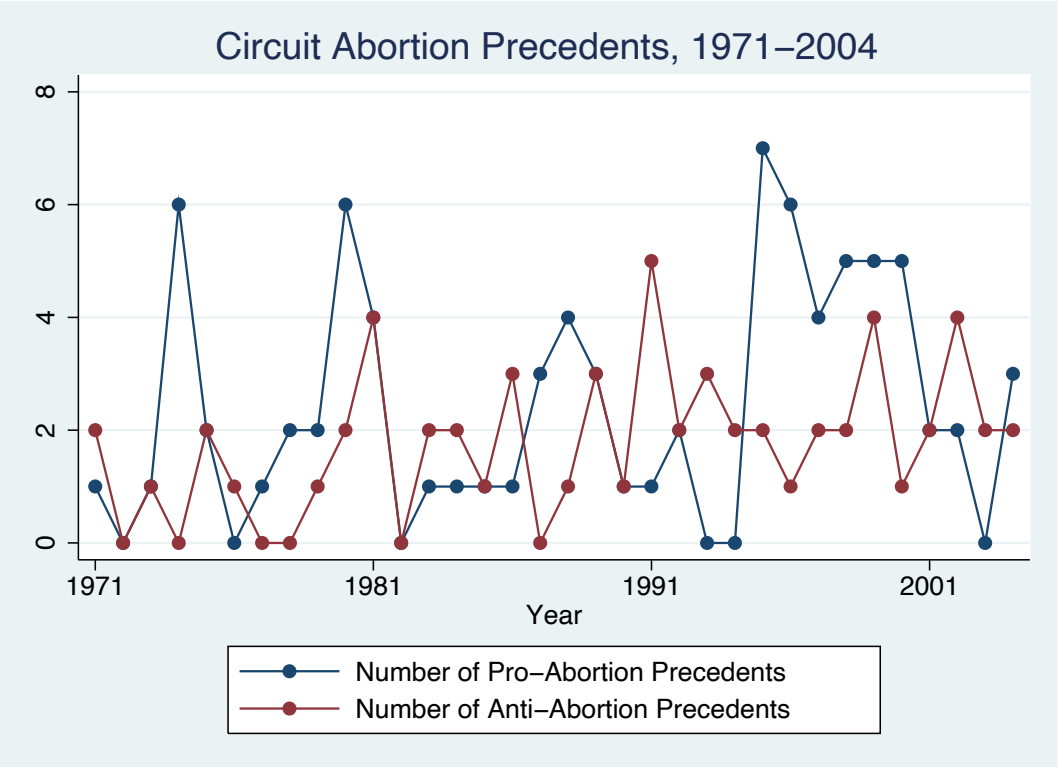
[26] http://www.nytimes.com/1991/08/08/us/us-judge-in-abortion-case-is-target-of-death-threats.html; https://news.google.com/newspapers?nid=1368&dat=19841010&id=hntQAAAAIBAJ&sjid=UxIEAAAAIBAJ&pg=5909,2001 http://www.law.uci.edu/faculty/full-time/weinstein/abortion-foes-ruled-a-threat-May17-2002.pdf

[27] http://www.christiangallery.com/atrocity/aborts.html; http://blogs.desmoinesregister.com/dmr/index.php/2013/11/07/threat to-oust-judge-over-abortion-ruling-is-political-bullying-bar-association-president-says

abortion were introduced in 40 states. Legislators in some states have proposed that lawyers can represent fetuses, proposed bans on abortion once a heartbeat exists, proposed charging medical professionals with felony, and proposed requiring spousal consent to have an abortion (Castillo 2015). Backlash to anti-abortion precedents exist as well, but these are harder to find qualitative evidence for. Anecdotal evidence suggests that charitable donations are a common channel through which backlash occurs.[28]

Figure A.2 shows the yearly frequency of pro-abortion and anti-abortion Circuit precedents nationwide. In most years, the number of pro-abortion precedents exceeds anti-abortion precedents. At the same time, the trend in abortion attitudes has remained basically flat, but some attitudes have shifted more than others. Forty years after *Roe v. Wade*, fewer people support allowing abortions in the case of a serious birth defect or because the mother cannot afford more children or is unmarried; yet more people also support allowing abortions for any reason. Since pro-life attitudes could cause laws to restrict abortion access, which could lead to pro-abortion precedents, it is difficult to disentangle cause from effect, so we now turn to our empirical specification.

Appendix Figure A.2.— Abortion Precedents Over Time



B Stylized Model

B.1 Assumptions We model the effects of law on attitudes. We assume two periods, where the agent undertakes actions at time $t = 0$ that affects the likelihood of an abortion at $t = 1$. We assume having an abortion is the outcome

[28] http://www.bloomberg.com/news/articles/2013-07-22/virginia-republican-suffers-abortion-backlash-from-donors

the agent would like to avoid.[29] We normalize the utility of having an abortion as negative, denoted by $-u_a < 0$ relative to some numeraire or status quo, and 0 otherwise.[30] We also assume that once the agent has had an abortion, there will be no subsequent changes to the utility from additional abortions. This captures a lexicographic utility function.[31] The only behavioral response of interest is by those agents who have not previously had abortions.

The probability that the agent will have an abortion depends on two factors: the external (exogenous) factor q, and the internal (endogenous) factor p. q captures both societal attitudes towards abortion and laws regulating access to abortion, while also capturing the costs of not having an abortion, such as child-bearing costs, etc.. The higher the q, the greater the likelihood of abortion, and vice versa. A pro-abortion precedent lower the costs to get an abortion, for example, by increasing access to abortion clinics. The internal factor p is the set of actions the agent takes at date $t = 0$ to not have an abortion at $t = 1$. These actions can include backlash in attitudes or campaign donations. These actions come at a cost $c(p) \geq 0$, which are convex: $c' > 0, c'' > 0$. Also, $c(0) = 0$. We assume no strategic play and information is symmetric, so that the agent's actions will be truthful representations of their beliefs. Therefore, we may generalize and call these actions "negative perceptions" towards abortion. The greater an agent's backlash (intensity of negative attitude, further funding of anti-abortion causes or politicians), the lower is the likelihood of having an abortion.

B.2 Static Optimization The overall probability of abortion is $P(q - p)$. For an interior solution, it must be that $P' > 0$. We also assume $P'' > 0$.[32] Normalizing the discount factor between periods to 1, the net utility of the maximizing agent will be given by:

$$\max_p \{(P(q-p))(-u_a) - c(p)\}.$$

We can normalize the costs $c(p)$ by u_a, and with slight change of notation, rewrite the new costs again as $c(p)$. Thus, the net utility of the agent will be:

[29] This is suggested by survey evidence. Chen and Schonger (2016) reports on surveys of prospective parents on whether they would choose to abort a fetus with Down Syndrome. The key result is that as the likelihood of Down Syndrome increased the more likely the parents would choose to abort. This result is consistent with agents having perception motives where they derive negative utility from saying that they would abort a fetus with Down Syndrome.

[30] The setup can also be generalized to heterogenous agents, and the intuition will continue to hold. With heterogeneous agents the utility of abortion will be distributed over a support, and some may even obtain positive utility from abortion. But in the representative agent framework, it is safe to assume that the average of the distribution – the mean utility of abortion – is negative.

[31] An intuition for lexicographic utility is to consider acts that are deontological or duty-based (Chen and Schonger 2016). Another intuition comes from the following thought experiment. Suppose an individual (who believes in 1 god) is asked whether s/he believes in 2 gods, and then asked, how much would they have to be paid to say that they believe in 2 gods, 3 gods, and so on. It is plausible that individuals have a lexicographic cost of deviating from saying what they actually believe, such that they report the identical price for each request.

[32] This will be the case if the overall probability distribution follows an S-shaped curve, and the equilibrium level is on the left part of the distribution. This is a realistic assumption, as the probability of abortion, i.e. the share of abortions in a representative agent framework, is rather small.

$$\max_p \{-P(q-p) - c(p)\}.$$

If the agent has not yet had an abortion, the optimization will have the solution:

$$P'(q-p) = c'(p).$$

Or,

$$p = q - P'^{-1}(c'(p)).$$

If the agent has already had an abortion, the positive costs for any $p > 0$ ensure that their equilibrium level will be $p^* = 0$. There is no point to backlash as it makes no difference to their utility.

B.3 Dynamics To look at the dynamics of laws and norms, we assume that the share of abortions in the society is at a steady-state equilibrium.[33] More specifically, we denote by s_0 the share of the population at time $t = 0$ who have not had abortion in the past; $1 - s_0$ have had an abortion.

From the former group, the share $s = P(q-p)$ will have an abortion at $t = 1$. Moreover, assume share α of new people enter the population, by becoming of child-bearing age. Also, share β of the population exit, e.g., through death. Note that none in the α share of the population have had an abortion in the past, and some of β share may have had an abortion in the past.

At period $t = 1$ the share of the population with no prior abortion will then be: $s_0(1-s)(1-\beta) + \alpha$. The steady-state obtains when s_0 satisfies:

$$s_0(1-s)(1-\beta) + \alpha = s_0,$$

This yields the equilibrium share of the population in the society with no abortion as:

$$s_0 = \frac{\alpha}{s + \beta - s\beta}.$$

Note that this is also steady-state equilibrium; if the initial value of s_0 is above (below) the equilibrium value,

[33] This is a standard assumption in models in macroeconomics and natural sciences.

then over time the values will decrease (increase) to the steady-state level. Also, the equilibrium satisfies $0 \leq s_0 \leq 1$ for a range of values for s, α, and β. For instance, if $\alpha = \beta$, then

$$0 \leq s_0 = \frac{\alpha}{s + \alpha - s\alpha} \leq 1.$$

This corresponds to the case where the mass of the population is constant (there's no net growth) of, say, 1, and s_0 is the fraction of the population with no abortion.

To look at the equilibrium effects of abortion precedents, suppose a pro-abortion precedent is issued, which increases q. From the Implicit Function Theorem, we have:

$$P''(q - p^*)(1 - \frac{\partial p^*}{\partial q}) = c''(p^*)\frac{\partial p^*}{\partial q},$$

(the star denotes the equilibrium value of p).

or,

$$\frac{\partial p^*(q)}{\partial q} = \frac{P''(q - p^*)}{P''(q - p^*) + c''(p^*)}$$

Since, $P'' > 0$, and $c'' > 0$, we have that:

$$0 < \frac{\partial p^*(q)}{\partial q} < 1.$$

Thus, a pro-abortion precedent at time $t = 0$ leads to higher p – heightened negative perceptions against abortion. This is the initial backlash effect in the society; the overall level of the negative perceptions in society will equal $s_0 p$. The internal factor (intrinsic motivations) in the model generates backlash to laws. Agents backlash to counter the law's shift in costs to an action. If marginal costs to backlash are high relative to the cost of having an abortion, the change in law will have a sizable positive impact on the share of society choosing abortion.

B.4 Long-Term Effects: Persistent Backlash or Subsequent Acceptance To look at the long-term effects of a pro-abortion precedent, at time $t = 1$ both p^* and s_0 will change. Recall that the share $s = P(q - p)$ will have an abortion. At $t = 1$, negative perceptions will be:

$$s_0 p^* = \frac{\alpha p^*}{s^* + \beta - s^*\beta} = \frac{\alpha p^*}{P(q - p^*) + \beta - P(q - p^*)\beta}.$$

To understand the level of negative perceptions at $t = 1$ when there is a pro-abortion precedent at $t = 0$, observe that q increases both the numerator and the denominator of $s_0 p^*$. The overall effect depends on the relative increase of p^* in the numerator compared to the increase of $P(q - p^*)$ in the denominator.

If a large increase in p^* offsets the increase in the probability of abortions, then the long-term equilibrium will also yield backlash. If backlash is relatively costless, then any change in law can be internalized, which renders persistent backlash—in the model, the increase in the numerator is larger than the increase in the denominator. Otherwise, at $t = 1$, the overall effect of a pro-abortion precedent reduces negative attitudes towards abortion.[34] With costly backlash, the pro-abortion precedent has a sizable impact on the number of abortions. Then, the overall ratio in the previous equation will decrease. It is intuitive to think that initially unpopular laws become accepted over time by changing the behavior of the population.

In this case, backlash is temporary. If the marginal costs to backlash are low, however, then any change in law can be internalized and this will lead to persistent backlash. The model accounts for both the immediate and long-term impacts of law that have been documented in previous research. For instance, in the case of abortion, there was a quick backlash from Republicans following the *Roe v. Wade* precedent (Franklin and Kosaki 1989), but subsequent studies have shown an overall increase in support for abortion among all groups (Hanley et al. 2012; Brickman and Peterson 2006). Other studies on Supreme Court cases and state laws, such as Ura (2014) and Hernandez (2014), also found a pattern of initial backlash followed by a decline in backlash within two years. However, it should be noted that the time-series and panel studies have the limitation of not being able to make causal inferences due to the fact that policies were not implemented randomly.

The model has an interpretation consistent with qualitative legal observations that a "big bang" approach to legal change yields substantial backlash, which can persist, whereas gradual legal change shifts preferences in the direction the law intends. To see this formally, observe that the increase in the numerator is flexible since $p^* = q - P'^{-1}(c'(p))$, but the increase in the denominator is limited because $(1 - \beta)P < 1$. Justice Ruth Bader Ginsburg has commented that in terms of the potential to shift societal norms, certain Supreme Court rulings may have been litigated "too soon".

[34] To understand the intuition further, by the Intermediate Value Theorem, there is $\hat{q}$, and $\hat{p} \in [p, p^*]$, such that

$$P(q - p^*) - P(q - p) = P'(\hat{q} - \hat{p})\Delta(q - p).$$

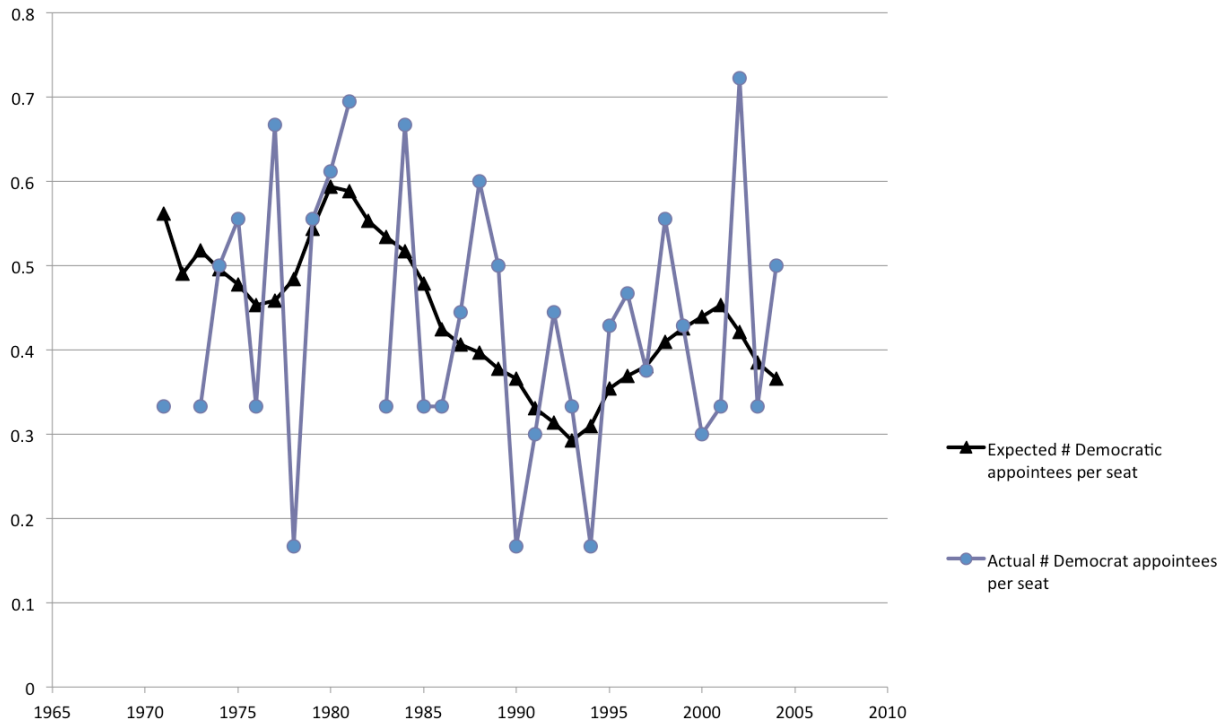
Also, since $P'(q - p^*) = c'(p^*)$, and $P'(q - p) = c'(p)$, by continuity, there is $\tilde{q}$, and $\tilde{p} \in [p, p^*]$, such that $P'(\hat{q} - \hat{p}) = c'(\tilde{p})$. Then,

$$s_0 p^* = \frac{\alpha p^*}{s^* + \beta - s^*\beta} = \frac{\alpha p^*}{P(q - p^*) + \beta - P(q - p^*)\beta} = \frac{\alpha p^*}{c'(\tilde{p})\Delta(q - p)(1 - \beta) + \beta}.$$

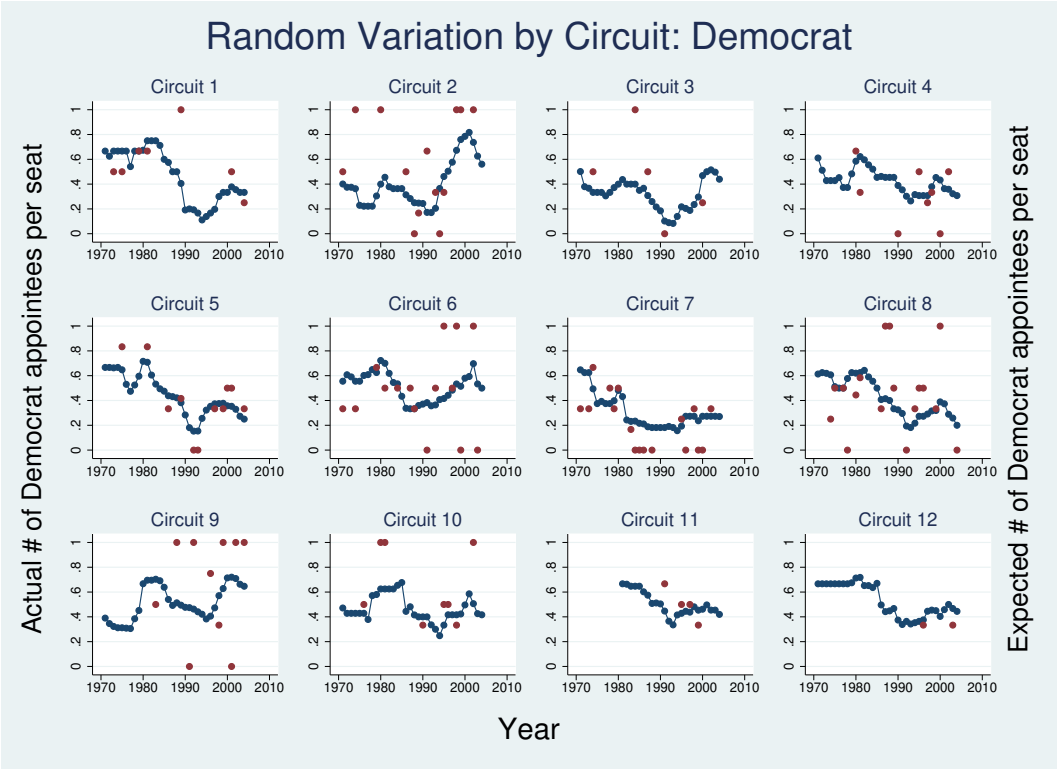
C Assessment of Random Assignment

Even if judges are randomly assigned, because our data comprise published opinions, several additional issues need to be considered: settlement; publication; and strategic use of keywords or citation. In Courts of Appeals, judges are revealed very late—after litigants file their briefs, sometimes only a few days before the hearing, if there is a hearing—which gives little opportunity and incentive for settlement upon learning the identity of the panel. Most of the litigation costs are sunk by that point, and when the D.C. Circuit began announcing judges earlier, it did not affect settlement rates (Jordan 2007). Unpublished cases are not supposed to have precedential value. They are deemed as routine and easy: studies find that judicial ideology predicts neither the decision in unpublished cases (Keele et al. 2009) nor the decision to publish (Merritt and Brudney 2001). Appendix Figures C.1 and C.2 indicate that panel composition does not appear to be serially correlated. The connected blue dots represent the expected number of Democrats per seat calculated using the composition of the Circuit pool of judges available to be assigned, while the unconnected red dots represent the actual number of Democrats per seat on abortion cases.

Appendix Figure C.1.— Judicial Composition and Random Assignment, 1971-2004



Appendix Figure C.2.— Identification Strategy



Omnibus tests can formally address these potential deviations from strict exogeneity. *First*, we examine lead coefficients to check whether our instrumental variables are endogenous to pre-existing trends. *Second*, we stack the strings across Circuits and across biographical characteristics; we run an autocorrelation test and compare the F statistic with F statistics generated from randomly assigning available judges to cases. The results are displayed in Appendix Figure C.3. The empirical F is ranked in the middle of the distribution of the simulated F statistics.

Third, we also confirm that contemporaneous judicial composition is not correlated with abortion precedents in the "wrong year" in the Circuit. The association between current year's precedents with biographical characteristics for cases in a different year is substantially smaller or even of the wrong sign. The joint F test and R-square fall sharply. These tests support the hypothesis that judge assignments are not serially correlated over time in violation of our research design.

In Appendix Table C.1, Column 1 repeats Column 8 from Table II for comparability. Column 2 reports the association between the current year's precedents with biographical characteristics in the previous year's cases. Column 3 reports the association between the current year's precedents and the biographical characteristics in cases two years ago. Columns 4 and 5 do the same for cases in the following year and two years from the current year. These tests support the hypothesis that judge assignment in published cases is not serially correlated over time and that subsequent published cases do not simply reflect the exact precedent in the cases from the previous two years.

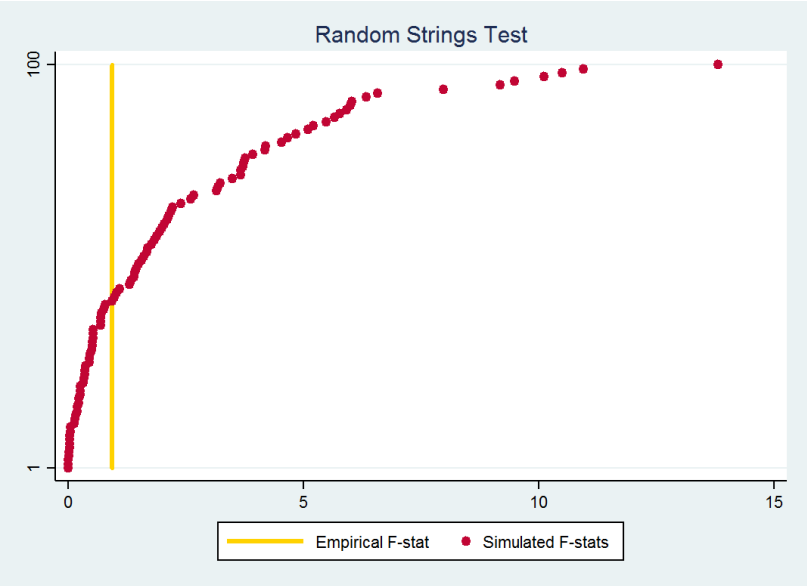
Other variations from random assignment include: remanded cases from the Supreme Court are returned to the original panel; *en banc* cases that are heard by the entire pool of judges (or a significant fraction in the Ninth

APPENDIX TABLE C.1

Falsification Test of Instruments: Relationship between Pro-abortion Abortion Precedents and Judicial Composition on Abortion Cases in Previous and Subsequent Years

	(1)	(2)	(3)	(4)	(5)
Democrat	0.221				
	(0.152)				
Secular	0.301				
	(0.184)				
Repub. X Non-white	-1.261*				
	(0.422)				
In-state BA X Black	-1.002*				
	(0.346)				
Democrat (-1)		-0.211			
		(0.147)			
Secular (-1)		0.0994			
		(0.167)			
Repub. X Non-white (-1)		-0.314			
		(0.392)			
In-state BA X Black (-1)		-0.318			
		(0.288)			
Democrat (-2)			-0.000551		
			(0.100)		
Secular (-2)			0.0571		
			(0.154)		
Repub. X Non-white (-2)			-0.352		
			(0.246)		
In-state BA X Black (-2)			-0.486		
			(0.335)		
Democrat (+1)				-0.175	
				(0.241)	
Secular (+1)				-0.388	
				(0.253)	
Repub. X Non-white (+1)				-0.474+	
				(0.261)	
In-state BA X Black (+1)				0.751	
				(0.642)	
Democrat (+2)					-0.202
					(0.135)
Secular (+2)					0.0389
					(0.111)
Repub. X Non-white (+2)					1.345
					(0.923)
In-state BA X Black (+2)					0.160
					(0.855)
N	44897	44897	44897	42085	42085
R-sq	0.674	0.257	0.268	0.295	0.322
Joint F-test	16.26	6.912	1.962	2.572	4.916
Controls	All	All	All	All	All
CY with no cases	Dummied	Dummied	Dummied	Dummied	Dummied

Independent variable is share of pro-abortion precedents. Regressors include the fraction of judicial panels comprising certain biographical characteristics, expected fractions of these characteristics, and dummy indicators for the presence of a case, Circuit, and Year. Standard errors clustered at the Circuit-year level.



APPENDIX FIGURE C.3.— Randomization Check: F-statistics for autocorrelation coefficient

Circuit); judges with conflict of interests opt out after random assignment, which is extremely rare. We do not use remanded or *en banc* cases, which are also relatively infrequent. Judges can also take sick leave or go on vacation, but this is determined far in advance.

Like the identification strategy of papers that use the patent officer assignment or disability application reviewer assignment, which are not explicitly random (Maestas et al. 2013; Galasso et al. 2015), our identification strategy assumes that idiosyncratic deviations from random assignment are ignorable. Even a gold-standard random process—the roll of a die—has a deterministic element. If known with precision, the force and torque applied to the die, the subtle air currents, the hardness of the surface, etc., might allow us (or a physicist) to determine with certainty the outcome of these "random" rolls. Despite this obvious non-randomness, we would still have faith in the outcome of a trial with treatment assignments based on die rolls because we are certain that the factors affecting the assignment have no impact on the outcome of interest and hence are ignorable.

Turning to the District courts, unlike for Courts of Appeals cases, we cannot use the random strings test as an omnibus assessment for violations of random assignment, because some Districts use rotational assignment or random drawing of judges from card decks without replacement. Accordingly, we discuss the concerns qualitatively and suggest another empirical test. First, District Courts judges are revealed much earlier than Courts of Appeals judges. Ideally, we would use docket filings in the Administrative Office of the U.S. Courts, but judges are omitted for most cases prior to 2000, so we must use published District opinions to construct our District IV. Thus, we buttress the assumption that settlement, publication, and strategic use of keywords or citations are exogenous: 1) in District Courts, judges are much more constrained and ideology has been found to play hardly any role. Judicial ideology does not predict settlement rates (Ashenfelter et al. 1995; Nielsen et al. 2010), settlement fees (Fitzpatrick 2010), publication choice (Taha 2004), or decisions in published or unpublished cases (Keele et al. 2009) — this last

fact is consistent with the District judge identity only affecting outcomes through the presence of an appeal but not through the District Court decision, but this exclusion restriction is not necessary for the primary counterfactual; 2) we examine these issues directly as follows.

Since the random strings test is ineffective for District Courts, we test whether District Court judicial biographical characteristics in *filed* cases jointly predict publication. We link PACER filing data, which has judge identity, to AOC data, which has information on publication. We obtained all freely available PACER data on District cases from 32 districts for 1980 to 2008 for a total of 359,595 non-duplicated cases. This data contains the name of the District where the case was filed, the filing and termination date (available for 90% of cases), the assigned docket number, and the name of the District or magistrate judge presiding on the case. We merge the names of the judges into the Administrative Office of the U.S. Courts (AOC) database. We use LASSO to select biographical characteristics and no characteristic was chosen. We assume that remaining deviations from random assignment, like vacation days, are ignorable.

D Additional Results on Anti-Abortion Attitudes

Appendix Table D.1.— Impact of Pro-Abortion Precedent on Anti-Abortion Attitudes

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
Z-score index	0.110*	0.456*	0.127*	0.176**	2000	0.087	0.123	0.111*	0.048	2601
P-value	0.038	0.016	0.023	0.009		0.135	0.310	0.045	0.538	
Simple average index	0.048*	0.216*	0.056*	0.089**	2000	0.040	0.058	0.051*	0.023	2601
P-value	0.041	0.014	0.025	0.004		0.131	0.293	0.043	0.520	
High chance of child's defect	0.050+	0.013	0.056*	-0.028	2460	0.030	0.006	0.031	0.014	3444
P-value	0.052	0.854	0.028	0.434		0.134	0.930	0.140	0.681	
Does not want more children	0.042	0.379*	0.048	0.140**	2472	0.076+	0.123	0.083*	0.043	3421
P-value	0.148	0.024	0.101	0.002		0.050	0.164	0.020	0.474	
Woman is single	0.055+	0.326*	0.067*	0.164**	2471	0.055+	0.119	0.057+	0.012	3411
P-value	0.075	0.015	0.031	0.002		0.090	0.208	0.064	0.826	
Family is poor	0.047+	0.249*	0.048+	0.144**	2465	0.031	0.136	0.031	-0.007	3417
P-value	0.099	0.035	0.095	0.006		0.278	0.115	0.268	0.832	
Mother's health is endangered	0.021	0.077	0.029	0	2475	0.015	0.045	0.018	-0.015	3447
P-value	0.294	0.238	0.181	0.995		0.270	0.435	0.186	0.684	
Pregnancy is result of rape	0.056**	0.156+	0.059**	0.007	2462	0.023	0.046	0.029	0.002	3432
P-value	0.005	0.078	0.002	0.871		0.213	0.344	0.125	0.944	
Any reason	0.063*	0.305*	0.074**	0.167**	2176	0.027	0.064	0.043	0.025	2857
P-value	0.012	0.016	0.005	0.001		0.399	0.455	0.146	0.603	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is pro-abortion precedent in the Circuit-year. Counterfactual is anti-abortion precedent. The law variable is instrumented in Columns 2-4 and 6-8 with judicial characteristics. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Democrat; Secular; Non-white Republican; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. Because the GSS is not annual, models use subsample restricted to Circuit-years with at least one case. Columns 1-4 use sample of GSS respondents who declare identification with the Republican Party. Columns 5-8 use respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

APPENDIX TABLE D.2

IMPACT OF PRO-ABORTION *vs.* NO *vs.* ANTI-ABORTION PRECEDENT ON ANTI-ABORTION ATTITUDES

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
High chance of child's defect					8237					12436
Law (Pro-Abortion)	0.024	0.056	0.016	0.008		0.030	0.027	0.014	0.029	
P-value	0.292	0.417	0.521	0.851		0.112	0.609	0.566	0.402	
Present	-0.024	0.026	-0.019	0.039		-0.013	-0.024	-0.005	-0.010	
P-value	0.164	0.617	0.287	0.412		0.361	0.559	0.794	0.794	
Law + Present	0	0.081	-0.004	0.047		0.016	0.003	0.009	0.019	
P-value	0.993	0.101	0.832	0.318		0.255	0.935	0.547	0.535	
Does not want more children					8209					12384
Law (Pro-Abortion)	0.003	0.195*	0.005	0.120**		0.067**	0.031	0.076**	0.045	
P-value	0.907	0.020	0.892	0.005		0.004	0.553	0.003	0.235	
Present	-0.019	-0.079	-0.019	-0.085		-0.017	-0.047	-0.022	-0.035	
P-value	0.390	0.206	0.411	0.154		0.296	0.248	0.195	0.387	
Law + Present	-0.015	0.116+	-0.015	0.035		0.050**	-0.016	0.054**	0.010	
P-value	0.404	0.092	0.469	0.460		0.004	0.719	0.003	0.799	
Woman is single					8176					12334
Law (Pro-Abortion)	0.024	0.183*	0.030	0.110*		0.053*	0.040	0.045+	0.016	
P-value	0.378	0.014	0.353	0.019		0.016	0.401	0.083	0.674	
Present	-0.025	-0.072	-0.028	-0.074		-0.023	-0.079+	-0.018	-0.069	
P-value	0.210	0.251	0.209	0.231		0.143	0.067	0.260	0.115	
Law + Present	-0.001	0.111+	0.001	0.036		0.030+	-0.039	0.026	-0.053	
P-value	0.954	0.073	0.940	0.447		0.064	0.351	0.141	0.177	
Family is poor					8194					12365
Law (Pro-Abortion)	0.028	0.166*	0.023	0.120**		0.036+	0.041	0.030	0.004	
P-value	0.286	0.034	0.460	0.005		0.058	0.427	0.164	0.900	
Present	-0.030	-0.064	-0.027	-0.085		-0.018	-0.087*	-0.015	-0.062+	
P-value	0.138	0.262	0.203	0.149		0.208	0.020	0.314	0.087	
Law + Present	-0.002	0.101	-0.004	0.035		0.018	-0.045	0.016	-0.058+	
P-value	0.928	0.108	0.840	0.485		0.228	0.233	0.333	0.065	
Mother's health is endangered					8278					12493
Law (Pro-Abortion)	0.017	0.074	0.021	0.043+		0.022+	0.035	0.010	-0	
P-value	0.277	0.112	0.264	0.071		0.091	0.385	0.503	0.995	
Present	-0.024+	-0.039	-0.026*	-0.013		-0.007	0.005	-0.001	0.020	
P-value	0.060	0.221	0.047	0.647		0.477	0.861	0.949	0.459	
Law + Present	-0.007	0.035	-0.005	0.030		0.015	0.040	0.010	0.020	
P-value	0.610	0.379	0.714	0.284		0.167	0.185	0.372	0.407	
Pregnancy is result of rape					8192					12337
Law (Pro-Abortion)	0.039+	0.122+	0.028	0.030		0.030*	0.011	0.016	-0.003	
P-value	0.054	0.081	0.236	0.487		0.047	0.769	0.425	0.917	
Present	-0.047**	-0.046	-0.041*	-0.025		-0.010	-0.018	-0.002	-0.005	
P-value	0.004	0.303	0.026	0.542		0.440	0.533	0.914	0.853	
Law + Present	-0.007	0.076	-0.012	0.005		0.021+	-0.007	0.014	-0.009	
P-value	0.637	0.149	0.434	0.918		0.095	0.819	0.307	0.749	
Any reason					6933					9933
Law (Pro-Abortion)	0.031	0.205*	0.036	0.117**		0.049*	-0.062	0.058**	-0.022	
P-value	0.233	0.023	0.219	0.007		0.026	0.308	0.008	0.579	
Present	-0.010	-0.034	-0.012	-0.018		-0.001	0.010	-0.006	0.032	
P-value	0.653	0.580	0.570	0.754		0.965	0.794	0.725	0.409	
Law + Present	0.021	0.171*	0.024	0.099*		0.048**	-0.051	0.052**	0.010	
P-value	0.271	0.021	0.258	0.030		0.003	0.335	0.001	0.807	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is pro-abortion precedent in the Circuit-year. Present is presence of a precedent, $1\left[M_{ct-n} > 0\right]$, where M is the number of cases (typically 0 or 1). Law_{ct} is the share of pro-abortion precedents (but typically it is 0 or 1, a single verdict). If there are no cases, Law_{ct} is set to 0.The law variable is instrumented with judicial characteristics. Law (Pro-Abortion) captures the effect of pro-abortion precedents relative to anti-abortion precedents. Law + Present, the sum of two coefficients, captures the effect of pro-abortion precedents relative to no precedent. Present captures the effect of anti-abortion precedents relative to no precedent. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Democrat; Secular; Non-white Republican; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. Models is not restricted to Circuit-years with at least one case in order to estimate Present. Columns 1-4 use sample of GSS respondents who declare identification with the Republican Party. Columns 5-8 use respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

D.1 Robustness of Backlash Result Appendix Table D.3 display results of the second (Columns 2-4) and third specification (Columns 8-10) described in the methodology section. Anderson-Rubin test statistics are also reported. The significant impacts on Republican abortion attitudes reported in Appendix Table VII all have Anderson-Rubin test statistics between roughly 12 and 44. The inference that Republican abortion attitudes are elastic to abortion

precedents and which reasons respond to abortion precedents are robust across specifications.

APPENDIX TABLE D.3

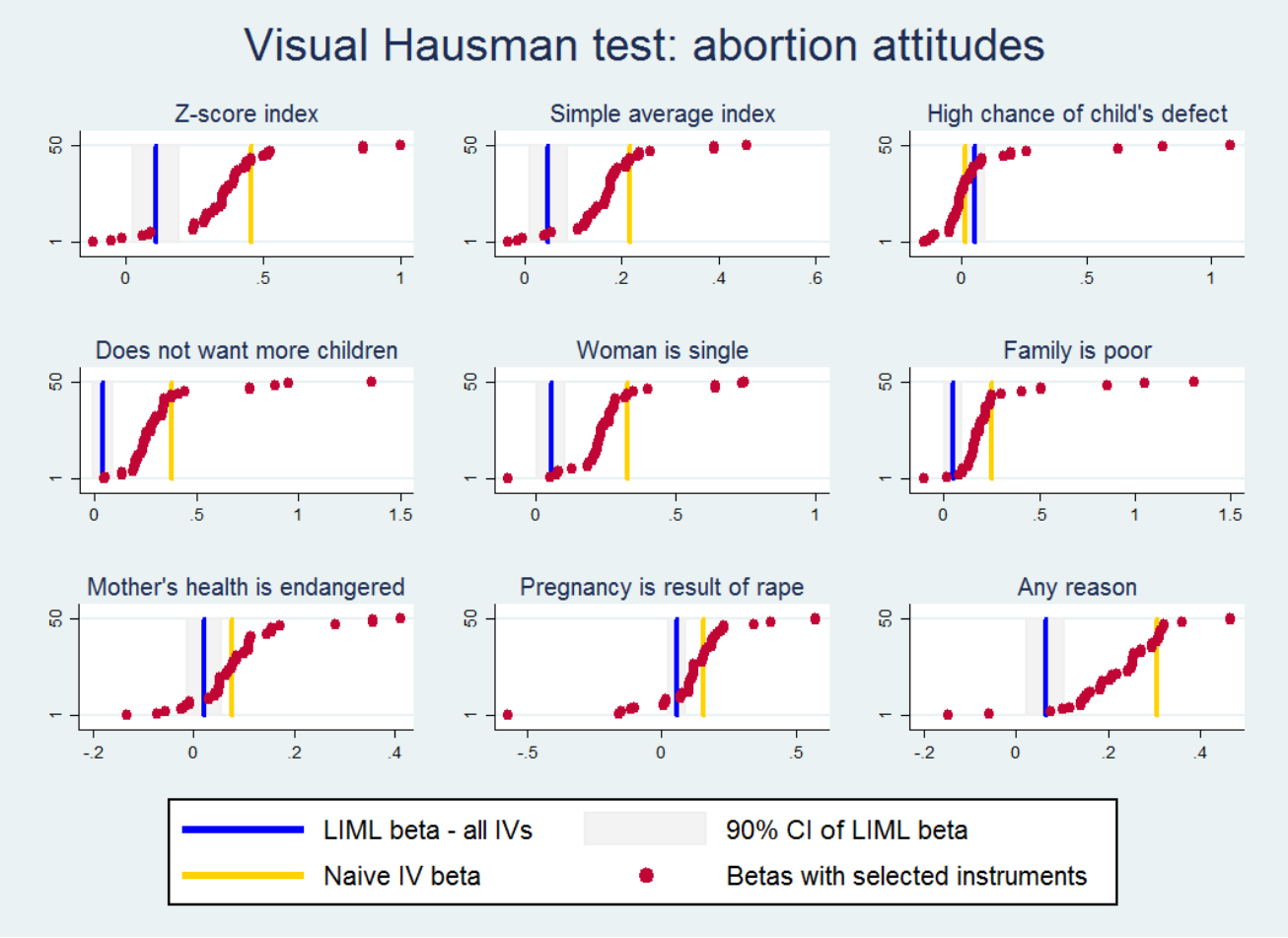
Impact of Pro-Abortion *vs.* Anti-Abortion Precedent on Anti-Abortion Attitudes

	Republicans subsample										
		Full sample			Restricted sample			Law -1/+1			
	OLS	Naive IV	LIML	LASSO	Naive IV	LIML	LASSO	Naive IV	LIML	LASSO	N
Z-score index	0.049	0.267+	0.048	0.132+	0.456*	0.127*	0.176**	0.140*	0.022	0.107**	6317
P-value	0.317	0.053	0.391	0.067	0.016	0.023	0.009	0.037	0.440	0.004	
Anderson-Rubin Stat	.	10.877	.	16.572	24.953	.	20.925	10.763	.	6.716	
Simple average index	0.021	0.124*	0.020	0.064+	0.216*	0.056*	0.089**	0.065*	0.009	0.051**	6317
P-value	0.338	0.048	0.419	0.051	0.014	0.025	0.004	0.033	0.462	0.002	
Anderson-Rubin Stat	.	10.305	.	16.228	25.812	.	23.449	10.247	.	7.468	
High chance of child's defect	0.024	0.056	0.016	0.008	0.013	0.056*	-0.028	0.032	0.007	0.036	8237
P-value	0.292	0.417	0.521	0.851	0.854	0.028	0.434	0.360	0.580	0.141	
Anderson-Rubin Stat	.	3.556	.	12.527	2.497	.	3.599	3.460	.	3.146	
Does not want more children	0.003	0.195*	0.005	0.120**	0.379*	0.048	0.140**	0.100*	0.001	0.083**	8209
P-value	0.907	0.020	0.892	0.005	0.024	0.101	0.002	0.016	0.963	0	
Anderson-Rubin Stat	.	13.380	.	20.556	35.936	.	43.819	13.529	.	13.683	
Woman is single	0.024	0.183*	0.030	0.110*	0.326*	0.067*	0.164**	0.093*	0.014	0.085**	8176
P-value	0.378	0.014	0.353	0.019	0.015	0.031	0.002	0.011	0.399	0	
Anderson-Rubin Stat	.	11.425	.	21.814	25.534	.	34.728	11.411	.	11.976	
Family is poor	0.028	0.166*	0.023	0.120**	0.249*	0.048+	0.144**	0.083*	0.010	0.078**	8194
P-value	0.286	0.034	0.460	0.005	0.035	0.095	0.006	0.029	0.526	0.001	
Anderson-Rubin Stat	.	6.988	.	10.892	11.660	.	18.819	7.015	.	8.384	
Mother's health is endangered	0.017	0.074	0.021	0.043+	0.077	0.029	0	0.038	0.009	0.007	8278
P-value	0.277	0.112	0.264	0.071	0.238	0.181	0.995	0.111	0.354	0.632	
Anderson-Rubin Stat	.	18.759	.	20.773	9.294	.	20.221	18.696	.	0.229	
Pregnancy is result of rape	0.039+	0.122+	0.028	0.030	0.156+	0.059**	0.007	0.061+	0.012	0.029	8192
P-value	0.054	0.081	0.236	0.487	0.078	0.002	0.871	0.082	0.336	0.156	
Anderson-Rubin Stat	.	26.834	.	28.051	35.341	.	32.707	27.402	.	3.321	
Any reason	0.031	0.205*	0.036	0.117**	0.305*	0.074**	0.167**	0.102*	0.018	0.091**	6933
P-value	0.233	0.023	0.219	0.007	0.016	0.005	0.001	0.017	0.207	0	
Anderson-Rubin Stat	.	11.584	.	24.931	21.345	.	33.237	12.630	.	21.472	
	Democrats subsample										
		Full sample			Restricted sample			Law -1/+1			
	OLS	Naive IV	LIML	LASSO	Naive IV	LIML	LASSO	Naive IV	LIML	LASSO	N
Z-score index	0.112**	-0.002	0.116*	0.015	0.123	0.111*	0.048	-0.008	0.060*	-0.031	9092
P-value	0.006	0.981	0.011	0.831	0.310	0.045	0.538	0.865	0.011	0.408	
Anderson-Rubin Stat	.	0.370	.	0.478	3.283	.	2.722	0.143	.	0.901	
Simple average index	0.049**	-0.003	0.052**	0.007	0.058	0.051*	0.023	-0.005	0.027**	-0.014	9092
P-value	0.006	0.943	0.009	0.821	0.293	0.043	0.520	0.821	0.009	0.390	
Anderson-Rubin Stat	.	0.356	.	0.495	3.667	.	2.644	0.143	.	0.956	
High chance of child's defect	0.030	0.027	0.014	0.029	0.006	0.031	0.014	0.013	0.007	0.007	1243
P-value	0.112	0.609	0.566	0.402	0.930	0.140	0.681	0.627	0.546	0.627	
Anderson-Rubin Stat	.	0.255	.	0.693	0.619	.	4.456	0.240	.	0.240	
Does not want more children	0.067**	0.031	0.076**	0.045	0.123	0.083*	0.043	0.012	0.040**	-0.016	1238
P-value	0.004	0.553	0.003	0.235	0.164	0.020	0.474	0.645	0.002	0.516	
Anderson-Rubin Stat	.	0.592	.	5.350	5.466	.	5.172	0.397	.	1.165	
Woman is single	0.053*	0.040	0.045+	0.016	0.119	0.057+	0.012	0.016	0.023+	-0.033+	1233
P-value	0.016	0.401	0.083	0.674	0.208	0.064	0.826	0.497	0.082	0.081	
Anderson-Rubin Stat	.	1.937	.	3.531	3.928	.	1.182	2.105	.	3.209	
Family is poor	0.036+	0.041	0.030	0.004	0.136	0.031	-0.007	0.014	0.015	-0.034	1236
P-value	0.058	0.427	0.164	0.900	0.115	0.268	0.832	0.594	0.172	0.120	
Anderson-Rubin Stat	.	1.253	.	3.889	5.241	.	2.637	0.788	.	5.799	
Mother's health is endangered	0.022+	0.035	0.010	-0	0.045	0.018	-0.015	0.019	0.006	-0.004	1249
P-value	0.091	0.385	0.503	0.995	0.435	0.186	0.684	0.363	0.458	0.791	
Anderson-Rubin Stat	.	2.268	.	3.822	2.609	.	9.030	2.597	.	2.491	
Pregnancy is result of rape	0.030*	0.011	0.016	-0.003	0.046	0.029	0.002	0.005	0.009	-0.007	1233
P-value	0.047	0.769	0.425	0.917	0.344	0.125	0.944	0.802	0.384	0.631	
Anderson-Rubin Stat	.	0.476	.	1.500	2.942	.	3.909	0.495	.	0.221	
Any reason	0.049*	-0.062	0.058**	-0.022	0.064	0.043	0.025	-0.032	0.032**	-0.017	993
P-value	0.026	0.308	0.008	0.579	0.455	0.146	0.603	0.303	0.006	0.420	
Anderson-Rubin Stat	.	1.511	.	0.637	6.179	.	5.930	1.609	.	0.861	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is the percent of pro-abortion precedents in the Circuit-year. In Columns 2-10, the law variable is instrumented with judicial characteristics, i.e. share of judges with given characteristic on abortion panels. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are shares of Democrats, Secular, and Non-white judges. LASSO instruments are shares of judges from the following groups: Democrats; Secular; Non-white Republicans; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. First four columns are based on full sample and include control for presence of an appellate case in given Circuit-year. Columns 5-7 restrict sample to Circuit-years with at least one case. Columns 8-10 use recoded law which assigns a value of -1 to anti-abortion precedents and +1 to pro-abortion precedents and takes the average in a Circuit-year, assigning a 0 when there were no cases. The top panel uses sample of GSS respondents who declare identification with the Republican Party. The bottom panel uses respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

Appendix Figure D.1 shows that abortion attitudes for Republicans consistently backlash against Circuit Court precedents. Almost all alternative 2SLS estimates are positive for the z-score and simple average indices. The impacts on the components of the indices are also robust, as are the impacts on the discretionary abortions. Notably, the LIML estimates are all smaller in absolute value than the extreme estimates.

Appendix Figure D.1.— Alternative Estimates of Pro-Abortion *vs.* Anti-Abortion on Republican Anti-Abortion Attitudes



Appendix Table D.4 yields the consistent inference that abortion attitudes are affected by Law_{ct} when instrumenting for $\mathbf{1}[M_{ct} > 0]$ with District Court judges. The effects are similar in magnitudes in all of the outcomes that were previously shown to be significantly affected, i.e., among Republicans. However, estimates of the sum of the coefficients on $Law(\text{Pro-Abortion})_{ct}$ and Presence-of-Case$_{ct}$ and of Presence-of-Case$_{ct}$ alone are less precise.[35]

[35]To illustrate: For "Should it be illegal for a woman to obtain abortion for any reason?", Republicans become 18% more likely to oppose abortion in response to pro-abortion precedent when the counterfactual is no precedent in Column 4; For "Should it be illegal for a woman to obtain abortion because woman is single?", Democrats become significantly more pro-abortion in response to anti-abortion precedents in Columns 6 and 8.

APPENDIX TABLE D.4

Impact of Pro-Abortion *vs.* None *vs.* Anti-Abortion Precedent on on Anti-Abortion Attitudes with District IVs

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
Z-score index					6317					9092
Law (Pro-Abortion)	0.049	0.206*	0.017	0.120+		0.112**	0.081	0.135**	0.091	
P-value	0.317	0.030	0.766	0.058		0.006	0.279	0.005	0.142	
Present	-0.065+	-0.290	-0.031	0.030		-0.036	-0.149	-0.034	-0.153	
P-value	0.080	0.158	0.447	0.848		0.217	0.380	0.305	0.188	
Law + Present	-0.016	-0.083	-0.014	0.150		0.076*	-0.068	0.101**	-0.062	
P-value	0.645	0.725	0.737	0.305		0.012	0.717	0.003	0.587	
Simple average index					6317					9092
Law (Pro-Abortion)	0.021	0.096*	0.007	0.057*		0.049**	0.036	0.058**	0.041	
P-value	0.338	0.023	0.799	0.043		0.006	0.271	0.007	0.134	
Present	-0.026	-0.134	-0.011	0.013		-0.016	-0.079	-0.013	-0.077	
P-value	0.113	0.140	0.534	0.851		0.224	0.293	0.366	0.132	
Law + Present	-0.005	-0.038	-0.005	0.070		0.034*	-0.042	0.044**	-0.036	
P-value	0.726	0.720	0.791	0.287		0.012	0.611	0.003	0.479	
High chance of child's defect					8237					12436
Law (Pro-Abortion)	0.024	0.066	0.006	0.025		0.030	-0.006	0.050*	-0.001	
P-value	0.292	0.181	0.807	0.496		0.112	0.891	0.019	0.971	
Present	-0.024	-0.034	-0.004	0.115		-0.013	0.141	-0.021	0.079	
P-value	0.164	0.786	0.823	0.144		0.361	0.219	0.202	0.301	
Law + Present	0	0.032	0.002	0.140+		0.016	0.135	0.029+	0.078	
P-value	0.993	0.822	0.932	0.063		0.255	0.237	0.084	0.242	
Does not want more children					8209					12384
Law (Pro-Abortion)	0.003	0.123*	-0.004	0.077*		0.067**	0.064	0.072*	0.058	
P-value	0.907	0.023	0.916	0.030		0.004	0.116	0.023	0.106	
Present	-0.019	-0.055	0	0.048		-0.017	-0.097	-0.009	-0.193**	
P-value	0.390	0.693	0.993	0.593		0.296	0.407	0.675	0.006	
Law + Present	-0.015	0.068	-0.003	0.125		0.050**	-0.033	0.063**	-0.134+	
P-value	0.404	0.674	0.884	0.168		0.004	0.793	0.006	0.070	
Woman is single					8176					12334
Law (Pro-Abortion)	0.024	0.150**	0.031	0.091*		0.053*	0.062	0.055+	0.030	
P-value	0.378	0.004	0.341	0.011		0.016	0.119	0.065	0.444	
Present	-0.025	-0.056	-0.010	0.072		-0.023	-0.205*	-0.015	-0.236**	
P-value	0.210	0.710	0.653	0.424		0.143	0.044	0.479	0	
Law + Present	-0.001	0.094	0.021	0.163+		0.030+	-0.143	0.040*	-0.205**	
P-value	0.954	0.585	0.361	0.066		0.064	0.182	0.046	0.003	
Family is poor					8194					12365
Law (Pro-Abortion)	0.028	0.141**	0.004	0.099**		0.036+	0.046	0.019	0.017	
P-value	0.286	0.010	0.903	0.004		0.058	0.232	0.414	0.561	
Present	-0.030	-0.113	-0.015	-0.048		-0.018	-0.055	0.001	-0.139*	
P-value	0.138	0.432	0.523	0.557		0.208	0.579	0.968	0.024	
Law + Present	-0.002	0.028	-0.011	0.051		0.018	-0.009	0.020	-0.122+	
P-value	0.928	0.871	0.613	0.554		0.228	0.936	0.261	0.059	
Mother's health is endangered					8278					12493
Law (Pro-Abortion)	0.017	0.030	0.017	0.025		0.022+	0.030	0.038*	0.002	
P-value	0.277	0.340	0.393	0.224		0.091	0.344	0.012	0.943	
Present	-0.024+	0.035	-0.021	-0.027		-0.007	0.072	-0.015	0.038	
P-value	0.060	0.704	0.183	0.568		0.477	0.389	0.167	0.474	
Law + Present	-0.007	0.065	-0.004	-0.002		0.015	0.103	0.023+	0.040	
P-value	0.610	0.516	0.815	0.972		0.167	0.241	0.073	0.432	
Pregnancy is result of rape					8192					12337
Law (Pro-Abortion)	0.039+	0.093+	0.018	0.029		0.030*	0.027	0.046*	0.007	
P-value	0.054	0.095	0.409	0.441		0.047	0.358	0.032	0.775	
Present	-0.047**	0.071	-0.018	0.013		-0.010	-0.051	-0.014	-0.003	
P-value	0.004	0.489	0.307	0.873		0.440	0.501	0.400	0.952	
Law + Present	-0.007	0.163	0	0.042		0.021+	-0.024	0.032*	0.004	
P-value	0.637	0.134	0.999	0.610		0.095	0.764	0.034	0.946	
Any reason					6933					9933
Law (Pro-Abortion)	0.031	0.146**	0.024	0.085*		0.049*	-0.001	0.063*	0.028	
P-value	0.233	0.008	0.423	0.016		0.026	0.986	0.012	0.415	
Present	-0.010	-0.087	0.005	0.103		-0.001	-0.085	0	-0.028	
P-value	0.653	0.455	0.843	0.218		0.965	0.440	0.992	0.701	
Law + Present	0.021	0.059	0.029	0.188*		0.048**	-0.086	0.063**	0.001	
P-value	0.271	0.674	0.191	0.023		0.003	0.479	0	0.993	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is the percent of pro-abortion abortion precedents in the Circuit-year. Present is presence of a precedent, $1\left[M_{ct-n} > 0\right]$, where M is the number of cases (typically 0 or 1). Law_{ct} is the share of pro-abortion precedents (but typically it is 0 or 1, a single verdict). If there are no cases, Law_{ct} is set to 0.The law variable is instrumented in Columns 2-4 with judicial characteristics. Law (Pro-Abortion) captures the effect of pro-abortion precedents relative to anti-abortion precedents. Law + Present is the sum of two coefficients, captures the effect of pro-abortion precedents relative to no precedent. Present captures the effect of anti-abortion precedents relative to no precedent. The law variable is instrumented in Columns 2-4 with judicial characteristics, i.e. share of judges with given characteristic on abortion panels. Regressions control for Circuit- and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are shares of Democrats, Secular, and Non-white judges. LASSO instruments are shares of judges from the following groups: Democrats; Secular; Non-white Republicans; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at

APPENDIX TABLE D.6

IMPACT OF PRO-ABORTION *vs.* NONE *vs.* ANTI-ABORTION PRECEDENT ON ANTI-ABORTION ATTITUDES TWO YEARS LATER

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
High chance of child's defect					8237					12436
Law (Pro-Abortion)	-0.008	-0.124*	-0.010	-0.086**		-0.002	0.026	0.019	0.042	
P-value	0.727	0.046	0.726	0.008		0.930	0.644	0.465	0.289	
Present	0.028	-0.012	0.029	-0.030		0.001	-0.019	-0.010	-0.026	
P-value	0.158	0.787	0.176	0.453		0.925	0.603	0.595	0.510	
Law + Present	0.020	-0.136**	0.019	-0.116**		-0	0.007	0.009	0.016	
P-value	0.198	0.010	0.290	0.003		0.986	0.901	0.548	0.738	
Does not want more children					8209					12384
Law (Pro-Abortion)	-0.016	-0.204**	-0.035	-0.091*		0.008	-0.039	0.007	-0.018	
P-value	0.582	0.010	0.350	0.024		0.681	0.561	0.785	0.609	
Present	0.025	-0.060	0.036	-0.115*		-0.018	-0.080*	-0.018	-0.086	
P-value	0.288	0.215	0.191	0.013		0.259	0.033	0.348	0.013	
Law + Present	0.010	-0.265**	0.001	-0.206**		-0.010	-0.119*	-0.011	-0.104**	
P-value	0.602	0	0.944	0		0.502	0.037	0.543	0.007	
Woman is single					8176					12334
Law (Pro-Abortion)	-0.033	-0.188*	-0.028	-0.098*		-0.008	0.006	-0.022	-0.035	
P-value	0.238	0.025	0.421	0.010		0.691	0.916	0.366	0.307	
Present	0.023	-0.058	0.021	-0.106*		-0.020	-0.067*	-0.012	-0.059+	
P-value	0.325	0.253	0.444	0.020		0.189	0.032	0.487	0.074	
Law + Present	-0.010	-0.246**	-0.008	-0.204**		-0.027+	-0.061	-0.034+	-0.094*	
P-value	0.604	0	0.708	0		0.084	0.232	0.054	0.016	
Family is poor					8194					12365
Law (Pro-Abortion)	-0.027	-0.216*	-0.014	-0.103*		0.008	-0.068	0.010	-0.048	
P-value	0.310	0.018	0.681	0.045		0.675	0.335	0.690	0.254	
Present	0.016	-0.070	0.009	-0.121**		-0.019	-0.062	-0.020	-0.074*	
P-value	0.468	0.136	0.734	0.004		0.256	0.126	0.308	0.044	
Law + Present	-0.011	-0.286**	-0.005	-0.224**		-0.010	-0.129*	-0.009	-0.122**	
P-value	0.570	0	0.796	0		0.483	0.028	0.564	0.006	
Mother's health is endangered					8278					12493
Law (Pro-Abortion)	-0.005	-0.112*	-0.007	-0.073*		-0.011	-0.016	-0.004	0.024	
P-value	0.811	0.046	0.774	0.043		0.427	0.730	0.821	0.383	
Present	0.013	0.011	0.014	-0.006		0.005	0.017	0.001	0.004	
P-value	0.423	0.791	0.434	0.871		0.676	0.466	0.960	0.885	
Law + Present	0.008	-0.100*	0.007	-0.079*		-0.006	0.001	-0.003	0.029	
P-value	0.546	0.027	0.623	0.037		0.495	0.975	0.752	0.295	
Pregnancy is result of rape					8192					12337
Law (Pro-Abortion)	-0.032	-0.097+	-0.017	-0.084		0.004	0.016	0.021	0.045	
P-value	0.153	0.092	0.571	0.012		0.793	0.732	0.252	0.125	
Present	0.024	-0.028	0.016	-0.058		0.002	-0.012	-0.008	-0.003	
P-value	0.204	0.436	0.487	0.120		0.902	0.646	0.587	0.922	
Law + Present	-0.008	-0.126*	-0.001	-0.142**		0.006	0.004	0.013	0.042	
P-value	0.567	0.021	0.934	0.001		0.652	0.931	0.294	0.125	
Any reason					6933					9933
Law (Pro-Abortion)	-0.027	-0.205*	-0.007	-0.069*		0.035+	0.055	0.030	0.019	
P-value	0.350	0.011	0.848	0.049		0.093	0.340	0.257	0.659	
Present	0.029	-0.047	0.018	-0.106		-0.023	-0.060*	-0.020	-0.044	
P-value	0.224	0.321	0.542	0.017		0.143	0.033	0.265	0.106	
Law + Present	0.002	-0.252**	0.010	-0.175**		0.012	-0.005	0.009	-0.026	
P-value	0.915	0.001	0.615	0		0.484	0.922	0.605	0.564	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is pro-abortion precedent in the Circuit-year. Present is presence of a precedent, $1\left[M_{ct-n} > 0\right]$, where M is the number of cases (typically 0 or 1). Law_{ct} is the share of pro-abortion precedents (but typically it is 0 or 1, a single verdict). If there are no cases, Law_{ct} is set to 0.The law variable is instrumented with judicial characteristics. Law (Pro-Abortion) captures the effect of pro-abortion precedents relative to anti-abortion precedents. Law + Present, the sum of two coefficients, captures the effect of pro-abortion precedents relative to no precedent. Present captures the effect of anti-abortion precedents relative to no precedent. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Democrat; Secular; Non-white Republican; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. Models is not restricted to Circuit-years with at least one case in order to estimate Present. Columns 1-4 use sample of GSS respondents who declare identification with the Republican Party. Columns 5-8 use respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

D.2 Robustness of Persuasive Effects Columns 5-7 repeat Table IX for comparison. Analyses with the full sample are in Columns 2-4.

Appendix Table D.5.— Impact of Pro-Abortion Precedent on Anti-Abortion Attitudes Two Years Later

	Republicans					Democrats				
	OLS	Naive IV	LIML	LASSO	N	OLS	Naive IV	LIML	LASSO	N
Z-score index	-0.012	-0.333*	-0.012	-0.028	2004	0.037	-0.071	0.036	-0.122*	2751
P-value	0.824	0.025	0.829	0.768		0.419	0.509	0.416	0.035	
Simple average index	-0.006	-0.154*	-0.006	-0.008	2004	0.016	-0.039	0.015	-0.062*	2751
P-value	0.804	0.021	0.811	0.836		0.429	0.391	0.426	0.012	
High chance of child's defect	0.001	-0.068	0.003	-0.021	2527	0.016	0.005	0.020	-0.008	3577
P-value	0.962	0.241	0.881	0.628		0.481	0.943	0.366	0.853	
Does not want more children	0.016	-0.192*	0.018	-0.042	2524	0.004	-0.110+	0.010	-0.099**	3555
P-value	0.625	0.016	0.573	0.377		0.831	0.070	0.631	0.003	
Woman is single	-0.003	-0.199*	-0.001	-0.039	2500	-0.011	-0.062	-0.007	-0.110**	3529
P-value	0.902	0.028	0.960	0.405		0.594	0.264	0.711	0	
Family is poor	-0.016	-0.211**	-0.010	-0.064+	2526	0.013	-0.081	0.019	-0.103**	3551
P-value	0.481	0.010	0.642	0.096		0.554	0.192	0.382	0.006	
Mother's health is endangered	0.019	-0.039	0.017	-0.049	2534	-0.006	0.012	-0.001	0.014	3588
P-value	0.359	0.436	0.405	0.112		0.701	0.825	0.941	0.630	
Pregnancy is result of rape	-0.017	-0.055	-0.015	-0.027	2512	0.015	0.040	0.019	0.011	3547
P-value	0.436	0.301	0.501	0.517		0.388	0.483	0.278	0.716	
Any reason	0.007	-0.206*	0.008	0.042	2204	0.038+	-0.005	0.038+	-0.050	3000
P-value	0.818	0.033	0.776	0.408		0.085	0.911	0.077	0.118	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is pro-abortion precedent in the Circuit-year. Counterfactual is anti-abortion precedent. The law variable is instrumented in Columns 2-4 and 6-8 with judicial characteristics. Regressions control for age and sex of the respondent and Circuit and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are Democrat, Secular, and Non-white judicial characteristics. LASSO instruments are the following judicial characteristics: Democrat; Secular; Non-white Republican; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. Because the GSS is not annual, models use subsample restricted to Circuit-years with at least one case. Columns 1-4 use sample of GSS respondents who declare identification with the Republican Party. Columns 5-8 use respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.

APPENDIX TABLE D.7

Impact of Pro-Abortion *vs.* Anti-Abortion Precedent on Anti-Abortion Attitudes Two Years Later (sensitivity analyses)

	Republicans subsample										
		Full sample			Restricted sample			Law -1/+1			
	OLS	Naive IV	LIML	LASSO	Naive IV	LIML	LASSO	Naive IV	LIML	LASSO	N
Z-score index	-0.050	-0.426*	-0.038	-0.244**	-0.333*	-0.012	-0.028	-0.228**	-0.012	-0.184**	6317
P-value	0.336	0.012	0.583	0.001	0.025	0.829	0.768	0.009	0.721	0.005	
Anderson-Rubin Stat	.	24.705	.	24.708	22.693	.	28.199	28.900	.	33.571	
Simple average index	-0.023	-0.188*	-0.017	-0.103**	-0.154*	-0.006	-0.008	-0.101**	-0.006	-0.080**	6317
P-value	0.329	0.012	0.578	0.001	0.021	0.811	0.836	0.009	0.704	0.006	
Anderson-Rubin Stat	.	25.088	.	24.475	23.547	.	30.407	29.916	.	34.413	
High chance of child's defect	-0.008	-0.124*	-0.010	-0.086**	-0.068	0.003	-0.021	-0.069*	-0.002	-0.071**	8237
P-value	0.727	0.046	0.726	0.008	0.241	0.881	0.628	0.032	0.893	0.001	
Anderson-Rubin Stat	.	9.516	.	11.220	2.504	.	1.845	11.311	.	22.527	
Does not want more children	-0.016	-0.204**	-0.035	-0.091*	-0.192*	0.018	-0.042	-0.115**	-0.015	-0.083*	8209
P-value	0.582	0.010	0.350	0.024	0.016	0.573	0.377	0.008	0.428	0.035	
Anderson-Rubin Stat	.	21.032	.	17.853	17.416	.	18.445	25.731	.	26.863	
Woman is single	-0.033	-0.188*	-0.028	-0.098**	-0.199*	-0.001	-0.039	-0.101*	-0.013	-0.085**	8176
P-value	0.238	0.025	0.421	0.010	0.028	0.960	0.405	0.019	0.443	0.008	
Anderson-Rubin Stat	.	16.325	.	16.951	21.995	.	27.888	24.418	.	33.193	
Family is poor	-0.027	-0.216*	-0.014	-0.103*	-0.211**	-0.010	-0.064+	-0.119*	-0.007	-0.096*	8194
P-value	0.310	0.018	0.681	0.045	0.010	0.642	0.096	0.014	0.685	0.025	
Anderson-Rubin Stat	.	25.938	.	24.328	17.167	.	14.048	34.793	.	37.314	
Mother's health is endangered	-0.005	-0.112*	-0.007	-0.073*	-0.039	0.017	-0.049	-0.061*	-0.002	-0.052*	8278
P-value	0.811	0.046	0.774	0.043	0.436	0.405	0.112	0.036	0.862	0.027	
Anderson-Rubin Stat	.	10.525	.	8.299	1.027	.	3.323	12.542	.	11.509	
Pregnancy is result of rape	-0.032	-0.097+	-0.017	-0.084*	-0.055	-0.015	-0.027	-0.053+	-0.007	-0.063**	8192
P-value	0.153	0.092	0.571	0.012	0.301	0.501	0.517	0.089	0.608	0.002	
Anderson-Rubin Stat	.	8.816	.	14.552	11.223	.	17.482	10.774	.	20.632	
Any reason	-0.027	-0.205*	-0.007	-0.069*	-0.206*	0.008	0.042	-0.109**	-0.002	-0.058+	6933
P-value	0.350	0.011	0.848	0.049	0.033	0.776	0.408	0.007	0.928	0.082	
Anderson-Rubin Stat	.	20.117	.	18.070	21.114	.	35.321	24.618	.	28.076	
	Democrats subsample										
		Full sample			Restricted sample			Law -1/+1			
	OLS	Naive IV	LIML	LASSO	Naive IV	LIML	LASSO	Naive IV	LIML	LASSO	N
Z-score index	0.017	-0.058	0.022	-0.010	-0.071	0.036	-0.122*	-0.019	0.009	-0.003	9092
P-value	0.654	0.653	0.634	0.878	0.509	0.416	0.035	0.787	0.676	0.942	
Anderson-Rubin Stat	.	10.024	.	10.344	7.913	.	38.669	11.577	.	7.724	
Simple average index	0.009	-0.030	0.011	-0.012	-0.039	0.015	-0.062*	-0.011	0.005	-0.007	9092
P-value	0.592	0.600	0.597	0.682	0.391	0.426	0.012	0.726	0.642	0.731	
Anderson-Rubin Stat	.	10.941	.	11.263	8.922	.	46.029	12.826	.	8.295	
High chance of child's defect	-0.002	0.026	0.019	0.042	0.005	0.020	-0.008	0.023	0.009	0.025	12436
P-value	0.930	0.644	0.465	0.289	0.943	0.366	0.853	0.457	0.458	0.317	
Anderson-Rubin Stat	.	9.070	.	12.308	7.809	.	12.947	9	.	9.759	
Does not want more children	0.008	-0.039	0.007	-0.018	-0.110+	0.010	-0.099**	-0.021	0.001	-0.020	12384
P-value	0.681	0.561	0.785	0.609	0.070	0.631	0.003	0.591	0.914	0.383	
Anderson-Rubin Stat	.	11.337	.	11.265	12.236	.	26.714	13.847	.	5.447	
Woman is single	-0.008	0.006	-0.022	-0.035	-0.062	-0.007	-0.110**	0.002	-0.015	-0.023	12334
P-value	0.691	0.916	0.366	0.307	0.264	0.711	0	0.959	0.225	0.265	
Anderson-Rubin Stat	.	6.224	.	10.263	6.080	.	49.891	6.998	.	2.274	
Family is poor	0.008	-0.068	0.010	-0.048	-0.081	0.019	-0.103**	-0.033	0.003	-0.035	12365
P-value	0.675	0.335	0.690	0.254	0.192	0.382	0.006	0.424	0.814	0.248	
Anderson-Rubin Stat	.	7.694	.	10.122	5.034	.	26.333	11.596	.	12.550	
Mother's health is endangered	-0.011	-0.016	-0.004	0.024	0.012	-0.001	0.014	-0.001	-0.002	0.028+	12493
P-value	0.427	0.730	0.821	0.383	0.825	0.941	0.630	0.948	0.799	0.094	
Anderson-Rubin Stat	.	4.022	.	6.058	3.909	.	3.773	2.718	.	4.630	
Pregnancy is result of rape	0.004	0.016	0.021	0.045	0.040	0.019	0.011	0.016	0.011	0.034*	12337
P-value	0.793	0.732	0.252	0.125	0.483	0.278	0.716	0.530	0.230	0.044	
Anderson-Rubin Stat	.	6.361	.	9.737	7.981	.	11.463	6.358	.	6.017	
Any reason	0.035+	0.055	0.030	0.019	-0.005	0.038+	-0.050	0.033	0.014	0.008	9933
P-value	0.093	0.340	0.257	0.659	0.911	0.077	0.118	0.277	0.280	0.762	
Anderson-Rubin Stat	.	5.868	.	5.437	4.583	.	14.068	7.038	.	2.262	

Dependent variables are abortion attitudes recorded in GSS answers to questions related to whether the respondent believes abortion for certain reasons should be illegal. Main independent variable is the percent of pro-abortion abortion precedents in the Circuit-year. In Columns 2-10, the law variable is instrumented with judicial characteristics, i.e. share of judges with given characteristic on abortion panels. Regressions control for age and sex of the respondent and Circuit- and year fixed effects. We also control for probabilities of being assigned a judge with these characteristics. Naive instruments are shares of Democrats, Secular, and Non-white judges. LASSO instruments are shares of judges from the following groups: Democrats; Secular; Non-white Republicans; and Black judges with an in-state BA degree. LIML uses the entire available instruments set. First four columns are based on full sample and include control for presence of an appellate case in given Circuit-year. Columns 5-7 restrict sample to Circuit-years with at least one case. Columns 8-10 use recoded law which assigns a value of -1 to anti-abortion precedents and +1 to pro-abortion precedents and takes the average in a Circuit-year, assigning a 0 when there were no cases. The top panel uses sample of GSS respondents who declare identification with the Republican Party. The bottom panel uses respondents identifying with the Democrat Party. P-values are based on standard errors clustered by Circuit-year. + Significant at 10%; * Significant at 5%; ** Significant at 1%.